

MANAGEMENT & INFORMATION SYSTEMS REVISION KIT



PASTPAPER QUESTIONS & ANSWERS

Certified Public Accountants of Uganda Course

CPA(U)

PAPER 5

Business Management & Information Systems

The Practice and Revision Kit complements the Study Test by giving you the chance to practice exam-style questions covering the Business Management & Information systems syllabus. The practice and revision kit has been reviewed and approved by a panel of experts in the field of teaching Business Management & Information systems. Therefore, this study text contains all the information that you need to pass your exam.

The practice and revision kit;

- Features past paper questions for the current and previous examinations
- Suggest solutions to the featured examination sitting,
- Discusses the best strategies for revising and taking your exam,
- Ensures you are well prepared for your final examination,
- Provides you with great guidance on tackling questions,

Always ensure you have our latest version of the Revision Kit.

Visit our online Bookshop: <https://www.harvestuganda.net/bookshop/>

R
E
V
I
S
I
O
N

K
I
T

CONTENTS

Questions	Page
Exam Paper November 2017.....	1
Exam Paper June 2018.....	6
Exam Paper November 2018.....	11
Exam Paper June 2019.....	17
Exam Paper August 2019.....	24
Exam Paper December 2019.....	30
Exam Paper December 2020.....	36
Exam Paper March 2021.....	43
Exam Paper October 2021.....	51
Exam Paper December 2021.....	58
Exam Paper March 2022.....	65
Exam Paper June 2022.....	70
Exam Paper September 2022.....	76
Exam Paper December 2022.....	82
Exam Paper May 2023.....	88
Exam Paper August 2023.....	94
Exam Paper November 2023.....	100
Exam Paper May 2024.....	106
Exam Paper August 2024.....	114
Exam Paper December 2024.....	121

Answers	Page
Exam Paper November 2017.....	127
Exam Paper June 2018.....	139
Exam Paper November 2018.....	149
Exam Paper June 2019.....	158
Exam Paper August 2019.....	170
Exam Paper December 2019.....	182
Exam Paper December 2020.....	194
Exam Paper March 2021.....	208
Exam Paper October 2021.....	221
Exam Paper December 2021.....	233
Exam Paper March 2022.....	244
Exam Paper June 2022.....	261
Exam Paper September 2022.....	272
Exam Paper December 2022.....	283
Exam Paper May 2023.....	291
Exam Paper August 2023.....	302
Exam Paper November 2023.....	313
Exam Paper May 2024.....	327
Exam Paper August 2024.....	337
Exam Paper December 2024.....	348

Examination Structure

- **Three (3) hour and fifteen (15) minutes** examination comprising of **four questions**.
- Examination contains **Sections A and B**.
- Attempt three of the four questions in Section A. Each question carries 20 marks.
- Attempt two of the three questions in Section B. Each question carries 20 marks.

Examiners' Expectation

The examiner expects all candidates to have the ability to;

1. Analyse the environment within which businesses operate.
2. Discuss the objectives of businesses.
3. Analyse the functions of management.
4. Describe the evolution of computers.
5. Describe information technology in a business context.
6. Identify the issues of specification and selection of computer hardware and software solutions for business.
7. Apply the basic accounting and presentation packages.
8. Identify and explain information systems development process.
9. Identify security, regulatory/policy and ethical issues associated with the use of information technology.
10. Use a computer to prepare basic numerical, text, graphical and database information.

Level of Assessment

The examination will assess the learner's comprehension and application of business and information systems knowledge and skills.

PASSING STRATEGIES

What to do during the examination:

1. Do not panic, utilize the first 15 minutes to settle in & lay your passing strategy,
2. Read the instruction carefully and make good choice of questions to be attempted
3. Start with the easy/questions and earn the easy marks
4. Be mindful of the time spent on each question.
5. Indicate the question number attempted at the beginning of each answer on a fresh page.
6. Do not attempt extra numbers. Any excess question will not be marked.
7. Understand the requirements of each question so as to avoid preparing what is not requested for,

More detailed passing strategy on our YouTube Channel:

<https://www.youtube.com/c/HARVESTTRAININGCONSULTANCYULTD/>



Questions

EXAM PAPER 1

November 2017

Question 1

JOMET MIXED FARM LTD.

Jomet Mixed Farm Ltd was established in 2010 by Mr. Kato in Mukono district. This was after he had retired from active service at the National Research Farm at Mpewo where he had worked for over 15 years. The farm was set up to supply farm produce including milk, meat, maize, rice and matoke among other products. It employs over 30 people as managers, transporters, herdsman and one visiting agricultural officer.

Using his experience from the National Research Farm at Mpewo, Mr. Kato started off by buying land and hired labourers from Mukono and beyond. He stocked cows, goats and also planted maize, bananas and rice. He made sure there was sharing of ideas, opinions, facts and information between employees and management and between the different enterprises at his farm. This was especially during meetings held whenever Mr. Kato visited the farm. During such meetings, new plans and instructions would be given by management but also employees gave comments, complaints and suggestions which motivated employees who developed a sense of belonging, cooperation and harmony.

To enhance farm operations and accountability, Mr. Kato insisted on having proper record keeping at the farm. Records of workers' salaries, sales, expenditure, births and deaths that occurred at the farm were a must. These would be presented to Mr. Kato during meetings with farm workers by the manager. During the meetings, Mr. Kato got immediate feedback from his workers regarding the day-to-day activities at the farm. Everyone had a chance to air out their concerns, and this cultivated a sense of belonging and cooperation.

However, some workers preferring anonymity secretly revealed vital information to Mr. Kato that included undeclared sales of milk, goats, maize and death of calves and goats. This information had been hidden from him by Mr. Mutini the manager, who was on a mission of getting rich quick!

On learning that he had been reported, Mr. Mutini left the farm, fearing for his life. A lot had been lost. This information was confirmed from the detailed statistical data from farm records. The farm management had the practice of keeping detailed data which provided useful information for planning purposes and continuity of events. The records also provided accurate data for future reference on salaries of employees, sales of milk, maize and rice. This reduced

misunderstandings and misinterpretation of events especially after Mr. Mutiini had left the farm.

Required:

- (a) Identify the methods of communication used at Jomet Mixed Farm Ltd. **(4 marks)**
 - (b) Discuss the benefits of using the methods of communication in (a) above. **(10 marks)**
 - (c) Explain the lines of communication used at Jomet Mixed Farm Ltd. **(6 marks)**
- (Total 20 marks)**

Question 2

About twenty years ago, ABC Ltd opened a factory to process and bottled mineral water. With time, the company increased its production and the market is now flooded with different brands of ABC bottled water. ABC water is now found in most supermarkets, hotels and at social functions where there are cartons of ABC water served to customers/ guests.

Due to the public awareness on health issues, people are turning way from taking sweet drinks to taking bottled water. This has increased demand for bottled water and the company had also attracted more talented workers boosting production over the years.

However of recent, there has been consistent adulteration and complaints of poor quality of ABC bottled water. The National Bureau of Standards which is mandated to inspect and ensure that all the manufacturers comply with quality standards has written to the company demanding that they improve on the quality of its products.

There was a recent court case where the company was accused of supplying poor quality water to the public. This has been an eye opener to the customers who are wondering whether the company has genuine water products in the market. It is also alleged that unscrupulous people get company's water bottle labels, pack and sell adulterated water to the public.

Required:

- (a) Explain the benefits of ethics to ABC Company. **(10marks)**
 - (b) Identify the limitations that ABC Company experiences while trying to conduct itself ethically. **(10 marks)**
- (Total 20 marks)**

Question 3

- (a) Explain the functions of the Board of Directors in an organisation.
(12 marks)
 - (b) Discuss the benefits of quality control to a manufacturing company.
(8 marks)
- (Total 20 marks)

Question 4

A budget is a detailed plan, expressed in numerical terms, for allocating resources. Writing a successful budget mainly requires identifying and assessing the cash inflows and tracking your cash outflows, as well as setting your own goals.

Required:

As a student of Business Management;

- (a) Explain the different types of budgets made by organisations.
(10 marks)
- (b) Discuss the benefits of budgetary controls to an organisation.

(10 marks)
(Total 20 marks)

SECTION B

Attempt two of the three questions in this section

Question 5

Swax Hospital was established last year with several departments such as Information Technology (IT), Human Resource (HR) and Records departments.

The information technology department is responsible for the computer network that is being laid in the hospital. The system administrator would like to adopt a peer to peer network model in the records department and then a client server model in the human resource department and he hopes this will make communication between and among the departments easier.

You have been hired as a consultant and you are supposed to educate the staff of different departments about the networking models with emphasis on peer to peer and client server networks.

Required:

- (a) In your presentations, use illustrations to explain the following network models.

- (i) Client server model **(4 marks)**
- (ii) Peer to peer model **(4 marks)**
- (b) Educate staff of the human resource department on any three advantages and three disadvantages from the use of Client Server network. **(12 marks)**
- Total (20 marks)**

Question 6

Simba Printing Company Limited (SPCL) plans to change its computer system especially the hardware and the software. The most challenging part is about operating system and its function since there are many operating systems on the market due to the rapid growing technology.

The company management has been advised to hire a consultant to help in the changing of the computer system.

You have been hired by SPCL to execute the above task.

Required:

- (a) (i) Explain to the management of Simba Printing Company Limited, the meaning of an operating system. **(2marks)**
- (iii) Identify any two examples of operating systems that can be adopted by Simba Printing Company. **(2marks)**
- (b) Educate management on any **three** functions of operating systems in the daily activities of Simba Printing Company. **(6marks)**
- (c) Discuss any **four** factors to consider when choosing an operating system for Simba Printing Company's computer system. **(8 marks)**
- Total (20 marks)**

Question 7

A computerized data file is a group of digital records of the same type stored on a computer or a peripheral storage device. It holds data that is required for providing information. For example, the students' tuition payment records could constitute a payments' file. File computerized data files always have extensions. On the other hand, related files can be compiled into one folder. Shortcuts of frequently accessed files and folders can be created on the computer desktop.

The students of Kambuye Technical Institute are expected to exhibit knowledge of computer file management in a computer application examination.

Required:

Suppose you are one of the students of Kambuye Technical institute,

(a) Explain the following terms as used in computerized file management

(i) Computer's desktop

(1 mark)

(ii) Shortcuts

(1 mark)

(iii) Recycle bin

(1 mark)

(iv) File extensions

(1 mark)

(b) Write down the steps you must follow to do the following:

(i) To create a folder.

(2 marks)

(ii) To rename a file.

(2 marks)

(iii) To delete a file.

(2 marks)

(iv) To move files from one folder to another.

(2 marks)

(v) To restore files from the recycle bin.

(2 marks)

(c) Explain **three** advantages of using a flash disk for file management of Kambuye Technical institute.

(6 marks)

Total (20 marks)

EXAM PAPER 2

May 2018

Question 1

BAMUDA ENTERPRISES LTD

Bamuda Enterprises Ltd (BEL) was established by Mr. Batuma in 2012 in Kawempe, Kampala. BEL produces and packs juice from passion fruits, mangoes, pineapples, oranges and cocktail. These are locally available in Uganda and neighbouring EAC partner states. It employs over 30 staff in various departments of production, accounting, marketing and research. These departments were born out of a planning retreat.

Mr. Batuma adheres to established business plans. Every end of the financial year, plans are established and reviewed to guide employees and management on how to run BEL. That has not only helped to focus on the objectives of BEL, but has also provided an opportunity to different departments to ensure coordination for better management and service delivery.

BEL has been facing stiff competition from other companies that produce beverages. The company had to suspend some of its plans that had cost a fortune to put in place. Urgent decisions had to be taken to ensure that BEL's market share was maintained. This was reflected in management and employees' ability to handle uncertainties.

BEL's ability to minimize risks and manage change has been a result of its strong and empowered management team that remains focused on set goals. Possible future changes have been easily anticipated since laid down plans and procedures are normally followed. Similarly, quick decision making and innovativeness of the team has made the company a model enterprise. Every employee is motivated and works towards making BEL shine. No wonder, BEL has remained competitive and supplies its products not only in Uganda, but also to neighbouring countries of South Sudan and Democratic Republic of Congo. This was BEL's long term plan to penetrate the regional market.

Over the years, management of BEL has been credited for making it a profitable business; but that has created a false sense of security against unpredictable future risks and uncertainties. On closer scrutiny, actions of management reflect strong controls that have ensured production of quality juices over the time. Research and development has also been focused on and is geared towards keeping BEL afloat. The required data necessary for further planning has been readily available. Although BEL has paid highly to achieve its status in terms of time and funds, it has overcome all odds that hinder and frustrate most enterprises that do not regard planning as an important management function.

Required:

- (a) Explain the benefits BEL attained as a result of its focus on effective planning. **(10 marks)**
- (b) Explain the limitations to proper planning to enterprises such as BEL. **(10 marks)**
- (Total 20 marks)**

Question 2

- (a) Identify and explain the various appraisal techniques. **(10 marks)**
- (b) (i) Define the term 'job evaluation'. **(2 marks)**
- (ii) Explain the advantages of carrying out job evaluation. **(8 marks)**
- (Total 20 marks)**

Question 3

James Odekai is the former chairman of an iron and steel company. Currently he is the chairman of Hamar Ltd. James is a classical example of an efficient and dynamic leader. He was educated at Wandegeya University. He achieved remarkable professional honour for the work done at Hamar Ltd.

He has demonstrated high quality leadership traits, integrity and self-respect. He is a confident leader who thinks twice before he takes a decision. He is a board member of many government agencies and professional bodies.

Back home in Lamura, people nominated him to stand as their member of parliament. He was elected unopposed because of his maturity in analysing issues and his impeccable human relations right from childhood. He was well brought up by his grandfather.

James has mobilised the community to establish savings and credit cooperative societies (SACCO's). Already five SACCO's are operational. Because of him, Hamar Limited has enjoyed the benefits of effective leadership. Wherever he goes, leadership is part of him and he enjoys doing it.

Required:

- (a) (i) Define the term 'leadership'. **(2 marks)**
- (ii) Explain the important traits related to effective trait theory of leadership exhibited by James Odekai. **(10 marks)**
- (b) Explain the benefits enjoyed by Hamar Limited resulting from James Odekai's effective leadership. **(8 marks)**
- (Total 20 marks)**

Question 4

- (a) Define term 'financial ratio'. **(2 marks)**
- (b) Write short notes on the following:
 - (i) Liquidity ratios. **(2 marks)**
 - (ii) Efficiency ratios. **(2 marks)**
 - (iii) Profitability ratio. **(2 marks)**
 - (iv) Dividend policy ratio. **(2 marks)**
 - (iv) Financial leverage ratio. **(2 marks)**
- (c) Explain the importance of ratio analysis in a business organisation. **(Total 20 marks)**

SECTION B

Attempt two of the three questions in this section

Question 5

With the current trends in Information and Communication Technology (ICT), most companies and organizations have opted to acquire, setup and use computer networks for efficient and effective execution of operations. However, Mafa Enterprises Limited, dealing in food supplies, has found some constraints in their network operation that has led to the dissatisfaction of their customers' demands. The result of these constraints has partly affected the organisation's service delivery and overall performance.

Required:

- (a) Explain what you understand by a computer network. **(2 marks)**
 - (b) Identify the **two** computer network models Mafa Enterprises Limited could use to set up an efficient and effective computer network. **(4 marks)**
 - (c)
 - (i) Explain why Mafa Enterprises Limited depends on networking technology as opposed to stand-alone computers. **(8 marks)**
 - (ii) Discuss the challenges that Mafa Enterprises Limited might experience while using computer networks. **(6 marks)**
- (Total 20marks)**

Question 6

The board of governors for TAT Company Limited (TCL) has approved a project to establish an information centre in the organisation. As part of kick starting the project, you have been appointed as the project co-ordinator. This decision has been arrived at after appraising your knowledge and skills exhibited in your presentation during the last board meeting.

Required:

- (a) Using examples, explain the requirements necessary for the establishment of the TCL's first information technology centre.
(6 marks)
 - (b) Identify **six** critical stages that you would consider in the development of the TCL's information technology centre.
(6 marks)
 - (c) Explain the considerations that will guide you during the purchase of the computer hardware for TCL.
(8 marks)
- (Total 20marks)**

Question 7

The owners of Bonton Enterprises describe themselves as "born before computers". However, they have employed young people who take care of new technologies.

Information and communications technologies have rapidly evolved over the past years with numerous trends and continuous upgrades. Part of this evolution has seen online databases coming on board amongst other dynamic applications.

The application of online databases has played important roles in most organisations, including Bonton Enterprises, especially through the internet's platform hosting vital tools and components that support service delivery. However, the implementing organisation should be made aware of the shortfalls to avoid subsequently falling in its trap.

Required:

Explain to the management of Bonton Enterprises:

- (a) (i) **four** advantages of using online databases in an organisation.
(4 marks)
- (ii) **two** challenges of using online databases in an organisation.
(4 marks)

- (b) The table below presents a file containing staff data.

Staff ID No.	Name	Title	Department	Telephone
AD001	Barungi	CEO	ADM	0772261476
HR001	Zahikahe	HRM	HR	0705361557
PR001	Mutonyi	PRM	PR	0773471877
IT001	Muwonge	ITM	ICT	0774374756

Explain the following using examples from the table above:

- (i) Field (2 marks)
 - (ii) Records (2 marks)
 - (iii) Primary key (2 marks)
- (c) Explain any **three** operations that can be performed on a computer database.

(6 marks)

(Total 20 marks)

EXAM PAPER 3

November 2018

Question 1

Muti Enterprises Limited (MUL) was established in 2010 in Kampala to offer financial services. It deals in foreign exchange, money transfers and savings and credit services. The company employs highly motivated staff that are well equipped with skills and able to design and implement all the necessary programmes that have seen it grow into a successful business entity. MUL commits resources every year in training staff so as to bring noticeable change in their behaviour, knowledge and attitude. This is done through seminars, conferences, temporary promotions, project work and other methods as deemed necessary.

At MUL, excellent customer care cannot go unnoticed. Employees are caring and are ready to perform their duties. This has helped the company to minimise costs of supervision. Most of the MUL clientele have enjoyed quality services for long since their contribution to the organisation increases from time to time. Everyone feels part of the enterprise and this has improved the image of the company, thereby attracting new recruits. So MUL boasts of a steady supply of suitable managerial and technical staff.

At MUL, safety is paramount; employees are equipped with knowledge and skills on how to operate machines and other gadgets for their safety. This has promoted continuity of transactions over the years in a risk-free environment.

Through the use of modern technology, MUL has equipped employees with modern gadgets like computers, modems and internet gadgets which has enabled them to do e-learning. Employees easily tell whenever there is need for change. Change is always embraced at the company due to exposure. There is flexibility since employees know in advance the state of affairs regarding their business.

Employees work in harmony, hence easing business operations. All departments of foreign exchange and money transfer cooperate since they are knowledgeable and work hand in hand. That has greatly improved the performance of the company to become one of the leading financial service providers in Uganda.

Thanks to management at MUL that has considered training and development as integral parts of its operations in an effort to make their business cost effective and survive in a global village.

Required:

- (a) Distinguish between training and development as applied at MUL. (4 marks)
 - (b) Explain the benefits of training to MUL. (16marks)
- (Total 20 marks)**

Question 2

The planning process involves the development of goals, strategies, tasks and schedules required to achieve the objectives of a business.

Required:

- (a) Identify and explain the steps involved in the planning process. (10 marks)
 - (b) Explain the relevance of planning to the management of an organisation. (10 marks)
- (Total 20 marks)**

Question 3

Mamo Enterprises Limited (MEL) was established in 2013 by Mr. Kato using his meager family savings. He had worked as a sub-county chief of Semito and owned other small businesses run by his wife. He secured a large piece of land close to Kampala – Semito highway that had a freehold title. Taking advantage of his family labour and a few unskilled employees from the neighbourhood, he established a mixed farm which had been his longtime dream.

Before he could secure everything he expected to have, Mr. Kato was constrained by inadequate finances. He still needed money to buy inputs, clear and fence the land, put up farm structures like a cattle dip, milking shed and pay workers. The only immediate source of funds was Semito SACCO, where he had previously saved some money. He secured a loan at a very low interest rate, which he used to purchase 20 heads of indigenous cattle to counter the prevalence of pests and diseases like tsetse flies and tick-borne diseases. However, indigenous cattle breeds gave him low milk yields and took long to attain the required body weight. So he ventured into cross breeding his cattle to improve the products. He hired an expert to carry out artificial insemination, but this was very costly. Even some of the cows could not produce because they were too small to carry the pregnancy to full term. So he experienced losses at his farm. However, he never gave up; he consulted fellow farmers for informed advice.

Four years along the way, MEL changed into a 'dream come true' enterprise. Mr. Kato started selling over 200 litres of milk in the nearby Semito trading centre, each at Shs 1,500 daily, up from the previous 25 litres. This helped the farm

meet its operational costs. He also benefited from the poultry and goats projects established in 2015. Products are sold locally and internationally, especially to United Arab Emirates.

Pleased with the performance of the animal sector, Kato decided to venture into crop husbandry in 2016. He established a 5 acre banana plantation; 2 acre passion fruit garden and pawpaws. This has become another profitable project at Mamo farm, utilizing farm manure from cows, goats and poultry. The crop sector has contributed not only to the farm's income but it is also a fall back sector in case the animal section is not doing well.

The success story of MEL has been due to availability of permanent water sources like dams and a borehole. Kato also ventured into training his employees and neighbours by hiring experts from the district agricultural extension services office. That has encouraged neighbours of Mamo to venture into farming. They have formed a cooperative union that has helped them in marketing their produce and securing loans.

MEL has changed the face of farming in Semito; farming has made a steady progress apart from the prolonged drought and some farmers who still practice both bush burning and communal grazing that has made disease control difficult, crop pests and diseases that reduce the yields and the dusty road that links MEL to the main Kampala–Semito high way. Thanks to Mr. Kato's effort to involve the district agricultural officer, Mr. Kute to advise on crop pests and vaccinate animals in this area. He has convinced farmers to spray their animals and avoid bush burning, a move expected to bring a sigh of relief to MEL.

Required:

- (a) Carry out a SWOT analysis of Mamo Enterprises Limited. **(16 marks)**
- (b) Explain what Mamo Enterprises Limited is doing to mitigate the threats in the external environment.

(4 marks)

Question 4

- (a) Explain why business organisations should consider corporate social responsibility as an integral part of their undertaking. **(12 marks)**
- (b) Explain the challenges facing business enterprises resulting from demographic challenges.

(8 marks)

Question 5

In most industries today, business processes are accomplished with the help of computers particularly, desktop computers. Using computers in workplaces comes with disadvantages pertaining to health. Therefore, creating a good ergonomic working arrangement is important to protecting the health of computer users.

Epitop Software Solutions Co. Ltd (ESSCOL) is a software developing company dealing in various software products. It requires software engineers to sit in office for long hours using desktop computers to come up with different software packages being demanded for by clients. However, extensive use of computers comes with side effects to employees. To overcome the side effects, good ergonomic practices must be observed in ESSCOL.

As an ergonomics specialist, you have been approached to give a talk about creating a good ergonomic environment for ESSCOL.

Required:

In your presentation

- (a) Define the term 'ergonomics' as used in the scenario above. **(2 marks)**
- (b) Discuss any **four** health problems that can arise and affect the software engineers of ESSCOL due to poor ergonomics. **(8 marks)**
- (c) Explain any **five** measures that can be put in place at ESSCOL to minimise the health problems that may arise due to prolonged use of computers. **(10 marks)**

(Total 20 marks)

Question 6

Kabisa University of Science and Technology (KUST) located in Masindi district recently set up its branch in Kiboga district. Majority of the staff in KUST use laptops and personal digital assistants because they are equipped with wireless local area network (LAN) connectivity. A few staff use the old desktop computers.

One of the advantages KUST is enjoying is transmitting data over the wireless connection within its different campuses. However, data transmission over a wireless network comes with its challenges but they can be managed.

Required:

- (a) Explain the term 'data transmission'. **(2 marks)**
 - (b) Briefly discuss any **three** components or devices that were used to set up a wireless network for KUST in both locations. **(6 marks)**
 - (c) Discuss any **three** benefits KUST is enjoying with the use of a wireless network. **(6 marks)**
 - (d) Explain any **three** possible challenges that KUST may be experiencing with data transmission over its wireless LANS. **(6 marks)**
- (Total 20 marks)**

Question 7

HXT Associates is newly established consultancy firm in Kiboga district offering business advisory services. The firm has other branches in Mubende, Gulu and Kaberamaido districts with fully functional offices. As a current trend of most organisations in the 21st century, the director of the firm Mr. Okello, has requested for improving the efficiency of work flows in the four offices.

Mr. Okello has done extensive research about systems that can help him achieve his dream and he is convinced that an office automation system (OAS) can help improve efficiency of workflows in the four offices. This is so because of the amazing features of the office automation system and additionally, because of the fact that OAS further integrates different functions in order to improve efficiency. The functions integrated include electronic publishing, electronic communication, electronic collaboration and image processing.

Just like any other new user of any system, he is again very afraid that the office automation system could come along with many disadvantages and he is very much interested in knowing how to overcome them for purposes of easy

planning. Mr. Okello would like someone to help get a better understanding of office automation systems.

Required:

Explain to Mr. Okello:

- (a) The meaning of office automation systems. **(2 marks)**
- (b) Any **two** characteristics of office automation systems that HXT Associates will enjoy. **(2 marks)**
- (c) How HXT Associates will apply the functions integrated by office automation systems given below.
 - (i) Electronic communication. **(2 marks)**
 - (ii) Electronic collaboration. **(2 marks)**
 - (iii) Image processing. **(2 marks)**
 - (iv) Electronic publishing. **(2 marks)**
- (d) Any **four** disadvantages associated with office automation systems that HXT Associates will face. **(8 marks)**

(Total 20 marks)

EXAM PAPER 4

May 2019

Question 1

In 2010, Mr. Johnson Mabirizi, the area member of parliament for Nakibizi county, Wakiso district, decided to open Paxton Secondary School as a way of giving back to the community. He converted his former hotel in the town of Nakibizi as premises for the secondary school. He opened with about 200 students. The staff comprised of a headteacher, teachers, non-teaching staff and group employees. By mid-2011, the school had become a fully registered mixed boarding secondary school.

Mr. Mabirizi is a well-known hard working member of parliament who has done a lot of developments for his constituency, especially in fighting illiteracy. He operates a vocational institute and a community primary school in the constituency. In all the institutions, fees are affordable to allow low-income earners benefit from his services.

By 2012, the secondary school had grown to a population of over 500 students. The school was synonymous with good academics, disciplined students and committed staff. This achievement was due to a number of factors; one of which was that the director who always came for supervision at school early in the morning or late in the evening. He would meet and/ or interact with all the employees of the school to understand and listen to their challenges. He would ensure teachers' needs are answered in time bearing in mind that they are the key stakeholders in the school. It was, therefore, not surprising that the school was ranked among the best in the district and the whole country. This performance was a turning point in the history of the school. It impacted positively on teachers' performance and aroused a healthy competition among the students.

2016 was a year for presidential and parliamentary elections. Mr. Mabirizi contested once again to represent his constituency. This was a sign that his time at school was going to be limited. He would spend most of the time engaged in meetings and campaigns in his constituency. He would only pass by once in a while, but he had vested most of the authority and power to the head teacher, Mr. Edwine Nakhokho.

Mr. Nakhokho took advantage of the situation and decided to engage himself in other private businesses. He started up a maize milling factory using money raised from the school. Whenever it was time to pay teachers, he would first use their salaries for his personal businesses and pay them later after making a

profit. This did not go down well with the teachers. They also became unethical and started absconding from normal school duties. Whenever they came to school, the demotivated teachers would spend most of the time talking and conversing with students on matters of politics, which affected students' learning. Some male teachers entered into illicit relationships with female students and promised them gifts and better grades if they marked their (students') final examinations. Due to lack of time, some teachers would forge marks at the end of the term in the students' reports and the head teacher could not notice what was taking place in the school. Because of the bad performance, the senior teachers decided to administer corporal punishments, which was, however, against the ministry's policies.

For long, some teachers had been involved in marketing the school in different regions and freely recruited students from upcountry districts. However, because of the disorder at school, they started charging illegal fees for admission. Consequently, some parents decided to transfer their children to other better schools and this affected the population size. Since then, the performance of the school kept deteriorating.

Whenever a teacher would resign his job, the head teacher would immediately recruit another one without following the rightful school procedures. Any teacher he considered undisciplined would be dismissed at any time. This situation at school affected everyone's morale including administrators, teachers and students leading to poor academic performance.

Required:

(a) Discuss the unethical behaviors that were being practiced at Paxton Secondary School.

(10 marks)

(b) Explain the possible ways that could be adopted to revive Paxton Secondary School to glory and improve its performance.

(10 marks)

(Total 20 marks)

Question 2

In every business organisation, management must have a deep understanding and appreciation of the environment (both external and internal) in which they operate. The environmental factors have a strong influence on the success of the organisation and managers must continuously monitor and analyse all changes that occur in their environment. The external environment of an organisation consists of economic and political factors among others.

Required:

Critically analyse the influences of both the economic and political factors on any business environment in Uganda.

(20 marks)

Question 3

- (a) Discuss the sequence of the necessary procedures to be followed by the purchasing department when procuring raw materials needed by the company in a stipulated time.

(10 marks)

- (b) Explain the factors that affect the decision on the type of production system to be used by a manufacturing company.

(10 marks)

(Total 20 marks)

Question 4

Mr. James Odrech is a well-known motivational speaker who uses modern technology while making public presentations which has made him very popular in the country. His motivational presentations have always made a positive change on the company employees that they keep yearning for him. He has a team of knowledgeable youths that he has trained to support him when he is making presentations. During a presentation to members of KADEL Savings and Credit Cooperative Organisation (SACCO), Mr. Odrech was struck by a stabbing pain in his stomach. This made him uncomfortable and he felt like stopping in order to seek some help. He tried to signal one of the team members but they neither understood his communication nor bothered to come near him to provide support.

He later decided to leave the room without notice, leaving the participants wondering what had happened. However, he later came back and resumed his presentation. Mr. Odrech was left disappointed and annoyed with his team who left him in that state and never bothered to keep the participants busy in his absence.

After the presentation, he called the team and began accusing them of not paying attention whenever he was making presentations. He gave an example of the day's incidence of not responding to his nonverbal communication when he signaled to them at that critical time and none of them responded. One of the team members, however, replied that they did not observe nor note any communication from him.

Mr. Odrech remembered that he had not trained his team about communication and therefore, they were ignorant about it. He was therefore forced to take

them through the different communication methods. He noted that as a team, they should know the importance of communication in their daily lives and that nothing could take place without some methods of communication being used to express themselves for whatever purpose.

He noted that communication is important and more valuable in the business environment, especially in their field since several parties are involved. That various stakeholders namely customers, employees or media are always sending important information to each other all the time and that they should always be alert to watch what takes place around them and be in the know of the different methods used.

He was quick to caution his team to never ignore written communication because of its benefits, and that after he had noticed that as young men, they relied almost entirely on their gadgets as a source of information.

Required:

- (a) Explain the different communication methods that could have been used by Mr. Odrech when he needed support from his team members. **(8 marks)**
- (b) Discuss the advantages of written communication to the team of youths who work with Mr. Odrech. **(12 marks)**

(Total 20 marks)

Question 5

There are a number of spreadsheet software on the market today. Examples of the spreadsheet software include open office calc, google sheets, and Ms excel. Spreadsheets have become an integral part of most organisations today being used in many business applications.

Owing to the above, Mr. Maurice Wambedde, the director of Exquisite Microfinance Limited (EML) located in Buikwe district would like to use spreadsheet software in business operations. As Director Operations, he acknowledges it is very important to know the different parts of the Ms Excel interface which include; worksheets, workbooks, rows and columns.

Another salient feature that employees need to know is cell referencing and the different types of cell referencing. You have been hired as a consultant to

educate the employees of EML and help them get a better understanding of spreadsheets.

Required:

Prepare a presentation to the employees of EML:

- (a) explaining the meaning of the following terminologies in spreadsheet software.
 - (i) Workbook. (1mark)
 - (ii) Worksheet. (1mark)
 - (iii) Row. (1mark)
 - (iv) Column. (1mark)
 - (b) discussing any **four** ways how spread sheet software can be applied in the day-to-day operations of a business. (8 marks)
 - (c) explaining:
 - (ii) the meaning of the term 'cell reference'. (2 marks)
 - (ii) **three** types of cell referencing, using relevant illustrations (6 marks)
- (Total 20 marks)**

Question 6

A computer network comprises of software and hardware devices. It is a collection of computing devices connected to one another to establish communication and also share available resources. An organisation's computer network can either be connected to the internet or not. Regardless of the computer network used, there is always an underlying topology behind every type of computer network.

Aware that there are many benefits that come along with the use of computer networks and the internet, the directors of Tim Tim Hospital would like to have all their computers networked. However, if there are not any security measures in place to secure the computer network and the hospital's records, the confidentiality, integrity, authenticity and availability of the information may be compromised.

The directors of Tim Tim Hospital have invited you as a consultant to make a presentation to staff about network topologies and security measures to be put in place to secure the network.

Required:

- (a) (i) Explain the meaning of the term network topology. **(1 mark)**
(ii) Briefly explain any **three** types of computer network topologies Tim Tim Hospital are likely to have on their network. **(3 marks)**
- (b) Discuss any **three** security measures that should be observed by computer users on the Tim Tim Hospital computer network. **(6 marks)**
- (c) It has been observed that internet usage in most workplaces is abused by computer users. This leads to decrease in productivity and efficiency during working hours.

Required:

- (i) Explain any **four** ways internet usage is likely to be abused by the computer users of Tim Tim Hospital when the computer network is finally setup. **(4 marks)**
- (ii) Discuss any **three** measures that will have to be employed to minimise abuse of internet usage on the Tim Tim Hospital computer network. **(6 marks)**

(Total 20 marks)

Question 7

Pangeni Secondary School is located in the heart of Busia municipality. During the past two years, the population has increased and it has become overwhelming for the school management to keep their records in files.

The head teacher was advised to hire a renowned programmer to come up with the school's electronic records system.

The programmer has just informed the head teacher that it is important for him to follow the system development lifecycle (SDLC) approach as he comes up with the electronic records system.

The programmer has asserted that the SDLC is a better approach. It is gradual, involves a series of steps like, planning, requirement analysis, design, development, integration and testing, implementation and maintenance. He emphasised that each step of the SDLC has a major deliverable.

The programmer informed the head teacher that the SDLC has weakness and, in fact, if one is not very comfortable following it, there are other alternatives to it.

Required:

- (a) Explain the following steps of the SDLC and mention one deliverable for each stage to the head teacher of Pangen Secondary School.
- (i) Planning. (2 marks)
 - (ii) Requirement analysis. (2 marks)
 - (iii) Design. (2 marks)
 - (iv) Development. (2 marks)
 - (v) Integration, testing and validation. (2 marks)
 - (vi) Implementation. (2 marks)
- (b) Explain any **two** disadvantages that Pangen Secondary School may face as a result of using the SDLC. (2 marks)
- (c) Identify any **three** alternative methodologies to SDLC that developers can use to come up with the electronic system at Pangen Secondary School. (6 marks)
- (Total 20 marks)**

EXAM PAPER 5

August 2019

Question 1

Mr James Okoth is the headteacher of St. Mark S.S, in Lira Municipality. He believes in team spirit and the dignity of human beings. He treats his employees, both teachers and support staff, as associates and expresses genuine concern for their well-being. This has inspired the employees to develop a sense of loyalty and dedication to work. In turn they have been able to produce excellent results. Ultimately, the school has attracted a large clientele. James boasts of a young, energetic, motivated and promising team of professional teachers with a good vision for the school.

Despite the rosy outlook, the school is faced with some challenges. James has used school funds to advance soft loans to some teachers to purchase personal cars. The staff have objected to requirements advanced by the headteacher to teach extra lessons from 5:30 am to 7:00 am and from 7:00 pm to 10:00 pm. Their argument is that the teachers are required to administer weekend tests. Teachers have interpreted this as exploitation. They have demanded for special allowances so as to carry out extra work. The headteacher has ignored their demands. The teachers have no role in decision making, especially in matters concerning teachers' welfare. James is always complaining of scarcity of funds because St. Mark S.S is under universal secondary school programme. He argues that the school collects little money and sometimes government delays to remit the capitation grant. This has caused a lot of rift between the teachers and administration. The matter has attracted the attention and intervention of different stakeholders, including the board of governors, executive committee of parents' teachers' association, parents, and the education department at the district. Some serious parents have intervened to find a long lasting solution for their school.

Required:

- (a) Discuss the factors that have led to conflicts at St. Mark S.S despite the existence of sound teamwork.

(10 marks)

- (b) Explain the strategies that can be applied by the stakeholders to manage the conflicts at St. Mark S.S.

(10 marks)

(Total 20 marks)

Question 2

Santon Uganda Ltd (SUL) has been in Uganda since 1990 dealing in the production and marketing of sunflower oils. SUL has its headquarters located in Kampala. The company has grown from strength to strength because many Ugandans like their quality products. There are about 120 workers in the production, sales and marketing, finance and procurement departments.

In September 2013, the managing director, Mr. James Ssempijja, convened a stakeholders' meeting which passed a resolution to add another product. Their major focus was to process shea butter nuts into skincare oils. In June 2013, SUL opened a new factory at Namanve for producing and packing shea butter. They would supply the product to wholesalers in different parts of the country.

With expansion, SUL had to promote the new product to gain customer acceptability, increase sales and boost revenues. The company managers needed to control costs with increased production and take into account competition. SUL experienced a decline in sales due to competitive prices from similar agro processors in the market which affected production in the long run.

Given the management experience from the previous products, the team was very much aware and knowledgeable about the product life cycle. They were however, challenged on how to price their new product since there were other companies producing a similar product. The company needed to critically analyse factory startup costs without exaggerating the prices as well. The customers who already had trust in SUL products had no doubts about the new product. They knew it was of high quality. SUL's shea butter products were processed in their natural form without any additives so as to reduce production costs.

However in 2014, the economy was hit with inflation which affected the prices of many products, including those of SUL. The company had to venture into new markets in South Africa. They entered into a trading agreement with Nina Super Market. SUL negotiated a higher price compared to the prices for wholesalers in the country. After four years of operation, the managing director observed that as much as the company was earning money every day, it was not making enough profits as required. He convened an annual general meeting. The members noted with concern that the company products had reached the declining stage without prior warning from the board of directors. The board in turn blamed the general manager and his management team for the poor performance.

"Unfortunately we are right in the middle of the decline in sales and profits that have declined consistently," said the sales manager. "The way to go in my view is either to inject more capital into the business to create an edge over our

competitors or to maintain the present level of investment and continue to watch what happens in the market”, he added.

Required:

- (a) Explain the factors that management of SUL would have considered when pricing their newly introduced product.
(10 marks)
- (b) Discuss the importance of the product life cycle in business planning at SUL.
(10 marks)

(Total 20 marks)

Question 3

- (a) Explain the stages in decision making process of an established organisation.
(10 marks)
- (b) Discuss the disadvantages of group decision making in an organisation.
(10 marks)

(Total 20 marks)

Question 4

In any organisation, the leaders’ roles are to promote, direct, implement, plan and motivate employees. Different leadership styles exist in work environments. The culture and goals of an organisation determine the type of leadership style that fits it best, while personality differences often dictate on the most often used. Some companies offer several leadership styles depending on the departmental needs and necessary tasks to be accomplished.

Required:

Explain the

- (a) different styles of leadership that are used by different organisations.
(10 marks)
- (b) differences between autocratic and democratic leadership in an organisation.
(10 marks)

(Total 20 marks)

Question 5

The senior accountant of Gumu-Gumu Clinic, Mr. Mayo Ochen, presents the clinic's annual reports to the board of directors, with the help of presentation software like Microsoft PowerPoint, OpenOffice.org, and Open Office Impress. Mr. Mayo makes good use of animation effects, charts, sound slide transmissions, hyperlinks, images, navigation buttons, slide show and videos within the slides. He also follows standard guidelines which help him come up with effective presentations.

Slides in any presentation can be viewed in a variety of ways depending on the task at hand. They help the presenter to navigate through the slides.

Mr. Mayo Ochen usually uses presentation software because presentations add value and life and help him explain complex concepts. He has always found it much easier to use MS-PowerPoint because it comes along with other Microsoft office packages, like MS-Word and MS-Excel, among others, which he uses to accomplish other tasks.

Required:

- (a) Explain the following terms as used in the scenario above.
 - (i) Presentation software. **(2 marks)**
 - (ii) Slide show. **(2 marks)**
 - (iii) Animation effects. **(2 marks)**
 - (b) Explain **three** commonly used view options while navigating through presentation slides. **(6 marks)**
 - (c) Explain any **four** guidelines Mr. Mayo follows when creating an effective presentation. **(8 marks)**
- (Total 20 marks)**

Question 6

The Central Processing Unit (CPU) also referred to as a processor or microprocessor is probably the most important part of the computer. For this very reason, some authors refer to the CPU as the "brain" of the computer.

The CPU has got three distinct subsystems or functional units which are vital in its operations.

Together with other components like motherboard, RAM, hard drive, video card and power supply, the CPU is housed within the system unit. In order for the above components to be protected from power surges and spikes, it is important that the system unit is connected to an un-interruptible power supply (UPS)

Apart from the motherboard having the CPU faceted on it, the motherboard has different types of ports on it, where cables are connected to allow communication to the external devices.

Some types of cables which can be connected on the ports include Ethernet cables, Video Graphics Array (VGA) cable, Serial Advanced Technology (SATA) cable and the Universal Serial Bus (USB) cable.

Required:

- (a) Using an illustration, explain the functions of the **three** main functional units of the CPU. **(8 marks)**
 - (b)
 - (i) Explain the term port as used in the case study. **(1 mark)**
 - (ii) Mention any **three** types of ports that can be found on the motherboard. **(3 marks)**
 - (c) Explain any **two** functions of an uninterruptible power supply. **(4 marks)**
 - (d) Explain the use of the following power cables:
 - (i) VGA. **(1 mark)**
 - (ii) Ethernet. **(1 mark)**
 - (iii) SATA. **(1 mark)**
 - (iv) USB. **(1 mark)**
- (Total 20 marks)**

Question 7

DIKST Bank Ltd is a newly established commercial bank in Kampala. One of the top positions is Chief Finance Officer (CFO). The CFO reviews and prepares financial statements for the bank. In order to rise to the position of CFO, one has to start from junior levels, then rise to mid-level, senior accountant, financial controller and chief finance officer. The promotions are subject to one's qualifications and performance.

DIKST Bank Ltd's financial documents include general ledgers, month-end reports and function specifics. A general ledger is a company's financial directory containing information pertaining to every account, all revenue and expenses, and the net worth of the bank's assets. The CFO has to regularly reconcile the general ledger for its consistency. The month-end report is a monthly report

highlighting the financial activities and performance of the different bank's departments.

Recently the bank premises caught fire and all the paper files were burnt to ashes, thus losing all the key financial documents. The computers could not function anymore. After recovery from the fire and purchasing new computers, the bank's new computer system was hacked into. The software that was being used for preparing the financial statements had lost its integrity. For this matter, DIKST Bank Ltd hired an Information Systems Security Officer (ISSO) to advise on the computer systems security.

Computer systems security involves protecting the computer hardware, software and data on a computer network against any possible threats. The ISSO proposed acquisition of customized accounting software tailored to DIKST Bank Ltd and to safely keep their financial documents electronically. This accounting software has to be installed in all their computers across all the levels of the accounting function.

DIKST Bank Ltd wants to create awareness of data security and software security and additionally ensure they follow data and software security. The team must ensure that they adhere to data and software security best practices.

Required:

(a) Define the following terms as used in the above scenario.

(i) 'Data security'. **(2 marks)**

(ii) 'Software security'. **(2 marks)**

(b) Explain any **four**:

(i) software security measures that can be put in place by the ISSO of DIKST Bank Ltd for their customised accounting software to continue working well even amidst malicious attacks.

(8 marks)

(ii) data security measures that can be put in place by the accountants of DIKST Bank Ltd to keep all the financial documents and ledgers in digital form.

(8 marks)

(Total 20 marks)

EXAM PAPER 6

December 2019

Question 1

BANAL Company Limited (BCL) deals in the packaging of pineapple juice and pineapple wine. BCL has been in operation since 2017. The managing director is Mr. Patrick Okiria, who oversees the day to day running of business. He is supported by a work force of over 100 employees, in the departments of sales and marketing, production, human resource, finance, security and casual workers.

Patrick Okiria has ensured that employees are well motivated. He has promoted effective communication among employees. There are various pathways for information flow to different departments and the entire company.

It is BCL's policy to ensure that any important information concerning the company affairs is always communicated by the general manager to different heads of departments who in turn should communicate to their team members. This is done purposely to ensure that the information passed on is clear and direct to the specific departments concerned.

At BCL, heads of departments were also given the authority to always make decisions in their respective departments and could also communicate other policies, procedures and any other relevant information as required.

In order to ensure achievement of team work, the manager would convene Monday morning staff briefings meeting where each head of department would provide a brief report about the previous week's achievements and challenges. At this level, every employee would submit their feedback and way forward as they begin the new week.

During tea and lunch breaks, employees would meet and discuss different issues at their levels and socialize with one another. The meals were served centrally for all employees. Meal times were important for networking and building.

Employee retention is one area where management has scored highly. They feel at peace and can easily interact with one another and are comfortable.

The managing director is flexible such that any employee can easily interact with him. On the other hand, he is very strict with policies and procedures when implementing them. This has made him win an award as the best employee of the year.

Required:

(a) Explain the different patterns of communication used by the managing director of BCL.

(8 marks)

(b) Discuss the attributes of effective communication at BCL.

(12 marks)

(Total 20 marks)

Question 2

KAYIZIK Farm is a model farm located in Kigarama, Sheema district. The farm is owned by Mr. Michael Kalyemera, a well-known farmer. The farm specializes in poultry rearing, zero grazing and piggery, on a large scale. The farm accommodates about 30,000 chicken, 20 cows and 200 pigs. It also operates a hatchery for hens and pack yoghurt on a small scale.

The farm manager is a qualified veterinary doctor, Mr. Justus Mugarura. He is assisted by Rhoda Kanyesigye, the farm accountant. The farm employs a total of 25 semi-skilled and unskilled workers.

The farm has modern farm houses well equipped with up to date standard structures, both for poultry, cattle and piggery. It has a well-planned modern water system that covers the whole of about 30 acres.

As a model farm in the district they have programmed the various activities to be accomplished in a day in all the sections. Heads of sections take it upon themselves to accomplish the assignments given by the general manager.

The high quality of products from this farm has attracted a good number of customers. On daily basis, they sell about 1,000 trays of eggs, 400 litres of milk and 20 piglets per week.

The general manager with the assistance of heads of sections is responsible for allocating different duties to employees at the farm. Their activities are well programmed that each employee has clear parameters. Problems at the farm are well structured and alternatives are well defined. The decisions are well implemented through established policies, rules and procedures.

In May 2018, the poultry farm was hit by Newcastle disease which saw many birds die at six months. The general manager took a quick decision of selling off the survivors immediately. A lot of losses were incurred. It took management by surprise since all chicks had earlier been immunized. Given the farm's strict protocol, they could not imagine that such a problem could occur. The decision to sell off all the chicken was to protect the hatchery at the farm. The customers had made orders for the one day old chicks at the time.

Required:

- (a) Define the term 'decision making'. **(2 marks)**
- (b) Explain with examples from Kayizik farm, **four** differences between programmable and non-programmable decisions. **(8 marks)**
- (c) Discuss the factors that influenced the general manager of Kayizik farm to make a quick decision on sale of chicken that survived the Newcastle epidemic. **(10 marks)**

(Total 20 marks)

Question 3

Social responsibility is the ability of a corporation to relate its operations and policies to the social environment in ways that are mutually beneficial to the company and society.

Required:

Discuss the arguments for and against social involvement of a business.

(20 marks)

Question 4

- (a) Explain the effect of advancement in technology to business organisations. **(10 marks)**
- (b) Discuss the internal factors that influence the business environment. **(10 marks)**

(Total 20 marks)

Question 5

Data transmission is the process of sending digital or analog data over a communication medium to one or more computing, network, communication or electronic devices. It is mainly reserved for sending and receiving digital data. It works when a device or piece of equipment, such as a computer, intends to send a data object or file to one or multiple recipient devices, like a computer or server, hence computerized data communication.

GumaGuma Microfinance is a financial institution with a number of branches in the country. It has not been feasible for them to go on without a computerized data communication system in place. For purposes of reliable, effective and fast communication to its customers and among staff in each individual branch, management has resolved that there is need to set up a client-server

computerized data communication system for communication to its customers and peer-to-peer computerized data communication system with in each single branch.

The management of GumaGuma Microfinance have also got to learn that there are;

- (i) Measures that must be put in place and emphasized for the safety of data during its transmission from branch to branch, from branch to customers and within each branch.
- (ii) Basic components of a computerized data communication system which include; the message, the sender, the receiver, the transmission medium/communication channel, protocols and encoders and decoders.

Management would like to have a sensitization workshop for the entire staff as they hope to migrate soon from the non-computerized data communication system being used currently.

As a computer networks specialist, you have been contacted to take the company staff through the following during their sensitization workshop.

Required:

- (a) Define the following data communication systems in the context of GumaGuma Microfinance.
 - (i) Peer-to-peer. **(1 mark)**
 - (ii) Client/server. **(1 mark)**
 - (b) Explain any **three** basic components of a computerized data communication system as applied to the set-up of GumaGuma Microfinance. **(6 marks)**
 - (c) Explain **three** data transmission safety measures GumaGuma Microfinance should consider putting in place for their:
 - (i) peer-to-peer computerized data communication system. **(6 marks)**
 - (ii) client/server computerized data communication system. **(6 marks)**
- (Total 20 marks)**

Question 6

Mina Boast Store (MBS) is a supermarket that has operated in Masaka for the last three years. Their staff at the operational level are expected to submit weekly reports about sales, purchases and other financial transactions. For the sake of accuracy, MBS recently set up an Information System (IS) to enable the operations staff collect or retrieve data, process, store, and distribute information to the intended parties in order to support quick decision making and control.

There are three basic activities the IS of MBS undertakes to produce the information it needs; input, processing, and output. Feedback and control is also required because it is the output (from the output activity) returned to appropriate people or activities in MBS to evaluate and refine the input. Environmental actors, such as customers, suppliers, competitors, stockholders, and regulatory agencies, interact with MBS and its IS.

Required:

- (a) Using an illustration, describe how MBS information system would be used to produce the information needed as described in the scenario.
(10 marks)
 - (b) Explain the necessity of the given activities below and their deliverables in the IS of MBS.
 - (i) Input. (2 marks)
 - (ii) Processing. (2 marks)
 - (iii) Output. (2 marks)
 - (iv) Feedback. (2 marks)
 - (v) Control. (2 marks)
- (Total 20 marks)**

Question 7

Mbaga Media Technologies (MMT) is a media company incorporated in Malaysia and would like to establish a media house in Kampala. Some staff are not very well equipped with computer knowledge and yet among the equipment they must acquire computers are inclusive, and are used in every field. As an information communications technology expert, you have been approached by management of MMT to make a presentation to help them appreciate the following about computer hardware:

- (i) The system unit, names and functions of hardware ports and the parts of the motherboard.

- (ii) The names and distinguishing features of different kinds of input and output devices MMT will require for their everyday use.
- (iii) How the CPU processes data and instructions and controls the operation of all other devices.
- (iv) The names, distinguishing features, and units for measuring different kinds of memory and storage devices.
- (v) Searching personal computers for the various hardware components that they contain.

Data for MMT will be entered into their computers in a variety of ways, and the input device that is most appropriate will usually depend on the type of data being entered into the system, how frequently this is done, and who is responsible for the activity. All input devices have at least one thing in common: the ability to translate non-digital data types such as text, sound or graphics into digital or binary format for processing by a computer.

Required:

- (a) Prepare a presentation to the staff of MMT, explaining with examples where applicable, the roles of the following computer hardware components in their company.
 - (i) The system unit. **(2 marks)**
 - (ii) Input devices. **(2 marks)**
 - (iii) Output devices. **(2 marks)**
 - (iv) Storage devices. **(2 marks)**
 - (b) Describe any **three** input devices MMT will have to acquire as part of their computer hardware components that will translate text, sound or graphics into digital, as the need will arise. **(6 marks)**
 - (c) Identify **three**
 - (i) steps that MMT staff should always follow when searching their computers for the various hardware components that they contain. **(3 marks)**
 - (ii) hardware components that will be displayed as a result of the steps in c (i) above. **(3 marks)**
- (Total 20 marks)**

EXAM PAPER 7

December 2020

Question 1

GEMMA LTD

Gemma Ltd (GEL) was established in 2010 in Apac, one of the cotton growing districts in Uganda. It is engaged in processing cotton as well as manufacturing clothes for both domestic and international markets. The directors of GEL, Mr. and Mrs. Kakuru, were attracted by increasing demand for the cotton clothes preferred by most people to synthetic fibres like silk, rayon and wool that had hit the market. GEL employs both skilled and unskilled labour including family labour, locals from the area and other parts of Uganda, as well as expatriates, particularly from Egypt. Management is in the hands of excellent team players with excellent customer care, who have steered the business to great success.

In 2016, GEL grew into a large business which necessitated recruitment of more skilled employees to handle current and future needs of the company. This led to new innovations enabling production of high quality fabrics.

Although it is located in the village with impassable roads, GEL uses modern equipment in processing and production of its goods. This has helped the company to keep afloat. These range from plain cotton to printed cotton cloth which is tailored into different designer and trendy fashions in its tailoring section.

All had been well till 2018 when there were new entrants in the business. These had almost similar technology and produced similar goods, but were low priced to enable them penetrate into the market. GEL opted to rebrand and invest in new technology. That same year, export taxes were raised to enable the government finance its projects. However, GEL's experience in the textile industry has bailed it out. They embarked on aggressive advertisement that brought in many customers who were quick to recognize GEL's products from the rest. That has meant that GEL maintains same prices of all their products.

Required:

- (a) Carry out a SWOT analysis of GEL. (12 marks)
- (b) Explain the response of GEL to the threats in its macro environments. (8 marks)
- (Total 20 marks)

Question 2

- (a) Management of Jim Jam Ltd is seeking services of a competent management consultant with expertise in marketing, particularly, researching about market trends and data, with ability to provide information regarding promotions, branding, media channels, price determination, price reviews, cost management as well as providing guidelines on implementation of marketing strategies for various products and services. You have been engaged as a management consultant.

Required:

Explain to management the factors that necessitate a business to make price reviews of its products.

(10 marks)

- (b) Discuss the factors that a business should consider when choosing channels of distribution for its goods.

(10 marks)

(Total 20 marks)

Question 3

Kyelima Mixed Farm

Kyelima Mixed Farm (KMF) was established in 2008 by Mr. Kwagga. The farm seats on a square mile of land where both livestock and crops are taken care of. It employs over 20 workers in its different sections, namely; poultry, goats, cattle and a banana plantation.

The manager, Ms. Jackie Nabalima, is very enterprising. She played an important part in encouraging the owner, Mr. Kwagga, to start up many sections from the initial one section of cattle. A diploma holder, Nabalima has encouraged Mr.

Kwagga to support skills development of the workers. The employees of each section have been equipped with skills through inviting specialists who visit the farm with the intention of teaching workers new developments in poultry rearing.

In addition, the manager ensures that new workers are taken around the farm to familiarize them with what takes place at the farm. They are then sent to the different sections where they are supposed to be supervised as they do their assignments for some time to ensure that mistakes, accidents and wastage are minimized. This has not only been a blessing to KMF but also to employees who have attained growth and maturity of thought.

Employees from the goats, cattle and piggery sections are always rotated. This has been good for KMF, since dismissals have not destabilized continuity at the farm and has built their confidence resulting into very low turnover at the farm. The managers of the different sections are sponsored to attend seminars, agricultural shows and expos which has improved their competence. They have been enabled to attain new and innovative ideas that have improved efficiency, quality and quantity of products from KMF.

Required:

- (a) Describe the types of training practiced at KMF.
(8 marks)
- (b) Explain the benefits KMF has attained from training its employees.
(12 marks)
(Total 20 marks)

Question 4

Kwetu Ltd is a business enterprise located in Kampala city. It is engaged in a highly competitive business of producing and marketing of bottled-mineral water.

Required:

- (a) Explain the primary objectives of Kwetu Ltd.
(12 marks)
- (b) Describe the strategies that Kwetu should adopt to achieve the objectives in (a) above.
(8 marks)
(Total 20 marks)

Question 5

Although computers have been in use since the abacus, digital computers which have had a profound effect on society were introduced in the 1940s. As computers evolve, so does Information Technology (IT). This computer technology has been going through many changes or technological developments which have led to different computer generations. It is important to note that each computer generation has come with a particular trend better than the former generation.

The use of computers and IT has enabled communication, information availability, internet usage, telecommuting, data storage among others. This has tremendously socially impacted people both positively and negatively. Therefore one has to embrace usage of computers and IT with care.

Required:

- (a) Describe the following terms as used in the passage above.
- | | | |
|-------|-------------------------|------------------|
| (i) | Computer. | (2 marks) |
| (ii) | Computer generation. | (2 marks) |
| (iii) | Information technology. | (2 marks) |
| (iv) | Social impact. | (2 marks) |
- (b) From the scenario, it is realised that computers and information technology have impacted society in various ways.

Required:

Describe any **three** ways how the use computers and information technology has socially impacted people;

- | | | |
|------|-------------|------------------|
| (i) | negatively. | (6 marks) |
| (ii) | positively. | (6 marks) |

(Total 20 marks)

Question 6

Kabasa Research Institute (KRI) is a pharmaceutical research center working with several departments that process huge amounts of sensitive data using a Computer-Based Information System (CBIS). Each of those departments has fully functioning computer systems connected to Internet. Over the past two weeks KRI has experienced two major security challenges which are explained below.

All their computers have been attacked by a computer virus. As a result, computers have become slow, data has been lost or corrupted and most of KRI's computer software has malfunctioned. Furthermore, there have been unauthorized people who have accessed the KRI's sensitive information; putting the company at risk of betrayal and harassment by anyone who would wish to have them in trouble.

Findings indicate that KRI is not having software security and information security mechanisms and additionally, while implementing the KRI CBIS, security controls were not much thought about.

This therefore calls for emphasis on enhancing of CBIS security because any security weakness in computer-based information systems may lead to major service interruptions, and unwanted exposure of sensitive information of KRI. Information security is key since it will ensure confidentiality, integrity and availability of KRI data.

To enhance the confidentiality, integrity, and availability of information, KRI can use different choose from a variety of information security measures. Each of these measures can be utilized as part of their overall information security policy. These measures include; authentication, access control, encryption, backups, firewalls, use of antivirus programs, intrusion detection systems, virtual private networks, physical security, security policies, usability and personal information security.

Like any other CBIS, KRI's CBIS has three major components: computers, computer network and human.

Required:

- (a) Explain the following term as used in the scenario.
- (i) Computer virus. **(2 marks)**
 - (ii) Computer- based information system (CBIS). **(2 marks)**
 - (iii) Software security. **(2 marks)**
 - (iv) Information security. **(2 marks)**
- (b) Explain two ways how KRI can achieve password security, authentication and physical security measures in-order to enhance the confidentiality, integrity and availability of information within their CBIS.
- (i) Password security. **(2 marks)**
 - (ii) Authentication. **(2 marks)**
 - (iii) Physical security. **(2 marks)**
- (c) Explain the **three** components of KRI's CBIS pointed out in the scenario. **(6 marks)**
- (Total 20 marks)**

Question 7

Bweyale Executive Hotel (BEH) is phasing out the manual and mechanical ways of data processing to Electronic Data Processing (EDP). For example, preparation and issuing of receipts to their guests has always been done manually. The manual type of data processing is being phased out by BEH because it has been posing a very high probability of error, it is labour intensive, very time consuming and there are many chances of repeated entries.

BEH has also been using the mechanical way of having data processed. With mechanical data processing, data is processed with the help of devices or machines. These machines include calculators for arithmetic operations and type writers, among others. This method is faster, easier and more accurate than manual data processing. However, the output is still very limited.

Given that BEH is phasing out both manual and mechanical ways of processing data, they have fully embraced the electronic type. EDP is the technique to

process data with the use of computers. Data and a set of instructions are given to the computer as input and the computer automatically processes the data according to the given set of instructions. The computer is also known as electronic data processing machine. This method of processing data is very fast and accurate. This type of data processing comes with a number of advantages over the other two types. The processing is error-free as it is done through various programs and by using a pre-defined set of rules. Processing of a large amount of data with high accuracy is possible only with electronic data processing.

The electronic data processing system is computerized and is designed to improve quality and maximize productivity. When it comes to accuracy and efficiency, there is no better method than electronic data processing. BEH's data can be quickly processed without errors. By using this method, BEH can also store large amounts of data in a form that is easily retrievable. In manual data entry, there is always the chance of repeated entries. However, with EDP, such mistakes can be completely eliminated. Another advantage is that this type of data processing requires less human intervention. That means, BEH would be hiring fewer data clerks hence successfully reducing the cost of managing data.

Data in BEH is processed through three stages. In the first stage, the collected data is inputted into the system (keyboarding or uploading). In the second stage, the data is manipulated and in the third stage the processed data is outputted.

Required:

- (a) Explain the following terms as used in the scenario.
 - (i) Data processing. **(1 mark)**
 - (ii) The **three** stages of data processing. **(6 marks)**
 - (b) Explain the **three** types of data processing referred to in the scenario. **(3 marks)**
 - (c)
 - (i) Give **two** reasons why BEH is phasing out the manual and mechanical means of data processing. **(2 marks)**
 - (ii) Explain any **four** reasons why BEH has fully embraced EDP. **(8 marks)**
- (Total 20 marks)**

EXAM PAPER 8

March 2021

Question 1

Management by objectives is a systematic application of goal setting and planning to help individuals and firms or organisations to be more productive. This type of management frequently imposes key organisational objectives upon people and any program which usually involves systematic steps.

Required:

- (a) Discuss the different steps involved in effective implementation of management by objectives in an organisation.

(10 marks)

- (b) Explain the limitations of practicing management by objectives.

(10 marks)

(Total 20 marks)

Question 2

The relevance of stakeholders to corporate governance can only be significant or appreciated if we understand that a formal organisation is a collection of relationships among stakeholders who have various interests.

Required:

- (a) Explain the various stakeholder needs and expectations in a manufacturing company.

(12 marks)

- (b) Discuss the visual tool used by Medlow's mapping of stakeholder analysis.

(8 marks)

(Total 20 marks)

Question 3

Eden Company Limited (ECL) is a juice making company located in Kayunga Town Council. It is owned by young entrepreneurs namely Ms. Janet Apio and Ms. Pony Brenda, graduates of Food Science and Technology. While pursuing this course, the duo thought of employing themselves after their three years of study at university. After their graduation, Janet and Brenda made a business plan and decided to apply the entrepreneurial skills acquired at university. They

drew a budget to act as a precursor to the inception of their project. While at university, they saved some money from their pocket money which was turned into initial capital. They further mobilized more funds from their parents and short-term finance from the well-wishers.

With all the commitment, the two young entrepreneurs proposed to provide quality juice, called 'Eden Juice', to their customers as their major objective. They also realised that there was high competition on the market which prompted them to segment their market. They packed their product in different quantities and assigned various prices. As young entrepreneurs, they considered both long and short-term pricings. In October 2015, they used their first batch to test the market with a promotion in Kayunga Township. They offered free samples while at the same time sensitizing masses about the health benefits of Eden Juice. The potential customers who tasted it were excited not only by the health benefits, but also by its natural taste. They sold some samples to some of the retail outlets. After a week, shop keepers began ordering for more quantities of the product.

Janet and Brenda decided to increase production while improving on the brand. They packed the product in quantities ranging from half litre to twenty litres. The uncompromised quality of Eden Juice attracted customers. Prices were set while bearing in mind the competition from other companies. In every nearby town where they sold their product, they would slightly reduce their prices as the demand increased. In big supermarkets, the product prices would be reduced or put on promotion especially when their expiry dates neared so as to attract customers and clear stock.

By the end of 2017, Eden Juice had become a popular drink on most of the functions in the area. Management had covered the whole of central and eastern region in terms of distribution. Initially, the proprietors did not get significant profits because of high startup costs. As sales grew, some expenses, particularly advertising, reduced because of the irresistible demand brought about by the quality and health benefits.

By the end of 2018, Eden Juice had captured the local market. The proprietors then decided to maintain the level of production and maximize profits. However, in 2019 demand for Eden Juice tremendously dropped. This was attributed to change in weather occasioned by torrential rains in the second half of the year. This then affected company profits even in the subsequent years. ECL faced a

number of challenges as a result and some of its employees' contracts were terminated. Management were still thinking of measures to revamp the product such as finding new uses for the existing product and its raw materials, developing new markets in other regions or abroad, carrying out frequent promotions and rebranding the product.

Consumers use price as a measure of quality, that is, a high price means high quality product and vice versa although this is not always the case.

Required:

- (a) Discuss the strategies that were used by ECL in pricing their product.
(10 marks)
- (b) Describe the various stages of development of Eden Juice knowing that each stage allowed the proprietors to make decisions on whether to continue selling the product or not.
(10 marks)

(Total 20 marks)

Question 4

Mr. James Odongo is the managing director of Gimtex Company Limited (GCL). GCL was incorporated in 2010. The company runs a chain of supermarkets in most of the main towns in the country. He started with a small retail shop in but was able to expand because of his passion for business. At a teen age, his dream was to own large retail shops in Kampala City. Since he had reasonably little capital, he decided to start small with a retail shop in Pece, a division in Gulu city. He would purchase merchandise from the nearby wholesalers and stock in his retail shop. James raised capital after selling one of his plots of land that he had inherited from his late father at five million shillings. He used the money to buy a fridge, a motorcycle, pay rent and acquire stock. He agreed with his friend, Robert Akena, to grant him trade credit.

After a year, James relocated his business to Coronation road, one of the busiest streets in the city. His business attracted customers from within Gulu City, South Sudan and the Democratic Republic of Congo. James' business continued to expand and he decided to open up another branch in Bobi, another suburb of Gulu city. He expanded his business into wholesale to attract more customers.

James was a down-to-earth man and would easily interact with all categories of people and above all, very trusted. He possessed good customer care skills. It was noted that some families would make orders via phones and James would make timely deliveries.

After four years, he decided to make another step to make his dream come true by opening the first supermarket in Gulu City. A few years later, he opened up supermarkets in eastern, central and south western Uganda. This expansion was attributed to the growing needs of his customers. He also employed staff from the community in order to avoid communication barriers.

James set up a robust management team in every supermarket. Together with his employees, he set up a hi-tech environment with automated systems. He hired a security company to take charge of physical security and installed surveillance cameras in all supermarkets. This ensured accuracy and timely production of management reports. Supermarkets would also advertise using social media platforms such as WhatsApp, Instagram, Facebook and Twitter.

Required:

- (a) Discuss how the social environment affects GCL.

(10 marks)

- (b) Explain how GCL is responding to the changing technological environment to streamline its operations.

(10 marks)

(Total 20 marks)

Question 5

New developments in technology provide opportunities for companies in Uganda to improve both their activities and products. One of such developments in Uganda is aligning Information Communication Technologies (ICTs) with business processes. According to Uganda Investment Authority, 2016, "Uganda takes ICTs to consist of hardware, software, networks and media for collection, storage, processing and transmission of information".

Mr. Obonge Kanya, the manager of Safe Human Insurance Company (SHIC), a prominent insurance company prides in using software particularly business software to transform the business of SHIC. Mr. Obonge says not all business software can be beneficial to the company. Therefore, he evaluated different business software and then found out the best which suited the SHIC needs basing on a number of key factors; a practice he encourages many business owners to use.

Mr. Obonge acknowledges that the use of ICTs has a tremendous social impact on employees, customers and suppliers of SHIC and hence the society at large. These technologies should not be ignored by anybody.

The Uganda business community has an annual symposium where different companies present and discuss many topics about business software.

You have been chosen to present at a business symposium.

Required:

- (a) Explain to the participants the meaning of the following terms:
 - (i) Software. **(2 marks)**
 - (ii) Business software. **(2 marks)**
- (b) Discuss any **three** key factors which SHIC considered when evaluating the business software that was fit for her business needs. **(6 marks)**
- (c) Explain any **two** ways in which business software has transformed SHIC. **(4 marks)**

- (d) Describe using any **three** ways how ICTs have socially impacted the employees of SHIC.

(6 marks)

(Total 20 marks)

Question 6

Professor Patrick Oketch is a re-known researcher from one of the top universities in Uganda. He recently received a grant from the government of Uganda to train and mentor young researchers. He bought a six-roomed house to establish a research laboratory where he will be conducting his trainings.

World over, the Internet is known to be one of the innovations that fosters research. Professor Oketch is challenged because the house he bought does not have any network laid that would help him connect to the Internet.

He has found out from his friends that he needs to lay a network that is suitable for his six-roomed house and then get transmission media and communication devices which will help him to establish a channel.

The transmission media are interfaces for communication which can either be physical or wireless. Examples of these transmission media include twisted pair, broadcast radio, coaxial cable, microwaves, infrared and fibre optics. More still, he needs communication devices like routers and switches which amongst others help in transmitting data.

Patrick has contacted you, as a consultant, to help him get a deeper understanding of issues relating to computer networks.

Required:

- (a) (i) Using an illustration, describe how a channel will be beneficial to the users of the computer network in the research lab. **(4 marks)**
- (ii) Describe to Mr. Oketch any **three** physical channels mentioned in the scenario that he is likely to use when coming up with his network. **(6 marks)**
- (b) (i) Explain the type of network you would recommend to Mr. Oketch for his six-roomed house. **(2 marks)**

(ii) Describe, to Mr. Oketch, the type of network you have recommended in (b) (i) above. **(4 marks)**

(iii) Explain any two advantages the young researchers will enjoy from using the type of network described in b(i) above. **(4 marks)**

(Total 20 marks)

Question 7

The Ministry of Transport and Works promotes adequate, safe and well maintained works and transport infrastructure and services for social economic development of Uganda. The ministry encourages private companies to offer air transport. This is because the ministry believes that air transport is an important enabler to achieving economic growth and development and it helps promote trade, tourism and create employment opportunities. Travel Safe Company Limited (TSCL) recently acquired a licence to run bombardier CRJ 900 fleet of planes. The fleet will be operating internal flights covering Mbale, Gulu, Kasese, Mbarara, Arua, Kabale, the oil rich Albertine Graben and within the East African region.

TSCL would like to have the state of the art customer care services among the airlines in the East African region. The manager has noticed that one way to realize this is to focus on the big data generated by the airlines. The data has to be transformed as it goes through the data processing cycle so that it is useful to both the clients and the airline. Additionally, the manager has to select an appropriate different data processing method, from a pool of different processing methods that will be used to convert raw data of the airline to meaningful information.

To be able to compete with other airlines, TSCL has to use a data processing model that will allow its clients to book or cancel a flight, choose a seat without necessarily having to physically visit TSCL offices and then get immediate feedback about their request.

Required:

- (a) (i) Explain the term “data processing cycle” as used in the scenario. **(2 marks)**
- (ii) Identify any **four** major stages of the data processing cycle and

the importance of each stage to TSCL. **(8 marks)**

(b) (i) Identify and explain the data processing model that is suitable for TSCL. **(2 marks)**

(ii) Describe any **two** advantages TCL will enjoy from using the data processing model mentioned in b` (i) above. **(4 marks)**

(iii) Explain any **two** factors the manager of TSCL might have to consider when selecting an appropriate data processing model. **(4 marks)**

(Total 20 marks)

EXAM PAPER 9

October 2021

Question 1

Gabo Enterprises Ltd

Gabo Enterprises Ltd (GEL) was set up in 2009 by Mr. Mugalu using his family savings. The company is engaged in production and marketing of a wide range of body care cosmetics that include; shower gels, body scrubs, cleansers, toners, foot creams and other body care products. These are manufactured from natural ingredients obtained locally and internationally. They are, however, not tested on animals.

From its onset, GEL relied on the family labour producing for a small local market in and around Kampala. By 2013, GEL products had captured a large market regionally. There was need to expand the production unit to catch up with the increasing demand for GEL products. A new branch was established in Tororo to cater for the large market in neighbouring Kenya. Challenged by the scope of work and his old age, Mr. Mugalu's son Tendo was called in to take over administration and management of GEL. He immediately appointed Mrs. Kato who had had a long time experience in the management of cosmetics industry to help him in management of GEL. This strategic decision has seen GEL grow from strength to strength. GEL has not only been able to produce for the neighbouring Kenyan market, but has also penetrated South Sudan, Rwanda and Democratic Republic of Congo (DRC).

Mrs. Kato went ahead to advise Tendo on the leadership style that would take GEL to great heights. Accordingly, Tendo was advised to adopt Blake and Mouton's leadership grid with emphasis on team management since the other styles on the grid were associated with several drawbacks. This leadership style has a high concern for both people and production. Employees are motivated to actively and willingly participate to realise high levels of accomplishments. They are flexible and responsive to change.

Mrs. Kato has become a big asset for GEL. She has been exemplified hard-work in both production and marketing. She works closely with other employees. This

has abled her to build a strong team that has withstood challenging times at GEL. She virtually listens to every employee. That is how she learnt from employees that employees were planning a sit down strike. Due to her character and ability to resolve conflicts, she avoided the strike. When employees demanded for salary increments that coincided with the expansion of GEL outlets in Tororo district, she carefully managed them and won the dissenting employees into willing team members.

Required:

- (a) Explain the leadership styles practiced by management of GEL.
(10 marks)
- (b) Discuss Blake and Mouton's leadership styles and their drawbacks in relation to GEL.
(10 marks)
(Total 20 marks)

Question 2

- (a) Distinguish between classical and administrative models of decision making.
(10 marks)
- (b) Explain the steps in the decision making process.
(10 marks)
(Total 20 marks)

Question 3

Mukran Enterprises Ltd

Mukran Enterprises Ltd (MEL) is a profit-driven institution established in 2012 by Mr. Mucholi and his longtime colleague Mr. Wanguki in Luwero. The institution provides quality education services and has seen a cross-section of learners from both Uganda and beyond go through its gates. It employs over 100 employees; teaching and support staff. In establishing this institution, the proprietors were inspired by the gaps that existed in the teaching-learning process in Uganda. They were ready to cause change especially in the way knowledge and skills were imparted.

MEL's teaching program provided for class discussions, wall charts, maps, projectors and other visual aids to ease learning. Additionally they used different and appropriate media; both electronic and print to enhance teaching and learning. Such has been a hidden treasure behind the success story of MEL. Drama has been adopted to increase alertness of the learners.

The new staff are inducted on how to enhance the teaching-learning process that emphasizes team work. The teacher is required to select team leaders who pick tasks and convey them to teammates for discussion. The brain storming sessions bring out the best ideas from learners. Each team selects a presenter. This has enhanced their learners' confidence and communication skills. MEL has been one of the best performers in the national examinations.

Learners from MEL are exceptional. They possess all it takes to lure the audience into attentiveness. In recently concluded lower secondary drama and debate competitions, MEL emerged the winner. The way they introduced themselves on stage, how they projected their words to the audience was clear and simple to grasp. When they were announced winners, the audience nodded in agreement. The education model in the newly introduced lower secondary curriculum has been adopted.

Required:

- (a) Explain the hidden treasure behind the success story of MEL.
(8 marks)
 - (b) Explain the communication patterns used in the teaching-learning process at MEL.
(4 marks)
 - (c) Explain the attributes of effective communication at MEL.
(8 marks)
- (Total 20 marks)**

Question 4

- (a) Explain stages in the employee training process.
(10 marks)
- (b) Explain the benefits of employee training to an organisation.
(10 marks)

Question 5

Exquisite Petrol Station (EPS) started operating in Kampala way back in the early 1990s. The company has since expanded and is now covering almost all the major towns in Uganda. Every petrol station has a supermarket, a food joint and spare parts selling point. EPS has got a big clientele and huge quantities of inventory with a lot of data to manage. Therefore, the company needs software that will manage the operations of EPS in all its branches countrywide.

The Head of Information Technology Department (HoITD) has advised management that they need to design a customised software for EPS in order to meet their unique requirements.

One of the methods that are ideal for development of the EPS customized systems is the Systems Development Lifecycle (SDLC). SDLC has several stages but emphasis will be put on the phase that is used to generate user requirements commonly known as the requirements gathering and analysis phase. This phase will help the developers understand what sort of system the entire staff of EPS require. To achieve this, appropriate fact finding techniques will have to be used. After that, the team will proceed and develop the entire system.

When the system is ready for use, the HoITD will have to systematically acquire appropriate hardware onto which the EPS customised software will be installed.

You have been invited as a consultant to sensitize the entire human resource of EPS about how the EPS system will be designed and the process of acquiring the hardware so that the entire process is easily accepted and owned by the staff.

Required:

Prepare your presentation to the staff of EPS explaining;

(a) The meaning of the terms below:

(i) Customised software. **(2 marks)**

(ii) SDLC. **(2 marks)**

(iii) User requirements. **(2 marks)**

(iv) Fact finding. **(2 marks)**

(b) Any **three** major steps that the HoITD will have to go through in-order to acquire the appropriate hardware for the EPS customized systems.

(6 marks)

(c) Any **three** fact finding techniques that the developers of the EPS customized software are likely to use in-order to generate the EPS unique requirements.

(6 marks)

(Total 20 marks)

Question 6

A computer system of any company cannot be complete without software. Different hardware may require different types of operating systems to function effectively. Operating systems also need utility software to function effectively. Normally the operating system comes with utility software. However, additional utility software may be installed depending on the user requirements.

Required:

(a) Explain the meaning of the following terms:

(i) Operating system. **(1 mark)**

(ii) Utility software. **(1 mark)**

(b) Explain any **four** functions of the operating system.

(8 marks)

(c) Explain any **three** types of operating systems.

(6 marks)

(d) Explain any **two** utility software and a function of each.

(4 marks)

(Total 20 marks)

Question 7

Best Baskets Company Limited (BBCL) is leading online basket selling in Uganda. BBCL has been using the five main office automation systems to make office administration and business communication easy. Mr. Kintu, the manager of BBCL asserts that technology has enabled the company to gain a competitive advantage.

In-order to open up the market of BBCL and sell the baskets internationally, Mr. Kintu wants to do research in order to determine if that will be a wise business decision. He has realized that Office Automation Systems (OAS) in place may not effectively help him get his findings

He has been advised by information systems expert that he needs an interactive computer based system that should have data management, model management and user interface management capabilities. The system should be able to gather information from the resources it already has in order to determine if the company has the ability to expand its business and also from external resources to determine if there is indeed a demand to meet. This system should be in position to collect and analyze the data and then present it in a way that can be interpreted by all stakeholders involved.

Required:

- (a) (i) Explain the meaning of the term office automation systems.
(2 marks)
 - (ii) Discuss how BBCL has been using any **three** office automation systems.
(6 marks)
 - (b) (i) Describe the type of information system you think Mr. Kintu needs to install in-order to conduct his research.
(2 marks)
 - (ii) Explain how BBCL will benefit from the use of the **three** basic components of the new system mentioned in the scenario.
(6 marks)
 - (iii) With reasons, discuss how BBCL will benefit from of using the information system you mentioned in b (i) above.
(4 marks)
- (Total 20 marks)**

EXAM PAPER 10

December 2021

Question 1

NAMACO (U) LTD

NAMACO Ltd was established in 2000 in Kyamuhunga, Bushenyi district. It is engaged in the growing and processing of tea into various brands including green tea, herbal tea, flavoured tea and regular tea bags using modern machinery. The company is owned by Mr. Kwezi, who was inspired by the abundant labour force, conducive climate and a large market in Uganda and neighbouring countries. The tea processing factory currently employs more than 100 staff, including Ugandans and Asians.

NAMACO Ltd has been in good relations with government authorities since Mr. Kwezi, a former employee of Uganda Revenue Authority (URA), was well acquainted with the implications of non-compliance with URA and other regulations.

NAMACO Ltd had enjoyed a monopoly in this venture capturing a large market in the country. In fact when you talk of tea beverages, NAMACO Ltd comes into the mind of many people not only in Uganda but also in neighbouring countries of Rwanda, Burundi, South Sudan and Democratic Republic of Congo. With such a clientele, NAMACO Ltd sought to expand the business to other tea growing areas of Fort Portal. They acquired a loan of Shs 1 billion and bought land close to river Kasunga and Nanja forest where they established a state of the art tea factory. Mr. Kwezi's innovativeness has also led to acquisition of new technology in tea growing and processing.

The business had been normal until new entrants like BATCO Ltd entered the market. BATCO Ltd was established in Fort Portal and is not only engaged in tea processing but also took advantage of cocoa growing in Bundibugyo to produce other beverages. BATCO Ltd has captured a large market especially the youth who prefer cocoa products to tea.

The local authorities and residents of Kyamuhunga have complained about NAMACO Ltd's high rate of tree cutting (for construction work and curing tea leaves) and dumping of waste into the only water source in the area. Meanwhile,

the high inflation rate has led to a high interest and foreign exchange rates. This sort of business environment has further threatened the position NAMACO Ltd. NAMACO Ltd established a new department of research so as to keep afloat. The new department recommended investment in modern machinery like driers, community service, waste management and tree planting. These recommendations are now on the agenda of NAMACO Ltd. The company has enhanced customer loyalty and attracted new clients.

Required:

Explain the environmental factors that have determined operations of NAMACO Ltd.

(20 marks)

Question 2

MONET LTD.

MONET Ltd is a new company engaged in production of soft drinks with brands like Monet Cola, Monet Orange, Monet Cream soda, among others. It was established in Kampala by Mr. Dasuni Kaiso and his wife Mary using their family savings and labour. They hoped to take advantage of Kampala's large market.

Realizing that there were many enterprises engaged in the same business, MONET Ltd planned to produce high quality products which were test marketed in Bwaise, a Kampala suburb. They lowered the prices to attract customers. The market response, however, was generally lower than anticipated. Management decided to adopt fully fledged promotion of their products. That called for recruitment of new staff to engage in research, marketing and also obtained a loan from Baga & Sons, a prominent money lender in Kampala.

However, the whole venture became too expensive for MONET Ltd to sustain. Management opted to use magazines like teens club magazine, newspapers, television, internet, and outdoor media like billboards, electronic billboards on football grounds, and others. This came after a serious consideration of the factors that affect the choice of the best media to help products of MONET Ltd penetrate the competitive market.

Within a period of one year, MONET Ltd's products especially MONET Cola and MONET Orange had conquered the market country wide.

Required:

- (a) With examples, explain the methods adopted by the management of MONET Ltd to retain existing clients and attract new customers.

(10 marks)

- (b) Explain the factors considered by MONET Ltd in choosing the best media to promote its products.

(10 marks)

(Total 20 marks)

Question 3

- (a) Explain the benefits of delegation in business enterprises.

(10 marks)

- (b) Explain the factors that limit effective delegation in business organisations.

(10 marks)

(Total 20 marks)

Question 4

- (a) Explain why business organisations need to motivate their employees.

(10 marks)

- (b) Explain the strategies recommended by theory Z which managers in any country are advised to put into practice.

(10 marks)

(Total 20 marks)

Question 5

Kabanga Nursing School (KNS) is located in Kakabara Sub-county, Kyegegwa district. The principal, Mr. Xavier Otim John, would like to change the form of assessment from Objective Based Assessment (OBA) to Competence Based Assessment (CBA). OBA refers to tests where the marking is objective as there are clear right and wrong answers while CBA is the process of collecting evidence and establishing conclusions on the character and scope of the learner's progress toward professional standards. By doing so, Mr. Otim is envisioning 2030 through contributing to the sustainable development goal of ensuring quality education.

The objective assessment is done at the end of the semester whereby the students sit for a three hours examination while with competence based assessment, the instructor documents each student's achievement from the beginning of the semester to the end and all this contributes to the final mark. Therefore, CBA produces vast amount of data and at different times. This data has to go through different stages of the data processing cycle. This is an extremely crucial process for KNS where the data collected will be translated into organised, usable, and easy to understand data.

Whereas, there are many data processing methods, Mr. Otim recommended his staff to use the one done through various programmes by using a pre-defined set of rules through the use of computer. The use of computer in data processing may have significant ethical implications that the employees of KNS need to be aware of. Henceforth, KNS has to think about the measures of supporting the ethical practices of their staff who use computers. Aware that you are an information system consultant, Mr. Otim hired your services to help him and his fellow employees understand data processing and computer ethics.

Required:

- (a) Explain to the employees of KNS the meaning of the following terminologies.
 - (i) Data processing. **(1 mark)**
 - (ii) Computer ethics. **(1 mark)**

- (b) Using an appropriate diagram, illustrate the **four** major stages of the data processing life cycle.
(2 marks)
- (c) Briefly explain to the employees of KNS what happens to the data as it goes through each stage of the data processing life cycle illustrated above.
(4 marks)
- (d) Describe to the staff of KNS the type of data processing method that Mr. Otim recommended them to use.
(2 marks)
- (e) Describe any **two** ways how the data processing identified in (c) above may process data.
(4 marks)
- (f) Discuss any **three** approaches that KNS can employ to support the ethical practice of the employees that use computers.
(6 marks)
- (Total 20 marks)**

Question 6

Design World Limited (DWL) is a software company that was established in 2009 by a group of information technology (IT) experts. The company was contracted by Tororo People's Microfinance. (TPM) to program for them a customised information system meant to handle savings and loan accounts and human resource information. The Tororo Microfinance Information System (TMIS) was successfully implemented in October 2019.

During the process of collection of user requirements, testing and implementing of the TMIS, Mr. Opio Jamil, DWL system analyst, noticed that their administrators, marketers and top managers needed computers with different software like Ms Word, C++, Disk fragmenter, COBOL, text editors, antivirus software, Ms Excel, Ms Power-point, among others.

Additionally, Mr. Opio also observed that some marketers were interested in learning basics of programming so that they can work together with the programmers of DWL to come up with mobile applications. The marketers believe that mobile applications will help TPM to increase branding, improve customer service experience, and work as a marketing tool. Mobile applications can enhance communication between TPM and their customers since they allow

businesses to communicate directly with their customers. Lastly, they can be a source of information about the customers' preferences and behaviour.

There are three major levels of programming languages; machine language, assembly language and high level language. The marketers of TPM together with the programmers of DWL have to use an appropriate level of the programming language in order to come up with the mobile applications.

In a nutshell, TPM needs utility programs, application programs and programming languages to increase the efficiency of the business.

Required:

- (a) Explain the meaning of the following terms as used in the scenario.
 - (i) Software. **(1 mark)**
 - (ii) Programming language. **(1 mark)**
 - (b) Identify any **two** examples of utility software mentioned in the scenario and state the function of each of the software. **(4 marks)**
 - (c) Discuss any **three** characteristics exhibited by most types of programming languages. **(6 marks)**
 - (d) Explain the level of programming that the programmers and marketers will use to come up with the mobile applications. **(2 marks)**
 - (e) Discuss any **two** the advantages the marketers and programmers will benefit from using the above mentioned level of programming. **(4 marks)**
- (Total 20 marks)**

Question 7

Kosa Hospital (KH) was established in 2017 as a non-profit making hospital. The hospital started small with only outpatients. It has now expanded and presently admits inpatients. Consequently, this has led to the expansion of the radiology department (RD) of KH. The RD has enormous data such as CT scans, MRI scans, Ultrasound, Colour Doppler, and Positron Emission Tomography–Computed Tomography (PET-CT). The RD has been managing this data using the traditional filing system.

The RD is facing challenges of managing the data. Dr. Alice Kuku, the hospital chief administrator, sought help from Mr. Haris Opoya, a distinguished programme analyst, to suggest how the RD can improve data management. Given their low budget, Haris has advised that they can come up with Kosa Radiology Database Management System (KRDBMS) using MS Access since other DBMS may be expensive. Also important to note, is that every DBMS has major components through which different users like database administrators, application programmers and end users can interact with the database.

KRDMS will improve picture archiving, communication and manipulation of the RD data if the database objects are used appropriately. Since doctors rely heavily on radiographer's data, its accuracy and accessibility will help doctors to provide appropriate diagnosis and treatment.

Required:

- (a) Describe how the staff of the RD can use any **three** database objects found in MS Access to interact with KRDBMS.
(6 marks)
- (b) Explain **four** ways in which RD will benefit from the proposed information system proposed by management of KH.
(8 marks)
- (c) Apart from MS Access, identify any other **two** commonly used database management systems that KH can consider using.
(2 marks)
- (d) Discuss any **two** major components of the KRDBMS through which different users will interact with the database.
(4 marks)

(Total 20 marks)

EXAM PAPER 11

March 2022

Question 1

Damba Enterprises Limited (DEL) was established by Mr. Dafala and his wife Mbabazi in the heart of Kampala. Started in 1981, DEL has been one of the longest operating business enterprises in Uganda, offering education services to learners from within and outside the country. It employs over 120 people as instructors, drivers and other support staff from all corners of Uganda and others from neighbouring Kenya. Most of the instructors are females, thus raising concern from their male counterparts who show skepticism about their efficiency.

DEL adopted and emphasized the practice of maintaining clear information flow from its onset. This enabled DEL to foster motivation and improve social relations among the employees. Information flows at every level through use of notice boards, suggestion boxes, meetings and of recent e-learning, has been adopted. Social media groups have also boosted information flow, encouraging employees to supply ideas and suggestions for improving upon the work environment. Meetings and seminars help give information that are useful in communicating changes in methods of operation which has helped to guard against misinformation and ambiguity that are likely to cause conflict and tension.

The communication at DEL has had issues to do with noise and interpersonal. By nature of this business, there are many distractions; physical or otherwise, and blocking of messages between departments and between individuals. Whatever the case, the survival, awareness and excellent performance of DEL has a link to do with the clear lines of communication. Competition has been handled since information flow is unlimited. However, some departmental heads withhold information deliberately discouraging teamwork, while some individual instructors have resented the idea of meetings held every day at lunch time. They argued that, such time is characterized with noise from learners while others considered it as an off from the heavy schedule.

Required:

- (a) Explain the benefits of effective communication as used by DEL.

(8 marks)

- (b) Describe the causes of barriers to effective communication at DEL.

(12 marks)

(Total 20 marks)

Question 2

- (a) Explain the different types of planning used by business organisations.

(6 marks)

- (b) Explain the relevance of planning to business organisations.

(14 marks)

(Total 20 marks)

Question 3

- (a) Explain the principles of effective delegation.

(8 marks)

- (b) Explain the barriers to delegation and suggest remedies.

(12 marks)

(Total 20 marks)

Question 4

Bella Bella Limited

Bella Bella Limited (BBL) was established in Jinja Uganda in the 1980s to fill the gap that existed in the clothing and garments industry. It is engaged in the production of quality garments both casual and office, for local and export markets. It employs over 50 people in various activities such as fashion and design, tailoring, among others.

Prior to its inception, a feasibility study had to be undertaken by BBL to ensure that its operations were in line with government legislations and regulations. Consultations were made with different authorities to ensure that once established, workers, consumers and the government would not have any ground from which attempts would be made to destabilize its operations.

Changes in the government policies towards education, health, and population have necessitated close monitoring by BBL. They have brought changes in attitudes, values and ethics. Such meant that BBL had to make adjustments to

keep afloat. For the youth, BBL had to engage in production of high quality denim jeans in various designs such as; boot leg, skinny, high waist, low waist so as to attract them to buy its products.

Improvement in health services through immunization and primary health care have led to both increase in population and considering huge investment in decent office wear to attract those large income earners whose taste for the traditional jean wear had tilted towards formal wear. Similarly, demographic issues of changes in family size, growth rate, together with changes in attitudes and beliefs of the society has seen many females take to wearing trousers, thereby necessitating BBL to make adjustments in its operations.

You have been approached by management of BBL.

Required:

Explain the;

(a) legal and regulatory issues affecting businesses.

(10 marks)

(b) social-cultural environment factors that influenced operations of BBL.

(10 marks)

(Total 20 marks)

Question 5

(a) Define the term computer network topologies.

(2 marks)

(b) With illustrations, explain the limitations of the following computer network topologies.

(i) Mesh topology.

(2 marks)

Star topology.

(2 marks)

Hybrid topology.

(2 marks)

(c) Explain **three** reasons why;

(i) mesh topology is preferred for wireless connections. **(6 marks)**

(ii) star topology is preferred to other network topologies. **(6 marks)**

(Total 20 marks)

Question 6

Format Tour and Travel (FTT) is a privately owned company. The company offers transportation, accommodation, and other travel services in Uganda. They also cooperate with clients to determine their needs and advise them on appropriate destination, modes of transportation, travel dates, costs and accommodation. They provide relevant information, brochures and publications (guides, local customs, maps, regulations, events) to travelers. Additionally, they book transportation for their clients, make hotel reservations for them and collect payments/fees from them. They use promotional techniques and prepare promotional materials to sell itinerary tour packages, deal with occurring travel problems, complaints and refunds where necessary.

All the above is enhanced by use of databases and online facilities. FTT built a database driven website to effectively and efficiently carry out its duties. With the help of a database management system (DBMS) and other website development tools, FTT is now fully functional online. The objects of databases that FTT frequently use include tables, forms, queries and reports.

Required:

(a) Define the following terms used in the scenario.

(i) Databases. **(1 mark)**

(ii) Database management system. **(1 mark)**

(b) Explain **three** ways in which FTT is benefiting from the use of a DBMS to effectively run its business processes.

(6 marks)

(c) Explain **two** ways in which FTT uses the following database objects in its day-to-day activities.

(i) Queries. (4 marks)

(ii) Reports. (4 marks)

(iii) Forms. (4 marks)

(Total 20 marks)

Question 7

Buntu Enterprises Limited (BEL) does online business as is the trend currently. They set up a commercial website for their activities where their customers can have accounts with them for better customer care. They are conscious that as long as one carries out any form of online activity, there are potential information security threats posed by hackers and viruses. As a result of this consciousness, BEL have put in place a number measures to avert loss and compromise of the online data.

Required:

Explain;

(a) (i) the term information security threat. (2 marks)

(ii) **three** examples of BEL's sensitive data likely to be at risk of hackers. (6 marks)

(iii) **four** likely security threats to keep BEL's commercial website and their clients unsafe from hackers and viruses. (8 marks)

(b) List **four** ways BEL can employ to prevent data loss. (4 marks)

(Total 20 marks)

EXAM PAPER 12

June 2022

Question 1

Abudama Progressive Academy (APA) was established in 1990 by Mr. William Anyapo, a retired teacher, to offer quality education to the children of Karamoja sub-region. The school is registered with Ministry of Education and Sports and employs over 100 teaching and non- teaching staff. The academic performance of APA had been excellent during the initial stages. However, by 2015, tremendous decline in both academics and students' behaviour set in. This made Mr. William Anyapo very worried. He initiated performance appraisals to enable him establish how the staff were performing.

From this exercise, the school management realised that some staff deserved a pay rise since they were performing very well; this would boost the morale of every staff. It was discovered that there were also some staff that were not very knowledgeable and skilful in their work, thereby affecting their performance. Staff strengths and weaknesses became eminent thereby requiring interventions to enable them improve their performance and contribute to organisational goals.

Management used various styles to carry out the exercise. The proprietor would ask the excellent performers to tell him how they had managed to execute what they had done. He would discuss with those who were not doing well on how to improve their performance. While for others, he preferred to use more of coaching. He based all discussions around the action required.

Mr. William Anyapo is contemplating going abroad for further studies; so he is worried about whom he will leave to be in charge in his absence.

Required:

Explain the;

- (a) meaning of the term 'performance appraisal'. **(2 marks)**
- (b) reasons why APA needed to carry out performance appraisals.

(12 marks)

- (c) performance appraisal styles employed by APA. **(6 marks)**

(Total 20 marks)

Question 2

(a) Distinguish between routine and strategic decisions.
(2 marks)

(b) Describe the stages in which one would get involved during the decision making process.
(12 marks)

(c) Outline the questions likely to be asked during the evaluation of the decision making process.
(6 marks)

(Total 20 marks)

Question 3

Businesses in Uganda have of recent been actively involved in corporate social responsibility to citizens. They are involved in giving donations to fight COVID-19 pandemic, sports activities, cultural gala, among others. Employees are treated fairly and resources are used efficiently without depletion, wastage or causing environmental pollution.

Most businesses have thus won public confidence and have attracted more customers, leading to higher profits and increased share prices. They have therefore not provoked government intervention since they have improved quality of life of the people due to quality products they provide.

Required:

(a) Explain the reasons why businesses in Uganda engage in corporate social responsibility.
(12 marks)

(b) Discuss the types of corporate social responsibility.
(8 marks)

(Total 20 marks)

Question 4

Mukasa & Company Advocates (MUC Advocates) was established by Mr. Gabriel Mukasa, Paul Okiteng and Israel Asiimwe in 1987 to provide legal services in Kampala city. Mr. Gabriel Mukasa saw the need for legal services in Kampala at a time when the country was emerging from the civil war. Mr. Israel Asiimwe's influence made the company to gain more clients in a short period of time. This made Mr. Paul Okiteng to make strategic changes,

mission structure and human resource management as well as establishing regional offices in Gulu, Mbale and Mbarara.

The company is experiencing challenges at the regional offices which need to be addressed. However much some regional leaders work hard to elicit trust and respect from clients, some are not bothered about working but only motivating workers. Some concentrate on work at the expense of workers' needs, yet others cared too much about the needs of workers suffocating the objectives of the company. They have failed to get regional leaders who balance work while maintaining morale of people or where work is accomplished and people's goals are achieved.

The directors of MUC Advocates have all clocked 60 years of age and are contemplating retirement. All have trained their children as lawyers and would like them to be mentored to take over from them. However, there is need to correct the leadership mess at the regional offices as well. Efforts should be geared towards equipping all offices with leaders who are ready to work and change what appear to be non-functional offices.

Required:

- (a) Describe the **five** different types of leadership styles according to Robert Blake and Jane S. Mouton being practised at MUC Advocates.

(10 marks)

- (b) Explain the different types of leaders found at MUC Advocates.

(10 marks)

(Total 20 marks)

Question 5

- (a) Input devices are part of the main components of a computer. All computer input devices have common features.

Required:

- (i) Define the term computer input device.

(1 mark)

- (ii) Describe **two** common features of computer input devices.

(4 marks)

(b) Other than the keyboard and mouse or touch pad for laptops; which are mandatory input devices for computer usage,

(i) Identify any other **four** computer input devices that can be used in a business environment.

(4 marks)

(ii) Explain how each of the computer input devices identified in (b)(i) above are used in a business environment.

(4 marks)

(c) Maintenance and security of computer input devices is vital.

Required:

(i) Explain the meaning of the term computer input devices security.

(1 mark)

(ii) A dirty keyboard will eventually stop working properly. Explain **three** steps to be followed when cleaning a keyboard.

(6 marks)

(Total 20 marks)

Question 6

(a) Office automation systems are a kind of information systems in organisations. They are built on the basis of information systems architecture. It should also be noted that, in any given organisation, information systems can be classified based on the usage of the information. Therefore, an information system in an organisation can be divided into operations support systems and management support systems.

Required:

Define the following terms:

(i) Office automation.

(2 marks)

(ii) Information systems.

(2 marks)

(iii) Information systems architecture.

(2 marks)

(iv) Operations support systems.

(2 marks)

(v) Management support systems.

(2 marks)

- (b) Office automation comes with its benefits to any organisation that chooses to embrace it.

Required:

Explain **three** benefits of office automation to any organisation.

(6 marks)

- (c) The architecture of an information system of an organisation encompasses the hardware and software used to deliver the solution to the final consumer of services.

Required:

State **four** contents of information systems architecture.

(4 marks)

(Total 20 marks)

Question 7

Requirement gathering and analysis is a phase in the systems development life cycle (SDLC), where one or more system analysts work with different stakeholder groups to determine the specific requirements for the new system. Requirement specifications are the required qualifications a device must have in order to use certain hardware or software particularly for the new computer system. The systems analyst(s) involve the end-users besides the other stake holders to understand the exact hardware specifications.

The systems analyst also understands that purchasing computer hardware for the new system is an investment which must be done wisely. Some factors have to be put into consideration while making choice for the right and appropriate computer hardware.

Computer hardware are made up of various components which include the central processing unit (CPU), keyboard, mouse, monitor, random-access memory (RAM), hard disk, drives, and more.

By the time the new system is implemented, there are various categories of people in the organisation whose satisfaction in using hardware like mice must be met.

Required:

- (a) Explain **two** characteristics of requirement gathering and analysis phase in SDLC.

(4 marks)

- (b) Explain **two** techniques a systems analyst uses to gather information during the requirement gathering and analysis phase of SDLC from different stakeholder groups in order to determine the specific requirements for the new system.

(4 marks)

- (c) Explain **three** features of the following that the systems analyst must consider while purchasing hardware for the new system for the satisfaction of the end users.

(i) Mice.

(6 marks)

(ii) Computer monitors.

(6 marks)

(Total 20 marks)

EXAM PAPER 12

September 2022

Question 1

Monalisa Limited (ML) is a business enterprise that was established in Kampala in 2012 by two Asian entrepreneurs, Mr. Kassim and Mr. Hussein. They operate a large supermarket which has attracted many customers because of the excellent customer care and a wide range of imported goods and services which they offer to their clients. Talking about quality, up to date and unique merchandise, ML still remains unrivalled. They have mastered the murky terrain of the Uganda business environment. To improve its service delivery, ML has embraced technological advancement as its competitive tool.

- (a) Explain the macro environment influencing the operations of ML.
(8 marks)
- (b) Explain how ML has benefited from technological advancement.
(12 marks)
(Total 20 marks)

Question 2

Bomag Uganda Limited (BUL) is a limited liability company engaged in construction. It was established in Kampala in 2000. BUL employs over 50 people from diverse backgrounds. Since inception, BUL has improved lives of many Ugandans in areas throughout the country. With advancement in technology, BUL has been able to successfully construct dams, roads and boreholes. This has also enhanced proper communication and monitoring, hence saving on time and effort. The proprietors, Mr. and Mrs. Ndoogo, have ensured information flows in groups and teams and throughout the organisation.

BUL employs engineers, technicians, drivers and other support staff who have been motivated to work together towards meeting company goals. Management holds regular meetings with employees, both online and offline that keep all staff abreast with current developments. Employees have picked interest in the use of different networks to accomplish the given tasks in a record time.

Management has invested a substantial amount of funds to establish the communication network in order to enjoy the benefits associated with open

information flow. All employees have embraced the idea that has enabled BUL to stand out as the best performing enterprise.

Required:

- (a) Explain the patterns of communication used by different employees at BUL to enable them accomplish their work.

(8 marks)

- (b) Explain the importance of communication to organisations like BUL.

(12 marks)

(Total 20 marks)

Question 3

Yummy Ltd (YL) is a bakery established in Kampala by Mr. Mukisa in 2018 using family savings. Since its inception, YL has changed the face of baking in Uganda. YL has hit the market with excellent products like white and whole grain loaves, a variety of cakes, croissant, samosas, Swiss rolls and other products.

Determined to change the whole concept of baking, management recruited graduates in food science and technology who ensured that the quality of the products would meet the expectations of the customers. Customers had been lured by YL's motto 'Baked today, sold today'. YL embarked on differentiating its products from the rest so that customers would easily identify the company products. They chose durable and attractive packaging materials would keep the products safe and fresh. That did not only improve on the image of products but also attracted more customers.

Management of YL decided to support the annual trade fair by contributing finances towards organisation of the fair. Using both online and offline promotional tools, YL has been able to conquer the competitive market. Management of YL started by securing a stall at National Manufacturers Association (NMA) show grounds, where smartly dressed youths were hired to convince customers to taste free samples of its products. The next day YL hit headlines in news-papers but also news anchors of various television stations were over- heard praising the YL for the quality products exhibited.

YL's products have since dominated the market enabling the enterprise to open up other branches where quality service and warranty were assured.

Required:

- (a) Explain the measures adopted by YL to lure customers into accepting to buy its products.

(10 marks)

- (b) Explain why YL needs to advertise their products.

(10 marks)

(Total 20 marks)

Question 4

- (a) Explain the stages of the recruitment and selection process.

(12 marks)

- (b) Explain the limitations of online recruitment and selection of employees in business enterprises.

(8 marks)

(Total 20 marks)

Question 5

Globally, the COVID-19 pandemic has disrupted education and Uganda was no exception. The government of Uganda considers education as a fundamental right and also believes that if educational needs are not addressed, they could have a detrimental impact.

Owing to the above, the Ministry of Education and Sports (MoES) worked with a consortium of different stakeholders, under the guidance of the National Curriculum Development Centre (NCDC), to develop various educational materials for supporting children studying from home. For inclusivity, the output of the materials required was either softcopy or hardcopy. Even though the hardcopy materials were expected in a months' time, the text and graphics had to be high quality.

Several companies competed in the bidding process for producing the learning materials and KYY Company (KYY) emerged as the winner. KYY carefully selected different output devices that were used to produce the learning materials. Among the different examples of output devices that KYY required were printers. Important to note is that printers are either impact or non-impact.

KYY therefore, used non-impact printers particularly, Inkjet, Thermal and LaserJet printers. KYY then printed books for three schools.

KYY also ensured that all the output devices selected are properly maintained so as to extend their lifespan, prevent wear and tear and also ensure the smooth functioning of the devices.

Required:

- (a) Explain the meaning following terms.
 - (i) Softcopy output. **(1 mark)**
 - (ii) Hardcopy output. **(1 mark)**
 - (iii) Impact printers. **(1 mark)**
 - (iv) Non-impact printers. **(1 mark)**
 - (b) Briefly describe any **three** factors that KYY considered while selecting the required output devices. **(6 marks)**
 - (c) Given the timeline and the quantity of work that was required to be printed by KYY.
 - (i) Explain the type of non-impact printer KYY used. **(2 marks)**
 - (ii) Explain any **two** reasons why KYY preferred the type of printer identified in c(i) above. **(2 marks)**
 - (d) Explain **three** ways how management of KYY can ensure proper technical care and maintenance of the output devices mentioned in the scenario. **(6 marks)**
- (Total 20 marks)**

Question 6

Business entities need strategies to protect their data and customers from different security threats. Prone to security threats are data and different business software. Implementing data security and software security measures not only helps avoid data breaches but also shields any organisation against unnecessary financial costs, loss of public trust and potential threats to brand reputation and future profits.

Because security is of high importance, businesses, governments and software developer are all embracing security measures by recognising the three major security elements often referred to as the "CIA triad", as a guide. The CIA triad aims at protecting sensitive data from unauthorised access and data exfiltration. Similarly, any compromise to the CIA triad makes a software insecure.

Several governments have enacted data protection regulations in-order to protect personal data. For instance; the United States of America has the Health Insurance Portability and Accountability Act (HIPAA), while European Union has General Data Protection Regulation (GDPR) and Uganda recently enacted the Data Protection and Privacy Act (DPPA). In addition, software developers are keenly following the Secure Systems Development Lifecycle (SDL) so as to develop secure system. Business owners have implemented several types of firewalls including network based and host based firewalls to secure their computer-based information systems and data.

Despite the above mentioned efforts, computer-based systems are still affected by viruses. This has prompted developers to continue developing anti-virus software as a counter measure. The interesting bit is that the virus writers are often a step ahead of the anti-virus software developers. Consequently, new viruses are constantly being released that defeat anti-virus software. Nevertheless, the struggle for data and system security continues.

Required:

- (a) Explain the meaning of the following terms as used in the scenario.
 - (i) Data security. **(1 mark)**
 - (ii) Anti-virus software. **(1 mark)**
 - (iii) System security. **(1 mark)**
 - (iv) Data breaches. **(1 mark)**
- (b) Explain the importance of the **three** core elements of security to any business as described in the scenario. **(6 marks)**

There are three stakeholders mentioned in the passage. Each one is employing techniques in order to ensure security of either data or software.

Required:

- (c) Explain how the technique employed by each stakeholder can ensure system security. **(6 marks)**
 - (d) Explain any **two** characteristics exhibited by virus software to avoid being detected by antivirus installed by business owners. **(4 marks)**
- (Total 20 marks)**

Question 7

Okay Motors Limited (OKML) is an automobile company incorporated in 2000. The company was founded by Mr. Peter Okello, one of the re-known car dealers in the country. OKML deals in second hand motor vehicles and started operating in 2001 with its headquarters in Kampala city. At the inception stage, the company had four employees each with a desk top computer.

Mr. Okello always wanted employees to communicate and share information. He therefore, consulted an information technology (IT) firm to lay a computer network for the company. The consultant gave him options to choose from, that is to say; either a peer to peer, hybrid or client server network model. The consultant quoted prices for each of the recommended network models clearly stating the prices of the required network hardware, transmission media and network software. Mr. Okello decided to settle for a peer to peer network model which required limited resource because he had limited funds at that time.

The company has since expanded and opened up branches in, Lira, Soroti and Gulu. Mr. Okello wishes the entire network to be re-done such that network is controlled by one computer at the headquarters and the rest of the computers in other branches are able to share resources.

Required:

- (a) Explain, with examples, the importance of the **three** requirements mentioned in the scenario that are necessary while setting up OKML computer network.

(6 marks)

- (b) Explain any **three** reasons why you think Mr. Okello would like to change the existing network model.

(6 marks)

- (c) Propose to Mr. Okello an appropriate type of network which the consultancy firm should design and lay for OKML.

(2 marks)

- (d) Explain, using an illustration, how the network model you proposed in (c) works.

(6 marks)

(Total 20 marks)

EXAM PAPER 13

December 2022

Question 1

Mabrac Limited (Mabrac) is a micro deposit taking institution that was established in Kampala in 2000. It employs over 30 Ugandans, both established and support staff, in the departments of administration, sales and marketing, and finance. Mabrac is regulated by Bank of Uganda.

Mabrac grapples with high interest rates, high default rates and low deposits. The recent Department for International Development (DFID) study indicated that many rural Ugandans are borrowing money, mainly from informal sources, for household consumption purposes, emergencies, and school fees. The saving culture in Uganda has remained poor which makes Mabrac run to Bank of Uganda for funding as a lender of last resort.

Mabrac needs to devise more means of funding to be able to meet the increasing business from their clients.

Required:

(a) Explain the different stakeholders in the scenario and their related interests.
(10 marks)

(b) Explain why Mabrac would need to carry out a stakeholder analysis.
(10 marks)
(Total 20 marks)

Question 2

Today's organisations have grown in size to the extent that it becomes very hard to know what takes place in different units. Managers can only be abreast by having well-coordinated systems in place.

Required:

(a) Explain the increasing need for coordination in today's organisations.
(10 marks)

(b) Describe the techniques for effective coordination.
(10marks)
(Total 20 marks)

Question 3

Omoro Bus Company (OBC) was incorporated in 2010 to ease transport in Karamoja region. The company has a fleet of buses plying the Kampala- Moroto route as well as Kampala-Kotido-Kabong route. OBC is headed by Mr. Olipat, as the chief executive officer. Mr. Olipat holds a Bachelors of Transport and Logistics Management degree from Metropolitan University. Before he was appointed in 2020, the company was realising very little revenue and incurring too much expenditure. Drivers would siphon fuel on the way and sell to illicit dealers. Conductors were overloading the buses and not issuing out receipts to some of the passengers. There were also frequent accidents due to reckless driving and overloading.

Mr. Olipat brought drastic changes in the company. He installed tracking devices in all buses particularly fuel trackers, in order to monitor movements of buses and instill administrative controls. He labeled all seats and passengers' tickets were prenumbered. No excess passengers would be allowed on board. He liaised with the regional traffic officers to enforce disciplinary measures against conductors who would allow excess passengers on board. He also opened regional booking offices in Mbale, Moroto, Kotido and Kabong. He networked the system such that once the bus would get full; no more passengers would be allowed to book.

The regional traffic police had been reawakened to mounting abrupt inspection checks of buses and culprits would severely be punished and fined. He instituted the use of suggestion boxes for passengers to provide management with feedback. Within three months, OBC revenue had grown, while expenditure had reduced to minimally acceptable levels. Additionally, the rate of vehicle breakdown had reduced and management started receiving positive feedback from the passengers.

Required:

(a) Explain the control systems put in place at OBC.

(10 marks)

(b) Describe the importance of organisational control to OBC.

(10 marks)

(Total 20 marks)

Question 4

The medical profession is a calling to serve humanity. The strictness of training culminates into swearing a Hippocratic Oath upon completion of the course that one would not use it to profit. For some time now, there has been a wrangle between the leadership of the intern doctors and the Ministry of Health officials over the benefits offered to the intern doctors. Recently, the intern doctors went on a strike and the health ministry retaliated by dismissing them. The world health body blamed the interns for abandoning patients, accusing them of acting unprofessionally. Uganda Medical Association castigated the health ministry for acting harshly by dismissing the intern doctors. The blame was however, put to the leadership of the medical workers for not fully executing their role which led to this unfortunate situation. However, different people have intimated that, there could have been underlying factors that made these leaders to behave the way they did because they disregarded their roles as leaders to only make such quick decisions. No wonder therefore, the wrangles between the two parties have persisted. No ample time was given to the leaders to discuss and come up with concise decisions.

Required:

- (a) Describe the roles that the leadership of Ministry of Health officials and interns ignored in handling the strike.

(12 marks)

- (b) Explain the factors that affect the effectiveness of a leader.

(8 marks)

(Total 20 marks)

Question 5

The computer hardware includes the physical parts of a computer system such as central processing unit, cables and connectors, mouse, uninterruptible power supply (UPS), switches and routers among others. Hardware is so-termed because it is "hard" or rigid with respect to changes, nevertheless, it does change.

One of the key hardware components is the central processing unit (CPU). The CPU is the brain of the computer and has got three main components namely; arithmetic logic unit, control unit and registers.

In addition, cables and connectors are other key hardware devices. A connector is the unique end of a plug, jack, or the edge of a card that connects into a port while port has either holes or a slot that matches the plug or card being connected into the port. For example, cables are plugged into Ethernet ports, and flash drives are plugged into USB ports. Some examples of ports include; PS/02, serial port, parallel port, thernet, and USB port. With advancement in technology, USB ports are being preferred to serial ports.

Lastly, the UPS is also equally an important component of a computer system.

Required:

- (a) Describe any **two** ports mentioned in the scenario, stating an example of a hardware device each port connects.

(4 marks)

- (b) Explain the function of the each of the **three** components of the CPU mentioned in the scenario.

(6 marks)

- (c) Explain any **two** reasons why a UPS is an integral part of a computer system.

(4 marks)

- (d) Explain any **three** reasons why the advancement in technology of the USB has led to serial ports being replaced by USB ports.

(6 marks)

(Total 20 marks)

Question 6

A software program is a set of instructions which directs computer hardware to perform a task. Computer software includes but not limited to utility software, programming languages and application software.

Computer software, if well selected, can help any business gain a competitive advantage over other businesses. For that reason, any organisation should choose the right software.

Kyam, a prestigious savings and credit cooperative (SACCO) in western Uganda, would like to establish a fully-fledged information technology (IT) department to develop a software that would solve the SACCO related issues. Aware that there are three types of programming languages which include; machine language,

assembly language and high level programming, Kyam intends to use high level programming languages.

The SACCO appreciates the use of utility software in different organisations, so they are giving an offer to their customers. Therefore, a company which acquires their tailor-made software will be eligible to getting three utility software. The utility software available includes; disk defragmenter, antivirus, disk scanner and file compression utility. These too should be carefully selected because they are of great importance to any organisation.

Required:

- (a) Explain the meaning of the following terms.
 - (i) Utility software. **(1 mark)**
 - (ii) Programming language. **(1 mark)**
 - (iii) Application software. **(1 mark)**
 - (b) Describe the **three** types of programming languages mentioned in the scenario. **(3 marks)**
 - (c) Give **three** reasons why you think the system developers of Kyam preferred to use the type of programming language mentioned in the scenario. **(6 marks)**
 - (d) Describe how the **four** utility software mentioned in the scenario can be of great importance to Kyam. **(8 marks)**
- (Total 20 marks)**

Question 7

Networking refers to connecting computers electronically for many purposes including sharing data and resources. The most important resource shared is the Internet. While internet has improved people's quality of life, businesses have arguably become more easily accessible and business methods more immediate and efficient. Therefore, computer networks have become invaluable to organisations as well as individuals.

Many organisations in Uganda are setting up computer networks to enjoy the benefits mentioned above and many others. To be particular, the manager of Craftson Solutions Limited (CSL), Mr. Kayana wishes to set up a network for their different offices located in the same district and within 50 km range from the headquarters. CSL is located in the hilly terrain of Bududa district in Eastern Uganda.

Mr. Kayana is aware of the many types of network available in the networking industry, the commonest being Local Area Network (LAN), Wide Area Network (WAN), Metropolitan Area Network (MAN) and the Personal Area Network (PAN). These network types can be wired or wireless. However, any organisation would choose an appropriate network for particular reasons.

Mr. Kayana wishes to set up a network which will convert the small networks in each office into a single large network, have speed between 10 to 100 mbps and connect the different offices of CSL.

He is ready to acquire any communication devices which will be required since he is sure the network will greatly improve the communication system in the entire organisation.

Required:

(a) Define the following terms.

(i) Internet. **(1 mark)**

(ii) Computer network. **(1 mark)**

(b) (i) Identify with reasons, the type of network Mr. Kayana will set up for CSL. **(2 marks)**

(ii) Explain the major condition which would necessitate Mr. Kayana to set any three types of networks mentioned in the scenario apart from the network type mentioned above. **(6 marks)**

(iii) Describe the use of any **two** network communication devices that Mr. Kayana is likely to acquire while setting up the network. **(4 marks)**

- (c) Explain any **three** benefits that CSL will enjoy from the proposed network in (b) (i) above, apart from sharing resources. **(6 marks)**
(Total 20 marks)

EXAM PAPER 14

May 2023

Question 1

Business objectives form an integral part of business organisations in as far as they aid and focus the efforts towards the achievement of organisational goals.

Required:

- (a) Describe the primary objectives of the following organisations:
 - (i) Non-governmental organisations (NGOs). **(4 marks)**
 - (ii) Cooperatives. **(4 marks)**
 - (iii) Public sector. **(4 marks)**
 - (b) Explain the causes of conflict of objectives in business organisations. **(8 marks)**
- (Total 20 marks)**

Question 2

Dogma Ltd (DL) is an education institution that was established in 1990 by a group of educationists in Kawaala; one of Kampala's suburbs. DL employs well educated management and teaching staff with high integrity. The head teacher is a self-motivated middle-aged gentle man who has been able to lift the image of the institution to greater heights.

Management is very keen at taking decisions involving staffing, performance and welfare. Management involves all staff at different levels in decision making, particularly, heads of departments, class teachers, and student leaders. There are frequent meetings during which right opportunities in the environment are identified through exchange of ideas that has boosted the morale of the different participants.

The above approach has been time and costs saving since different groups quickly identify their needs at different levels in the shortest time possible. At DL there are limited conflicts and all employees work together to achieve both personal and organisation goals.

From the school vision of becoming one of the leading educationists in Uganda while providing the best and holistic education, DL has been able to perform excellently in the recently released Uganda Certificate Examinations' results. The resources have been better utilised in recruitment and outsourcing for better brains to help guide the learners.

The new national curriculum has been embraced. Teamwork has made it possible to make a quick start; heads of departments are involved in making the

best approaches to learning after carrying out brain storming. This has quickened decision making at different levels. Thanks to management that has decentralised the decision making process.

Required:

- (a) Describe the stages in decision making process that have enabled DL to achieve its vision.
(10 marks)
 - (b) Explain the importance of decision making to organisations like DL.
(10 marks)
- (Total 20 marks)**

Question 3

- (a) Describe the main features of quantitative approach or management science approach to management techniques.
(8 marks)
 - (b) Explain the applicability of the management theories in today's changing environment.
(12 marks)
- (Total 20 marks)**

Question 4

Kendal Restaurants Limited (KRL) is a service business with branches in various cities and towns across East Africa. It was established by Mr. Rajim after realising a gap in the quality of the then existing similar service providers. KRL offers a range of well prepared food stuffs in an organised, well decorated and properly lit environment. Clients are quick to notice the comfort in the waiting rooms as they wait for their orders.

Excellent customer care is one major aspect that has made KRL to out-smart other service providers. There are excellent chefs that prepare delicious meals whose taste is unrivaled. That has formed the basis of KRL's service marketing strategy.

KRL services and products are generally unique to other service providers. They include various kinds of cocktail juices, ice-cream, and freshly made cream cakes with distinctive taste. KRL is always the best destination for many couples and celebrities particularly, on the Valentine's Day.

KRL has employed the marketing mix strategy in order to influence the target market. KRL employs motor cycle riders to transport the juices, cakes and fast foods in well packaged and branded boxes and bags, that deliver customer orders when still fresh and on time. Trade discounts are offered for bulk

purchases and payments are allowed using mobile money which has simplified business transactions.

Service delivery at KRL takes the characteristics of a typical service business. All in all; KRL is inseparable with quality services. This has enabled KRL to conquer the East African market.

Required:

- (a) Describe the 3Ps in service marketing. **(6 marks)**
 - (b) Explain the:
 - (i) key characteristics of services. **(6 marks)**
 - (ii) elements of the marketing mix employed by KRL. **(8 marks)**
- (Total 20 marks)**

SECTION B

Attempt two of the three questions in this section

Question 5

Traditional modes of training like paper tests and in-person instructor-led training no longer hit the mark for modern learners today. Instead, Learning Management Systems (LMS) is the trend for learning environments. LMS are used by businesses of all sizes. These businesses can be national government agencies, local governments, independent instructors and coaches, consulting firms, businesses of all sizes, and businesses from a wide range of industries like hospitals, traditional educational institutions like universities and schools plus online/e-learning-based institutions, among others. They consist of two parts, the admin interface and a user interface. They can be categorised as Cloud LMS, Self-hosted LMS or Private cloud LMS.

The LMS are used to deliver training needs to their staff/employees of these businesses and students in educational institutions. They are information systems which are software applications and web-based for the administration of learning like creation, management, organising, and delivering online learning materials to learners. Additionally, they are helpful in so many ways like saving time, reducing costs, centralising training, reusing existing training materials, return on investment training, efficient training management, and tracking learner progress.

Required:

- (a) Explain:
 - (i) the term learning management systems (LMS). **(2 marks)**
 - (ii) the two parts of LMS. **(4 marks)**
 - (iii) **three** ways in which LMS are helpful to organisations. **(6 marks)**
 - (b) Mention any **two** examples of organisations that use the LMS. **(2 marks)**
 - (c) Briefly describe the **three** types of LMS. **(6 marks)**
- (Total 20 marks)**

Question 6

Sansa University of Science and Technology (SUST) has on an online platform through which it collects data from the public. This data is captured by use of online forms and can include the following students' information: personal details, educational background, career aspirations, work experience, test scores, reference letters, and financial information.

This data is then decoded into information which is used by the university to evaluate the eligibility of the intending students and to offer admission to those who meet the university criteria. The information is also used to match the students with available scholarships, grants, and other financial aid programs. It is treated confidentially and is only used for academic and administrative purposes.

SUST further administers online tests and examinations through another system called ZENNI. ZENNI is an online examination platform that uses real-time processing to grade examinations and tests as they are being completed by students. This ensures that students receive immediate feedback on their performance. Additionally, ZENNI also uses batch processing to generate grades for all students who have taken the exams during a specific examination diet. This allows for efficient processing and reporting of grades, making it easier for instructors and administrators to track student performance and progress.

Required:

- (a) Explain the meaning of the following terms as used in the scenario.
 - (i) Data. **(1 mark)**
 - (ii) Information. **(1 mark)**
 - (iii) Real-time processing. **(1 mark)**
 - (iv) Batch processing. **(1 mark)**
- (b) With examples, identify any **three** categories of data captured from the SUST online forms designed for the intending students. **(6 marks)**

- (c) Mention **two** benefits of the information generated by the SUST online system and ZENNI.

(2 marks)

- (d) Explain **four** possible guidelines that management of SUST may be observing to ensure confidentiality of the collected data through online forms so that it is only used for academic and administrative purposes.

(8 marks)

(Total 20 marks)

Question 7

- (a) Explain the following terms:

(i) E–governance.

(2 marks)

(ii) E–governance.

(2 marks)

(iii) Information communication governance frameworks.

(2 marks)

- (b) Describe the **four** e-governance models.

(8 marks)

- (c) Discuss the benefits that would result from the government adopting e-government practices.

(6 marks)

(Total 20 marks)

EXAM PAPER 15

August 2023

Question 1

- (a) Explain the different levels of management in an organisation. **(6 marks)**
- (b) Explain the roles and responsibilities of managers in an organisation according to Mintzberg.

(14 marks)
(Total 20 marks)

Question 2

Jaguar Motors Limited (JML) was established by Mr. Geoffrey Luyima in 2010 after graduating from one of the leading universities in Uganda. His target was to establish a business that would not only offer excellent services but also genuine products to its clients. That was after he had discovered that the market was dominated by businesses that were fleecing clients by selling substandard products expensively. He purchases his products directly from Japan and his business has become one of the leading suppliers of genuine motor spares and parts in the country.

Geoffrey began with recruitment and training of young boys in motor mechanics who eventually have become a very strong and energetic team. There is a high level of integrity instilled in the work force by the founder. They are confident of what they are doing and take decisions independently. After careful study, some of his employees have been assigned managerial work, basing on how they exert themselves. That is, some are good at task management while others have shown good customer care. However, Geoffrey is always around physically or on phone to guide and ensure that excellent customer care offered.

JML has attracted a large clientele including government entities and the private sector. Employees are ever busy and well-motivated since they are rewarded according to the work done. Mr. Aloysius Mukwenda is the new assistant manager who was appointed because of his charisma. Aloysius is known for building networks both in government and the private sector entities, which has enabled JML to obtain a large clientele.

At JML, there is constant training of employees to enable them improve their skills and management quality, as well as increasing productivity and performance. The managerial grid is used to identify training and development needs, select team members and strike a balance between concern for people

-

and concern for task. This has revealed the different behaviour towards work and the concern for people.

Required:

(a) Explain the leadership traits evident in the leadership of JML. **(4 marks)**

(b) Describe the different types of power possessed by managers at JML. **(8 marks)**

(c) Explain the managerial grid used at JML. **(8 marks)**

(Total 20 marks)

Question 3

Longhon Uganda Limited (LUL) is one of the oldest businesses in Uganda. LUL was incorporated in 1990 when relative peace and calm business environment had brought new ray of hope in the business arena. LUL was established in Jinja to produce and supply soap, cooking oil and other related products. That was at a time when there was scarcity of those commodities and most Ugandans had resorted to using alternatives like egg-plant and pawpaw leaves as soap. LUL employs a cross section of Ugandans in its research, marketing, finance and personnel departments.

The proprietor, Mr. Majid is a Ugandan of the Arab-origin. He is determined to keeping LUL ahead of the challenges of the time. But what has really kept the enterprise afloat is having a well-motivated labour force. He is well aware that for people to choose to work there are desired outcomes a job avails to them. There is a link between effort and performance and to enhance that, management has come up with a reward system that has led to a high retention rate of employees.

Employees at LUL have maintained the belief that high level of the effort employed will lead to high performance which in turn will lead to attainment of the desired outcomes. That is, the effort invested will determine the level of performance and the outcomes. This view is in accordance with Victor Vroom's motivation theory.

It is clear that at LUL, rewards are linked to performance and therefore attention has been directed towards what is likely to make people become sure and certain that effort invested will lead to certain desired outcomes that will motivate them to keep interested in whatever they are assigned to do.

Every end of year, LUL appreciates its employees by rewarding effort and good performance. Managers in their different departments are privately consulted about their subordinates' needs so as to prepare for the awarding ceremony.

Required:

- (a) Explain the objectives of a successful reward system to business enterprises like LUL.

(10 marks)

- (b) Explain the applicability of Victor Vroom's expectancy theory to business enterprises like LUL.

(10 marks)

(Total 20 marks)

Question 4

JK Enterprises Ltd (JKEL) is a newly established business organisation engaged in production and supply of quality dairy products. JKEL is determined to change the face of dairy industry in Uganda.

Required:

- (a) Explain the organisational values that can help JKEL to promote ethical behaviour in its establishment.

(6 marks)

- (b) Explain to management of JKEL:

(i) The causes of ethical conflicts in organisations.

(8 marks)

(ii) How to safeguard against ethical conflicts.

(6 marks)

(Total 20 marks)

Question 5

Mazzolidi Enterprises Limited (MEL) supplies scholastic materials, drinks, and kitchenware to schools, households, and other businesses in the districts of Alebtong, Abim, Adjumani, and Agago. Management of MEL is considering adopting a computer-based information system (CBIS). The business has experienced significant growth and has outgrown its manual systems. Despite some drawbacks linked with utilising a CBIS, the managing director acknowledges that it is imperative to implement a CBIS to manage the MEL's expansion more competently and to align with the business overall strategy, allowing it to remain competitive in a dynamic world.

In considering the type of CBIS to adopt, the owner acknowledges the availability of various information systems, such as decision support systems, management information systems, and executive support systems, among others. He is interested in a CBIS that can help the business to automate and manage daily transactions such as sales, purchases, orders, payments, and inventory changes in real-time to ensure records are up-to-date and accurate.

Required:

- (a) Describe the importance of the **three** types of information systems mentioned in the scenario.
(6 marks)
- (b) With reason, recommend to the managing director of MEL the type of information systems that can meet their needs as outlined in the scenario.
(2 marks)
- (c) Explain any **four** advantages that the managing director will gain from embracing the recommended information system in (b) above.
(8 marks)
- (d) Examine **two** potential limitations that MEL may encounter due to the utilisation of the CBIS.
(4 marks)

(Total 20 marks)

Question 6

Mr. Mapendo has decided to launch an online business selling handmade wooden toys and wants to use the best mode of e-commerce to reach his customers and other businesses. He plans to utilise a combination of two modes of e-commerce, which includes creating his own e-commerce website to sell products or services directly to individual consumers. In addition, Mr. Mapendo plans to sell his products on well-known e-marketplaces like Alibaba and ThomasNet, in order to establish connections with other businesses. These could be owned by suppliers, manufacturers, and distributors. The purpose is to offer these business customers customised pricing, the ability to place bulk orders, and tailored account management option.

The e-marketplaces have different components that work together to create a seamless and user-friendly experience for buyers and sellers, driving engagement, trust, and revenue on the platform. Despite the security risks associated with ecommerce, Mr. Mapendo implements measures to protect his customers' information and finances, yet still realises that his business is susceptible to various threats. He is determined to provide a secure shopping experience while maximising his marketing efforts to reach a wider audience.

Required:

- (a) Explain the meaning of the following terms as used in the scenario:
 - (i) E-marketplaces. **(2 marks)**
 - (ii) E-commerce. **(2 marks)**
 - (b) Explain the **two** major modes of e-commerce models that Mr. Mapendo plans to use to reach out to his customers. **(4 marks)**
 - (c) Explain any **four** components of the type of market place described in the scenario that Mr. Mapendo may have to put into consideration that will enable his customers to have a seamless experience. **(8 marks)**
 - (d) Describe **two** measures that Mr. Mapendo can put in place to ensure the security of the financial information of his customers. **(4 marks)**
- (Total 20 marks)**

Question 7

Mr. Alex Mukama (Alex), the founder of Kyamunya Flora Bay (KFB), a renowned flower garden located in the hills of Kisoro, envisions transforming the garden into a contemporary one. Having completed his computer science studies in Holland, he draws inspiration from contemporary gardens, particularly the Royal Flora, Holland, to create an information system that automates all business processes associated with managing the garden. In pursuit of this goal, he exhibits familiarity with the systems development life cycle (SDLC) and seeks to ensure the timely achievement of deliverables at every phase. Common phases of the SDLC include; planning, analysis, design, development, testing deployment and maintenance.

To support his work, Alex intends to employ computer-aided software engineering (CASE) tools, including upper case tools, lower case tools, and integrated case tools, throughout the development process. He recognises the significance of stakeholder participation in the development process and intends to engage with them at each stage of the SDLC. By following the SDLC and utilising CASE tools, Alex is confident that he will modernise KFB and streamline its business processes.

Required:

- (a) Explain how Alex could benefit from any of the deliverables produced during any **four** of the stages of the SDLC mentioned in the n scenario.
(8 marks)
- (b) Describe how Alex will use **three** types of CASE tools during the development of the new information system.
(6 marks)
- (c) Discuss the role of any **three** stakeholders who are likely to be included by Alex in the development process of the new information systems for KFB.
(6 marks)

(Total 20 marks)

EXAM PAPER 16

November 2023

Question 1

Uganda's population in the 1980s was less than 15 million people and the literacy rate was about 60%. Most people were living in the countryside and engaged in subsistence agriculture. The values and beliefs of the society were very strong since culture and religion played a critical role in moulding people's behaviour. Any form of deviant behaviour was severely punished using the established cultural and religious norms. It was the duty of every adult person to call any child to order whether was his/hers or not. There was communal discipline and bringing up of children. There were very few schools at all levels of education; so many people did not go to schools for formal education. Most people have moved to urban areas to engage in trade and employment.

This has drastically changed; the population has reached over 40 million people. The only public university then, Makerere University, has been joined by 13 others not counting the over 30 private universities and 5 military degree awarding institutions that have been established. Equally available are the many tertiary institutions, secondary and primary schools, most of them privately owned. The student population is over 15 million people in nursery, primary, post primary and other institutions of higher learning.

Uganda is also known as a God-fearing nation. The population is dominated by the Christian community at 73.3% (constituting Catholics, Anglicans, Pentecostals, among others). Islam stands at 13.7% rating, while those with no religion at 1.2%. Religions play a key role in promoting social-economic development through providing moral and ethical principles that guide personal behaviour and often foster a sense of belonging and social cohesion.

The discipline and moulding of children has become individualistic. Parents no longer tolerate fellow parents' input in moulding and disciplining their children. Additionally, schools have been banned from canning for it is regarded as a corporal punishment to learners. Although the literacy rate has gone up, the moral standards have tremendously dropped. There are many cases of social evils such as lawlessness, environmental encroachment and degradation, corruption, sexual immorality, theft, witchcraft to mention but a few. This has not even spared the cultural and traditional institutions.

During the 1970s and 1980s, the country experienced prolonged political instability that scared away investors. The economy was collapsing since it was relying on few traditional cash crops such as coffee, cotton and tea for exports. There were few functioning industries leading to rampant shortage of essential

commodities. There was shortage of foreign currency to import the much needed commodities. The National Resistance Movement (NRM) government came to power in 1986 and managed the political instability and in 1987, instituted a structural adjustment programme to address the bottlenecks in the economy.

The government enacted various laws and regulations to streamline the economy; the most important being privatising the economy. Currently, there is plan to exploit oil exploration in the Albertine region. The banking sector has also been revived. Foreign exchange can now be generated through expanded exports. Inflation has been controlled while interest rate has been brought down to make credit affordable. However, the advent of COVID-19 in 2020 distorted this gain due to the global lockdown followed by the current Russia-Ukraine conflict that has resulted in the surge in oil prices.

Required:

- (a) Explain the prevailing social environmental factors in Uganda. **(8 marks)**
- (b) Describe the factors that have allowed the government to create conducive economic conditions for businesses to thrive.

(12 marks)

(Total 20 marks)

Question 2

Over the last century, management has evolved with the emergence of theories that today's practice relies on. These theories have guided practitioners in their day to day operations. Without these theories, many managers would have found themselves in a dilemma as they face complex situations to handle.

Required:

- (a) Explain the basic elements of the social systems approach. **(6 marks)**
- (b) Describe the principles of decision making according to the decision theory.

(6 marks)

- (c) Explain the importance of a systems approach to managers. **(8 marks)**
- (Total 20 marks)**

Question 3

Without organisational control, plans may never be realised. There are control techniques applied by management to check whether plans are on course and different units could always do so in their respective capacities. By the time a new phase of planning is reached, enough information is already generated from the control reports to guide in the new plan formulation.

Required:

- (a) Define the term organisational control. (2 marks)
 - (b) Explain the essential requirements of a good control system. (10 marks)
 - (c) Explain the steps involved in the control process. (8 marks)
- (Total 20 marks)**

Question 4

- (a) Identify different sources of funds available to businesses. (6 marks)
 - (b) Explain the benefits of ethics to business organisations. (10 marks)
 - (c) Describe how business organisations promote ethical awareness among their members. (4 marks)
- (Total 20 marks)**

SECTION B

Attempt two of the three questions in this section

Question 5

Artificial intelligence (AI) in healthcare is currently used in many ways that are relevant to medical practitioners. It is an umbrella term for several different technologies and methodologies that contribute to many advances in healthcare today and has transformed medics' roles and enhanced patient care. According to Merriam-Webster, artificial intelligence (AI) is defined as a machine's capacity to imitate intelligent human behaviour, such as reasoning and problem-solving. In healthcare, AI frequently refers to computer software programs designed to interpret data (for example, patient records, administrative claims, medical imaging, and data from mobile devices), learn from that data, and inform clinical and operational decision-making.

It should however be noted that AI in health care should be developed to support tasks and reduce clinician burden rather than full automation of nursing. Full automation of nursing in health care may pose some challenges like privacy protection challenges, lack of quality medical data, clinically irrelevant performance metrics, methodological research flaws, et cetera.

There are a variety of ways in which AI in health care is beneficial. They include diagnosis, symptom prediction, research, drug discovery, virtual health assistance, treatment of rare diseases, safer surgeries, easy information sharing, targeted treatment, reducing burden on therapists or caregivers, automating tasks like recording vitals and dispensing medications, recognising patients' health conditions faster, reducing overall healthcare costs, supporting healthcare workers with repetitive manual tasks, providing back support to health professionals, reducing medical fatigue, improving patient care delivery, reducing the duration of rehabilitation, et cetera.

Required:

- (a) Explain the following terms used in the scenario.
 - (i) Artificial intelligence. **(1 mark)**
 - (ii) Healthcare AI. **(1 mark)**
 - (iii) Full automation of nursing. **(2 marks)**
 - (b) Explain any **three** challenges that are associated with implementation of AI in health care. **(6 marks)**
 - (c) Outline any **two** types of the data managed by AI in health care. **(2 marks)**
 - (d) Explain any **four** benefits of AI in health care as stated in the scenario. **(8 marks)**
- (Total 20 marks)**

Question 6

- (a) Computer hardware does not only include input and output devices but system unit components as well.

Required:

Explain:

- (i) the term system unit. **(2 marks)**
- (ii) why the keyboard, mouse, and monitor are not regarded as system unit components. **(2 marks)**

- (iii) any **three** system unit components. **(6 marks)**
 - (iv) **two** ways by which a system unit of a laptop can be kept in a good working condition. **(4 marks)**
 - (b) Explain **three** practical examples of where computer software is applicable in any industrial businesses today. **(6 marks)**
- (Total 20 marks)**

Question 7

Wijji is a trending social media company where people share approximately 700 terabytes of data per day and over 430 hours of video every minute. This is not usual data that an organisation would ideally handle on a daily basis but rather big data. This big data help the users of Wijji social media platform to identify new business opportunities which can lead to more sales, making decision making faster using readily available feedback and solving problems more efficiently.

There are six aspects of big data which are described through 6Vs unlike the usual data and it is in three forms: structured, unstructured and semi-structured. The 6Vs stand for volume, variety, velocity, value, veracity and variability.

Big data and cloud computing technologies are valuable to Wijji. Wijji has combined the two techniques to reap more business benefits. Both technologies aim to enhance the revenue of the company while reducing the investment cost. The cloud mainly manages the local software of Wijji, while big data helps in business decisions. Cloud computing offers services to Wijji on a pay-as-you-go model. Cloud providers offer Wijji three primary services which are IAAS, PAAS and SAAS.

Analysing the big data shared on Wijji is further done in the cloud. This comes with some benefits like improved analysis, simplified infrastructure, lowering the cost, security and privacy, and virtualisation.

Required:

- (a) Define the following terms used in the scenario.
 - (i) Data. **(1 mark)**
 - (ii) Big data. **(1 mark)**
 - (iii) Cloud computing. **(1 mark)**
- (b) Giving examples of each, explain the **three** forms of big data shared on Wijji social media platform. **(6 marks)**

- (c) Explain the role of each of the services provided by cloud computing on Wijji's big data.

(3 marks)

- (d) Explain any **four** aspects of big data received and managed by Wijji.

(4 marks)

- (e) Explain any **two** benefits experienced by Wijji as a result of carrying out data analytics in the cloud.

(4 marks)

(Total 20 marks)

Question 1

The information below shows a distribution of different injuries sustained as a result of road accidents in Kampala Metropolitan area in the month of January 2023 as reported by Uganda Road Network Alliance (URNA).

Weeks	Accident injuries in Kampala Metropolitan		
	Fatal accidents	Serious accidents	Minor accidents
Week 1	287	358	864
Week 2	138	309	803
Week 3	206	457	912
Week 4	186	489	606

Required:

- (a) Type the above table using an appropriate program. **(6 marks)**
- (b) Change the number of accident injuries to scientific format. **(1 mark)**
- (c) Generate a line graph with the content in (a) above with labelled axes. **(5 marks)**
- (d) Using the Vlookup formula, indicate the number of minor accidents in week 3 two rows after the table to appear as the table below. **(4 marks)**

Week	Minor accidents
Week 3	912

- (e) Copy the table generated in (c) above to sheet 2 and paste as values. **(2 marks)**
 - (f) Hide the column of serious accidents and the row of week 2. **(2 marks)**
- (Total 20 marks)**

Note: Save your work as Accidents +your exam number.

Question 2

Japanese Water Therapy

Supposedly, Japanese water therapy gets its name from being widely used in Japanese medicine and among the Japanese. It involves drinking room-temperature or warm water on an empty stomach after waking to cleanse the digestive system and regulate gut health, which according to proponents can heal a variety of conditions.

The therapy includes the following steps that should be repeated daily:

1. Drink four to five 3/4-cup (160ml) glasses of room temperature water on an empty stomach upon waking and before brushing your teeth, and wait for another 45 minutes before eating breakfast.

2. At each meal, eat only for 15 minutes, and wait for at least 2 hours before eating or drinking anything else.

According to practitioners, Japanese water therapy must be done for different periods to treat different conditions. Here are some examples:

Condition	Duration
Constipation	10 days
High blood pressure	30 days
Type 2 diabetes	30 days
Cancer	180 days

Required:

- (a) Type the above given text as it is and save it as a Rich text file with a filename Therapy – your registration number. For example, Therapy-20217890.

(4 marks)

- (b) Apply a hanging indent to the entire document and insert paragraph marks.

(2 marks)

- (c) Apply line spacing of 2 pts to all the paragraphs.

(2 marks)

- (d) Between the main heading and the first paragraph, apply spacing of 10pts before and 10pt after.

(2 marks)

- (e) Format the table as follows:

- (i) Adjust the row height of the header row with the headers to 1" and column width of the entire table to 2".

(2 marks)

- (ii) Apply light list – Accent 6 style to the table.

(1 mark)

- (iii) Draw borders around the table other than the middle one. Make their thickness of be 3 pt.

(2 marks)

(Total 15 marks)

Question 3

As an emotional intelligence expert, you have been invited by the head of human resources at BK Company Limited (BCL) to present to staff about the importance of emotional intelligence. Your presentation should highlight the numerous benefits that emotional intelligence can bring to both individuals and organisations like improved interpersonal relationships, better stress management, and enhanced leadership abilities. You will discuss effective strategies for improving emotional intelligence, including cultivating self-awareness, practicing self-regulation, enhancing empathy, improving social skills, and fostering a growth mindset. Finally, you will summarise the key

takeaways from the presentation, emphasising the value of investing in emotional intelligence for overall well-being and success.

Required:

Use appropriate presentation software and:

- (a) Create a master slide with; "Emotional Intelligence" as the 'the master title' in comic sans.

(2 marks)

- (b) Create an introductory slide with the title of the presentation, your name and contacts.

(2 marks)

- (c) Add a bulleted list of benefits of emotional intelligence as slide 2.

(2 marks)

- (d) Create another slide and insert the table below.

No	strategies for improving emotional intelligence
1	cultivating self-awareness
2	Practicing self-regulation
3	enhancing empathy
4	improving social skills

(3 marks)

- (e) Insert date and time that updates automatically in the footer of all slides.

(3 marks)

- (f) On slide 2, use any animation of your choice transition, with duration of five seconds.

(2 marks)

- (g) Insert your examination number on the footer.

(1 mark)

(Total 15 marks)

Question 1

- (a) Describe the secondary objectives of business organisations.
(10 marks)
- (b) Explain the importance of business objectives to business organisations.
(10 marks)
(Total 20 marks)

Question 2

The emergence of COVID-19 culminated into global lockdown in 2020. This left many economies in ruins and devastated people worldwide. It therefore, called for more innovative ways of doing things beyond the normal so that recovery could be realised quickly. In this regard, Mr. Julius Opedo formed a company called Angeokoma Company Limited (ACL) in 2021 to provide digital services in Kampala.

He recruited 10 young graduates and trained them to form a strong team and guided them to work from home. Initially, they depended on Mr. Opedo for guidance and direction as they executed their duties. As time passed by, duties became clearer, so there was little dependence on the founder for guidance and direction. By then, Mr. Opedo had established rules, values, code of conduct and work styles for these employees. By the end of 2022, ACL was functioning without the interference or participation from Mr. Opedo.

In his dealing with the staff, Mr. Opedo ensured that all members were involved in decision making, allowing consensus to be reached, making them to voice their concern as well as receive feedback from time to time. He made sure each member fits the task at hand so as to boost performance. There was proper administration of rewards and occasional social events.

As they entered the year 2023, the work from home concept was no longer popular and requiring review. In the meantime, Mr. Opedo is contemplating acquiring a large office space in the central business district of Kampala so that the company can have interface with clients.

Required:

- (a) Describe the stages that management of ACL went through to form a strong team.
(10 marks)

- (b) Explain the techniques that were used by Mr. Opedo Julius in building an effective team at ACL.

(10 marks)

(Total 20 marks)

Question 3

The culture of an organisation is its personality and character. An understanding of organisational culture is essential for effective leadership. Leaders and managers will be better placed to implement strategy and achieve their goals if they understand the culture of their organisation.

For organisations to thrive, they need to develop organisation culture that would guide the behaviour of employees. This would facilitate coordination of all activities within the organisation and enable it achieve the set objectives.

Required:

- (a) Explain the need for coordination in business organisations.

(10 marks)

- (b) Describe the factors that shape organisation culture.

(10 marks)

(Total 20 marks)

Question 4

Rewards and incentives are important in motivating employees. Besides, there are various theories that explain employee motivation; one such theory is Abraham Maslow's theory of hierarchy of human needs.

Required:

- (a) Differentiate between rewards and incentives.

(4 marks)

- (b) Explain the various rewards that are used by organisations to motivate employees.

(8 marks)

- (c) Describe the hierarchy of human needs as proposed by Abraham Maslow.

(8 marks)

(Total 20 marks)

Question 5

- (a) Everything goes through a process from one stage to another in order to be what it is.

Required:

Explain the **five** e-governance stages any country must go through in order to have an e-government structure in place.

(10 marks)

- (b) The National Information Technology Authority Uganda (NITA-U) is an autonomous statutory body established under the Act of parliament to coordinate and regulate information technology services in Uganda. NITA-U is under the general supervision of the Ministry of Information Communications Technology and National Guidance.

Required:

Identify any **five** roles NITA-U has played to enhance e-governance in Uganda.

(5 marks)

- (c) Implementation of e-governance in Uganda as an information model of governance involves collaboration of processes and structures. This has however, faced problems, challenges and threats.

Required:

Identify any **five** challenges of implementing e-governance in Uganda.

(5 marks)

(Total 20 marks)

Question 6

Financial institutions are one of the oldest industries in the world. In the current digital era, information and communication technology (ICT) has dramatically shaped the way financial institutions offer financial services like electronic transactions. However, it is evident that with the use of ICT in financial institutions, security risks have transcended electronic transactions.

To bridge this gap, financial institutions have to harmonise the management of ICT assets and security risks posed by ICT usage in financial services delivery by embracing information security risk and management (ISRM) across all levels of management. ISRM is the process of managing risks associated with the use of information technology involving identifying, assessing, and treating risks to the

confidentiality, integrity, and availability of a financial institution's assets. The harmonisation can be achieved by establishing ICT and security risk management guidelines. ICT and security risk management is all about identifying and preparing for adverse situations that usually result from inadequate internal processes and external events such as cyber-attacks.

For business continuity to happen amidst the security risks and threats posed by ICT usage, financial institutions have to integrate risk management into the system development life cycle (SDLC) when coming up with or upgrading ICT systems for financial services delivery. The SDLC is a software framework defining tasks performed during each step in the ICT systems development process. It comprises a detailed plan describing how to develop, maintain, and replace specific software. Each phase of the SDLC is vulnerable to different types of risk factors. Identifying and understanding these risks is a preliminary stage for managing risks successfully. In SDLC development phases risk management is an iterative process that can be performed during each major phase of the Software development life cycle. It is important to know that some risks factors threaten all the phases of the SDLC.

Required:

- (a) Define the following terms used in the scenario.
 - (i) Information security risk management. **(2 marks)**
 - (ii) ICT and security risk management. **(2 marks)**
 - (b) Explain:
 - (i) why it is important for financial institutions to have an information security risk management structure. **(2 marks)**
 - (i) the **three** risk assessment steps for financial institutions mentioned in the scenario. **(6 marks)**
 - (c) Describe any **four** possible risks factors that threaten all the phases of the SDLC for financial institutions. **(8 marks)**
- (Total 20 marks)**

Question 7

Mitego Motors Limited (MML) is a limited liability company incorporated in Uganda. MML imports motor vehicles from abroad and sells them in Uganda. MML relied on a manual accounting system for long. This is because it was cheaper and easier to use than computerised accounting systems at the beginning of MML's operations. As the company expanded and established

branches in all the cities of Uganda, the manual accounting system became unreliable in so many aspects like being prone to human error and the risk of making mistakes became greater, insecurity of the paper ledgers, responding to customers became problematic, among others. This forced MML to keep training their accountants so that they are able to do the right thing at all times and this was coming at a cost and especially when they would get new staff.

MML opted for a tailored computerised accounting system to revert the demerits that came with the manual accounting system. Accounting software has been used to improve customer service, automate MML's paper ledgers and accounting books.

These software packages have a variety of specialised features or a generic program that has been customized to current business operations of MML. This has benefited MML in very many ways, tracking and recording financial transactions inclusive. Paper ledgers, manual spreadsheets and hand-written financial statements have all been translated into computer systems that can quickly present individual transactions into financial reports. This has allowed MML to create individual detailed reports quickly and easily for management decision making.

Required:

- (a) Define the following terms.
 - (i) Manual accounting system. **(2 marks)**
 - (ii) Computerised accounting system. **(2 marks)**
- (b) Explain any **four**:
 - (i) aspects in which the manual accounting system could have become unreliable as MML expanded. **(8 marks)**
 - (ii) ways in which a computerised accounting system has positively influenced the accounting processes in MML. **(8 marks)**

(Total 20 marks)

EXAM 18
CPA (U) AUGUST 2024

SECTION A

Attempt three of the four questions in this Section

Question 1

Bamwagale Enterprises Limited (BEL) is a business enterprise trading in imported merchandise from United States of America, United Kingdom, Turkey and other countries. BEL is located in Kampala and employs over 40 Ugandans in its marketing, research, and human resource departments. BEL has got a sound reputé because of dealing in genuine merchandise particularly, ladies' shoes, handbags, dresses and other items. Ms. Cindy is the brain behind BEL and is an enterprising lady who is not only willing to grow her business but has also trended in the use of technology to purchase and market her goods.

BEL was initially located at one of the busiest streets in Kampala. However, Cindy decided to do her business online to match with the trend in technology. She formed a social media group to monitor her business, used global positioning system (GPS) to track movement of her merchandise; used closed circuit television (CCTV) cameras, computers, and other appliances like smart phones and tablets to support business systems.

Business had been good before COVID-19 outbreak. Cindy moved the business to her home because of COVID-19 lockdown. Even after opening, rent became unbelievably expensive. Currently, Cindy does not have to fly to different destinations to purchase her merchandise since she makes online orders. Her online marketing has enabled her to get to very many clients internally and internationally.

Business opportunities have been improving for BEL. Communication is faster since she invested in internet services plus a standby generator to avoid interruption due to power outages. Many of her employees have been laid off and instead, acquired a motor cycle to deliver goods to her customers in and around Kampala. The goods destined to customers in the country-side are delivered by buses upon securing arrangements with bus operators.

Recently her business has been threatened by increasing cyber criminals, money laundering and theft. Bad bots, also known as malware bots and mobile applications hijacking have become the order of the day. She has been forced to insure the goods comprehensively. It is hoped that this will go a long way in arresting her worries about losses in her business.

Required:

- (a) Explain the:
 - (i) opportunities resulting from advancement in technology at BEL. (6 marks)
 - (ii) threats resulting from advancement in technology at BEL. (4 marks)
 - (b) Discuss how BEL responded to threats resulting from technological change. (10 marks)
- (Total 20 marks)**

Question 2

MML is a public agency that has operated in Uganda for over 50 years. It employs over 100 workers most of them well-educated. It operates on very clearly stated policies and rules that guide workers while focusing their efforts towards attainment of its objectives. However, in such a set-up of bureaucratic tendencies, MML needs to be re-invented.

Required:

- (a) Explain the characteristics of bureaucratic organisations like MML. (10 marks)
 - (b) Explain the:
 - (i) advantages of bureaucratic organisational set up. (5 marks)
 - (ii) disadvantages of bureaucratic organisational set up. (5 marks)
- (Total 20 marks)**

Question 3

Kirato Uganda Limited (KUL) is a shoe manufacturing company based in Mbarara city. It was established by Mr. Kato after retiring from active service as a banker. KUL employs several Ugandans in its production, marketing, finance, human resource and research departments. KUL uses locally available raw materials particularly, hides and skins, but also imports rubber from Hong Kong and Malaysia. The factory acquires hides from nearby abattoirs or slaughter houses but also from individual households where agents have established collection centres. KUL manufactures hand bags, belts and other leather items.

KUL products have been sold within and outside Uganda in the neighbouring Rwanda, Democratic Republic of Congo and South Sudan. The proprietor Mr. Kato is a graduate of one of the well-known business institutions and has been able to explore the prevailing business environmental conditions, for the benefit of his business. Currently, KUL is proud of rising profits, a motivated labour force and a very large market share within Uganda and elsewhere.

KUL success story has also been attributed to the knowledge and business skills of Mr. Kato who properly utilised the research department in the planning process. They have knowledge of the supplier-buyer power, have set mitigations against the threats of substitution and new entrants and have generally managed the macro environment to the benefit of KUL.

Recently, KUL has been faced with challenges. New entrants into the market are on the rise. There is competition from Asians that have flooded the market with cheaper plastic shoes, which has become a set-back to KUL operations. In addition, decisions are not concluded without Mr. Kato's approval yet he is currently not readily available. To make matters worse other managers are reluctant to taking decisions. Planning is one of the management functions that must properly utilise the major planning models.

Required:

Explain the:

- (a) Planning models utilised by KUL. (10 marks)
 - (b) Challenges KUL managers face during planning. (10 marks)
- (Total 20 marks)**

Question 4

- (a) Describe the stages in the recruitment process. (10 marks)
 - (b) Explain the benefits of recruitment. (10 marks)
- (Total 20 marks)**

SECTION B

Attempt two of the three questions in this Section

Question 5

In contemporary society, internet connectivity has become indispensable for organisations across diverse sectors, spanning from education and healthcare to tourism. Integral to enabling internet connectivity are data communication devices, which act as conduits for the seamless transmission of data among interconnected systems. These devices encompass a spectrum of both wired and wireless data transmission media, including; twisted pair, infrared rays, radio waves, coaxial cables, microwaves, satellites, and optical fibers, among others.

Moreover, the integration of cloud computing has revolutionised the landscape, leveraging this data communication infrastructure to offer an extensive array of services. From Software as a Service (SaaS) to Infrastructure as a Service (IaaS) and Platform as a Service (PaaS), cloud computing extends the capabilities and accessibility of computing resources far beyond traditional on-premises infrastructure. Through cloud adoption, businesses can unlock significant

advantages, including heightened operational efficiency, unparalleled scalability, enhanced flexibility, and notable cost-effectiveness. However, it is essential to acknowledge that despite its myriad benefits, cloud computing is not immune to challenges. A nuanced understanding of both the opportunities and risks associated with cloud adoption is imperative for informed decision-making within organisational contexts.

Required:

- (a) Explain the meaning of the following terminologies as used in the scenario.
 - (i) Cloud computing. **(2 marks)**
 - (ii) Wireless data communication media. **(2 marks)**
 - (b) Describe any three wireless data transmission media that are mentioned in the passage above. **(6 marks)**
 - (a) Discuss how each of the **three** services of cloud computing mentioned in the scenario can be leveraged by businesses to gain a competitive advantage. **(6 marks)**
 - (b) Discuss any **two** disadvantages of cloud computing that any enterprise in the 21st century should be aware of. **(4 marks)**
- (Total 20 marks)**

Question 6

Uganda Curriculum Development Centre (UCDC) has recently introduced a competency-based curriculum at the ordinary level ("O" level) in Uganda, marking a significant transformation in the country's educational landscape. A particularly innovative aspect of this curriculum is the incorporation of continuous assessment into the final grades of students at the end of their cycle. This approach necessitates the thorough management of extensive student data, a challenge intensified by Uganda's high student-to-teacher ratio.

In response to this need, TexTech is developing a system designed to efficiently manage and track student data, including academic performance. The project will adhere to the systems development life cycle (SDLC), encompassing the following phases; planning, analysis, design, development and testing, implementation, and maintenance. Given the sensitivity and importance of student data, TexTech is prioritising information system security and risk assessment throughout the development process. They are committed to implementing a comprehensive risk management plan. This strategic approach aims to safeguard the integrity and confidentiality of student information,

ensuring a secure and effective data management solution for Uganda's educational sector.

Required:

- (a) Imagine you are responsible for overseeing the development of the envisaged system at UCDC. Describe the significance of the following terms mentioned in the scenario.
 - (i) Risk management. **(1 mark)**
 - (ii) Systems development life cycle. **(1 mark)**
 - (iii) Risk assessment. **(1 mark)**
 - (iv) Risk management plan. **(1 mark)**
 - (b) Given that TexTech intends to incorporate risk management at every stage of the SDLC. describe a relevant risk management deliverable for each at any **three** selected stages of the SDLC mentioned in the scenario. **(6 marks)**
 - (c) Describe any **two** potential risks associated with the student data management system. **(4 marks)**
 - (d) Explain any **three** importances of the plan mentioned in the scenario which TEXTech intends to develop. **(6 marks)**
- (Total 20 marks)**

Question 7

The rapid digital transformation and the internet's evolution into a massive marketplace have indeed underscored the importance of digital marketing for organisations. However, as businesses increasingly leverage online platforms to promote products and engage with consumers, the need for stringent information security and privacy measures becomes paramount. Therefore, it's crucial for businesses to prioritise and integrate strong information security and privacy practices within their digital marketing strategies to safeguard their customers' data in this rapidly evolving digital landscape.

Required:

- (a) Explain the following terms as used in the passage.
 - (i) Information security. **(2 marks)**
 - (ii) Information privacy. **(2 marks)**
 - (b) Discuss how organisations can use any **four** digital marketing strategies to promote their products. **(8 marks)**
 - (c) Describe any **four** non-technical methods organisations can utilise to enhance protection of their customers' data. **(8 marks)**
- (Total 20 marks)**

EXAM 19
CPA (U) DECEMBER 2024

SECTION A

Attempt three of the four questions in this Section

Question 1

The objectives of a business are its driving force. Having a strong clientele and a motivated, competent team is a solid foundation for a business. However, for a business to generate growth, it is important to have clear objectives. According to Dayton Hudson, "The business of business is serving society, not just making money." Business is one of the pillars on which society stands. Therefore, it is a part of society. It cannot thrive without the resources from society.

Required:

- (a) Explain the social objectives of business. **(10 marks)**
 - (b) Describe the benefits of objectives to business organisations. **(10 marks)**
- (Total 20 marks)**

Question 2

Ogenga Uganda Limited (OUL) is a company incorporated to handle oil and gas business in the Albertine region. This being a strategic resource, Management has decided to put up a well-laid-out management structure so that all levels of the hierarchy are catered for. Besides, it has made all staff members develop the essential skills that can enable them accomplish their tasks.

Required:

- (a) Describe the different levels of management that can be found in OUL. **(6 marks)**
 - (b) Explain the role of each of the management levels described in Question 2 (a) above. **(6 marks)**
 - (c) Explain the essential skills required by managers of OUL. **(8 marks)**
- (Total 20 marks)**

Question 3

Students of Bibbo Vocational Institute went for a study tour to Tiangzu Company Limited (TCL) located at Bwambu Industrial Park. TCL is a Chinese industrial complex that produces electronics, textiles, and diapers. These were students pursuing various courses like electrical engineering as well as textiles and garment making.

Their course facilitators had organised this trip to enable them, through observation, understand the actual production process at the factory. The

students carried various electronic gadgets and equipment to enable them obtain adequate information in order to write a comprehensive fieldwork report as a coursework assignment.

The students were received at the industrial park by Mr. Shing Su, the managing director, who handed them to the company's public relations manager, Mr. Shu Kim to facilitate the training. During the training, a mobile public address system was used to ably provide clearer and efficient communication to a large audience amidst noise from the running machines.

The students were accompanied by their facilitators for the inspection of the various production facilities. They took notes while others used smartphones as Mr. Shu Kim and the various heads of the facilities were explaining to them. After inspection of the facilities, they were hosted to a luncheon in the boardroom and thereafter, a brainstorming session was held with the Management of the industrial complex.

Students were also allowed to ask questions to seek clarity. However, both parties had difficulty understanding each other due to language differences, and this affected the quality of the report they compiled. In addition, many students got over exhausted due to the longer hours spent studying while standing.

Required:

- (a) Explain the methods of communication used at TCL. **(6 marks)**
 - (b) Describe the communication processes in identified in Question 3 (a) above. **(8 marks)**
 - (c) Explain the barriers that could have interfered with communication at TCL. **(6 marks)**
- (Total 20 marks)**

Question 4

Operations Management requires support services for training workers, buying inputs, managing information, and maintaining daily operations. Most importantly, the layout of production facilities should suit the needs of the production in place.

Required:

- (a) Explain the support services in a services industry. **(6 marks)**
 - (b) Describe the key areas of operations management. **(8 marks)**
 - (c) Explain the factors that influence the layout of a production facility. **(6 marks)**
- (Total 20 marks)**

SECTION B

Attempt two of the three questions in this Section

Question 5

You are a project manager of the Smart City Project (Project), an agenda centred on three pillars; technology, infrastructure, and people's well-being. It is majorly aimed at implementing Internet of Things (IoT) technology, and it is envisaged that it will improve the quality of life of residents of Kampala.

IoT is made possible by advances in technology which, when combined, would make it possible to link physical objects to the internet and enable a range of capabilities and applications. Kampala city authorities have assigned you to find the best technology to achieve this goal. Despite the advantages of IoT implementation, it's crucial for you as the manager to be aware of the potential challenges and proactively plan for ways to overcome them.

Required:

- (a) Explain the meaning of the term 'Internet of Things (IoT)'. (2 marks)
 - (b) Discuss any **four** technologies that the manager can use to achieve the goal described in the scenario in Question 5 above. (8 marks)
 - (c) Explain **three** ways in which IoT can improve the quality of life of city residents. (6 marks)
 - (d) Describe any **two** challenges you are likely to face while implementing IoT technology in the city. (4 marks)
- (Total 20 marks)**

Question 6

Kyengera Hospital Limited (KHL) is embarking on a challenging endeavour to create a new information system that incorporates artificial intelligence technology. The manager wishes to have the information system implemented in a month to benefit from government funding. Despite having only a vague concept of the desired system, the manager of the hospital places a high priority on collaboration, ensuring customer satisfaction, and quickly delivering a functioning information system. The traditional systems development life cycle may not be suitable for this project, so the hospital has decided to explore alternative methods such as prototyping, joint application development, rapid application development, and agile.

After careful consideration, the manager of KHL has decided to go for agile methodologies as they believe will offer the best solution for the project due to the nature and complexity. However, the implementation of this new system will bring about significant changes that may create tension among the stakeholders, including patients, healthcare providers, and staff.

To avoid resistance and ensure the readiness of stakeholders, the hospital will need to involve them in the change process. Overall, the implementation of the new information system at KL will require a highly collaborative and well-coordinated effort from all stakeholders.

Required:

- (a) Explain the meaning of the following terminologies used in the scenario in Question 6 above.
 - (i) Information system. **(1 mark)**
 - (ii) Prototyping. **(1 mark)**
 - (iii) Organisational change. **(1 mark)**
 - (iv) Rapid application development. **(1 mark)**
- (b) Discuss **four** reasons, apart from those mentioned in the scenario, why KHL chose the alternative approach mentioned over the traditional systems development life cycle. **(8 marks)**
- (c) Describe **four** techniques the KHL Management can use to ensure that the stakeholders do not resist change to the new information system. **(8 marks)**

(Total 20 marks)

Question 7

ABC Technologies Limited (ABC) is a software development company that has recently experienced several project failures due to poor risk management practices. To address this issue, the company decided to integrate risk management into its systems development life cycle (SDLC) and establish a risk management framework. This framework is designed to provide a comprehensive and systematic approach to managing security risks and protecting against potential threats.

Additionally, the company appointed a risk management coordinator to oversee the risk management process and develop standard operating procedures for risk management. It has also implemented a risk management software tool to help identify, assess, and mitigate risks throughout the SDLC.

Required:

- (a) Explain the meaning of the following terminologies used in the scenario in Question 7 above.
- (i) Systems development life cycle. **(2 marks)**
 - (ii) Risk management. **(2 marks)**
 - (iii) Risk management framework. **(2 marks)**
- (b) Explain the importance of the **three** initiatives the company has taken to ensure the effective implementation of risk management. **(6 marks)**
- (c) Discuss the significance of any **four** components that ABC is likely to include in the framework discussed in the scenario. **(8 marks)**
- (Total 20 marks)**



Answers

EXAM 1 SOLUTION NOVEMBER 2017

Question 1

- (a) Methods of communication used at Jimet Mixed Farm Ltd:
- Written records where by Mr. Kato had emphasized record keeping of salaries, sales, births and deaths occurring at the farm.
 - Oral communication was also used especially during meetings where every employee had a chance to air out issues regarding the farm.
 - Grapevine method was also evident from those who preferred anonymity. They revealed sensitive information to Mr. Kato e.g. undeclared milk sales, sale of maize, rice, vacancies and drugs without his notice.
- (b) Benefits of using the above methods at Jomet Farm:
- Oral communication gives immediate feedback for example during meetings all questions would be answered there and then.
 - It also cultivates a sense of belonging and friendliness because of personal contacts between employees and management. This created a sense of belonging to the employees of Jomet Farm.
 - Written method of communication proves statistical data in the farm which is useful for planning purposes e.g. the annual birth and death recodes.
 - There was continuity even after the manager Mr. Mutiini had left. That was because evidence of events and proceedings was left in the record books.
 - Accurate records for future reference on milk production and sales, deaths and birth was left behind.
 - Written documents/records as Jomet Farms reduced misunderstandings and misinterpretation since all records were very clear of salaries.
 - Grapevine revealed secret/hidden information for example Mr. Kato got to know about undeclared milk sales, in reported deaths and births of animals through grapevine.
- (c) Lines of communication used at Jomet Farm Ltd included:
- (i) Upward communication is from subordinates to managers, in form of suggestions, participative decision making, appeals, reports, policy proposals, complaints and grievances sent to high authorities for handling. The intention is to provide information to higher authorities to use in decision making and policy formulation.
 - (ii) Downward communication is in form of instructions, official memos, policy statements, procedures, posters and manuals. It is used by managers to direct, control, coordinate, inform and evaluate subordinates. It is also used by managers to make subordinates aware of the organisational vision, goals, objectives, strategies, policies and plans.
 - (iii) Horizontal communication involves communication between different departments within an organisation. It may be between head of production and head of marketing because they are interdependent.
 - (iv) Diagonal or lateral communication when officials at different hierarchical levels in different departments communicate. For example when a chief internal auditor (a senior official), gets a report from a low level sales officer directly without going through the head of marketing department.

Question 2

(a) Benefits of ethics to ABC Company:

- Ethics would make ABC Company avoid expensive and embarrassing law suits where aggrieved parties could drag the business to court for its irresponsible acts. If ABC Company pursues ethical dealings, it would not aggrieve any party and no one will drag it to court for irresponsible behavior. Most often these court cases are expensive and embarrassing to the company and its management.
- Ethical conduct would make ABC Company create better public image since all its dealings would promote good name of the business to the community. There would be no one who points a finger at ABC Company because of its ethical conduct thereby promoting a better public image.
- Ethics leads ABC Company to realize increased sales as more customers would buy its products. Also, new customers would be attracted as they would be motivated by the existing customers.
- Ethical conduct would also bring about customer loyalty since most of them would be interested in ABC Company's products. In that way, they would continue to buy these products.
- Ethical conduct in ABC Company would also increase employees' morale to perform their work. Employees would enjoy the fact that the products they produce is liked and bought by many consumers. They would also feel happy about the loyalty of their customers to their products.
- Ethical conduct in ABC Company would increase productivity of the company. Since workers morale would be high, this would lead them to generate more outputs from any additional inputs thereby increasing productivity of the company.
- Ethical conduct in ABC Company would enable the organisations to attract and retain quality human resources who would continue to work with the company. The positive image the company has would make it attract highly talented individuals to the company. When workers join, they would be motivated to stay because of the good working environment and the cordial relationship the company enjoys from the public.

(b) Limitations of ABC Company in behaving ethically:

- Absence of agreed universal moral code of conduct that ABC Company would follow. Since this is lacking, ABC Company would find itself at a fix and would know the best way to conduct itself. It would therefore do what other companies do whereby each entity behaves in its own way.
- ABC Company would realize that there are various competing religious and social norms that keep pulling businesses to try to accommodate these norms. In the quest of satisfying one or few religious and social norms, ABC Company would antagonize others causing a vicious cycle of struggles trying to satisfy the different groups.
- Pursuing profit as a major objective of business so making ABC Company to ignore ethical values. If the company desires to maximize profits, it would find it very contradictory to adhere to ethical conduct. This is because ethical conduct involves incurring heavy costs which ABC Company might find it inconvenient.

- If ABC Company has ambition to grow and become a big organisation, this could make it to do anything to expand and achieve this target. In so doing, ABC Company would find it neglecting ethical questions by, for example, exploitation of workers and production of poor quality products.
- Modern technology creates moral dilemmas by allowing unethical practices like abortion, gene alteration and selling body parts totally ignoring ethical issues. In the case of ABC Company, it could find itself in a compromising situation of questionable quality of genetically modified organisms (GMO).
- ABC Company could be having limited resources to pay workers well and produce environmentally friendly products so they end up not doing what they should have done if they had enough resources.

Question 3

(a) Functions of the Board of Directors in an organisation:

- approve the executives decision about what business the organisation should be in.
- approve the executive choice of objectives and targets.
- appraise its company's profit planning and profit performance.
- appraise its capital expenditure policy and revenue expenditure budget.
- act as a supreme court in respect to organisation problems and the relationship between the organisation and its environment.
- select the chief executive or approve nominations of top managers.

Legal function and duties e.g.

- Preparing an annual profit and loss account and directors' report and making an annual report to the government authorities.
- Calling meetings of members.
- Declaring a dividend.
- Safeguarding the company's assets i.e. a duty of trusteeship.
- Having regard to the interests of employees, customers, the environment.

(b) Benefits of quality control

- Reduction in costs of scrap or re-working.
- Reduction in complaints from customers.
- Enhances reputation for the company's products.
- Provides feedback to designs and engineering staff about performance of products and the machine required to produce them.

Question 4

(a) Different types of budget:

- Master budget is a comprehensive summary budget, incorporating all the functional and operational budgets; it consolidates budgets of various units with a purpose of forecasting various statements for entire company.
- Cash budget forecasts of cash receipts and payments and it reflects a firm's ability to meet cash obligations, and invest new opportunities.
- Cash flow budget predicts the business firm's cash inflow and outflow over a specified time it predicts the firm's capacity to take in more cash than it dispenses.
- Revenue and expense budget describes in currency amounts plan for revenues and operating expenses, it forecasts sales and estimate expenses, the expense budgets should cover all necessary and relevant areas like rent, utilities, supplies and security.
- Production budget is a detailed plan that identifies the products and services needed to match sales forecast and inventory requirements.
- Materials /operations budget it identifies the raw materials and parts that must be purchased to meet production demands which are accurate and leads to smooth production, it's the output per unit of time.
- Human resources budget it provides a schedule to identify human – resource needs for future and the compensation requirements it predicts whether hiring or layoffs will be required.
- Capital expenditure budget is a plan for spending money on assets to produce goods and services and it is usually regarded as a major expenditure and is tied to long term plans.

(b) Benefits of budgetary controls:

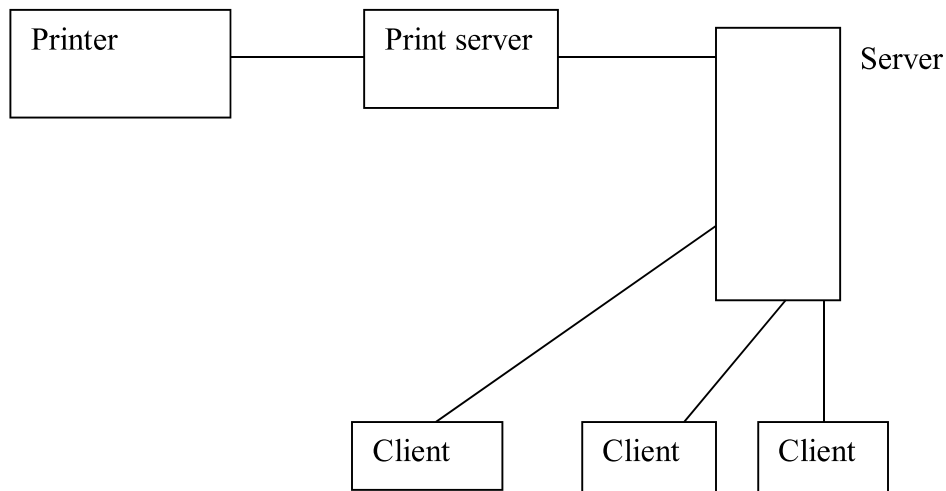
- Budgets as control tool in organisations help managers with the measurement of performance which is more objective thus eliminating biases that may be introduced due to subjective evaluations.
- They also help managers in integrating personal efforts within the organisation to achieve their goals, by appropriating adequate budgets to different activities within the organisation.
- Budgets help the new people and lower level managers to see where the organisation is going and where they fit in the organisation, in other words they help junior managers to be acquainted with organisational goals.
- They also induce the management to shift attention to the future operations since they are part of the planning process which forces managers to anticipate and forecast the trends and changes in the external environment.
- Also budgets act as control devices to correct any deviations like incase of expenditures of a given activity exceed the allotted budget it signals a deviation from the prescribed course which would require attention and action by the management.
- Budgets also help management learn from past experience by looking critically at the success or failure of the past budgets and isolate errors and analyse their causes and establish steps to be taken to avoid repetition.

Question 5

Client server model:

This is a computing environment whereby a central computer known as a server provides resources and services to one or more clients. For example in the control of employees records, the data can be processed and controlled centrally but the administrator like the human resource manager can give access to authorized parties such as accounts and general manager to access some records from the server.

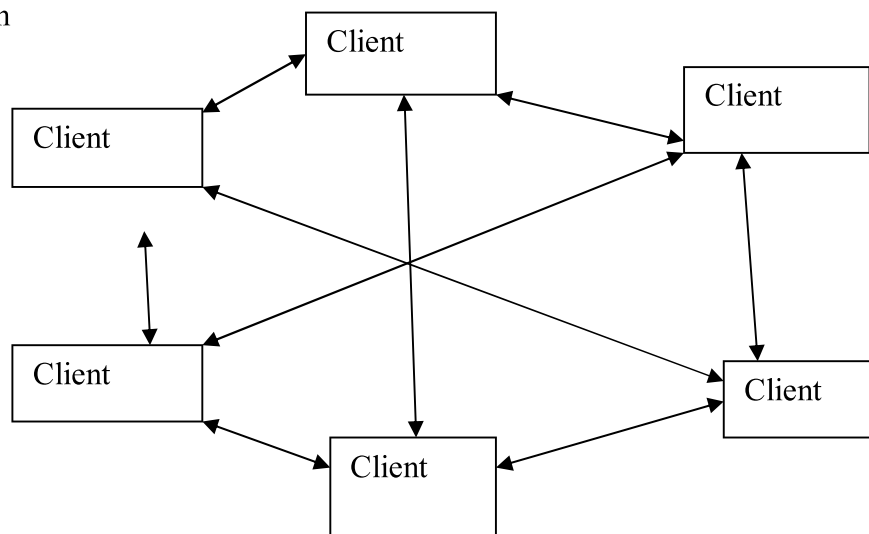
Illustration



Peer to peer network

This is a working environment where each computer on the network becomes a server as well as a client. Files can be shared directly between systems on the network without the need of a server. For example, Swax Hospital's staff can be able to access information about patients' records, books of reference without any restriction because peer to peer does not require access codes for the user.

Illustration



Educate the departments on any three advantages of three disadvantages of the above mentioned models.

Advantages of client server model:

- Proper management, since all the files of department are stored in a central place, management of the files becomes easier and also it will become very easy to access the files,.
- Backup and recovery possible. Since data is stored in a central place, the department can easily recover data efficiently and their backup and recovery plan is easy for this model unlike in the peer to peer whereby data on each computer is backed up separately.
- Easy maintenance .The department will find it easy to replace, repair, upgrade and relocate a server while clients remain unaffected; this is because there are dispersed responsibilities among independent computers.
- The model maintains security. The data will be secure since servers have better access control to the resources. They ensure that only authorized clients can access or manipulate data and server updates are administered effectively.
- Accessibility, it is possible for servers to be accessed remotely it will be possible for the system administrator to monitor and evaluate the network from wherever they are located.

Disadvantages of client server model:

- The client Server model is expensive to set up and also expensive to maintain. Initial costs for the Human Resource Department will be high which include purchasing a dedicated server and software, the cost of hiring a technical person to set up, and maintenance costs, make it more expensive.
- The department will be challenged with the fact that the client server is not robust. If the server fails, then the whole network goes down. The HR department may come to a standstill because the whole information is controlled from the server.
- The server can get overwhelmed with simultaneous client requests forming traffic congestion. This results into delayed response to the clients' requests and further data processing and decision making.
- The network has to be maintained by a technical IT person like system administrator. Absence of technical person might mean that in case of a problem the computers in the HR department may not be operational.

Question 6

- (a) (i)
- An operating system is software that manages computer hardware and software resources and provides common services for computer programs.
 - Operating software is a program designed to run other programs by acting as an interface between hardware and users.
- (ii) Operating systems that can be adopted by Simba Printing Company
- Microsoft windows is an operating system that offers graphical user interface, multi-tasking functionalities, virtual memory management capabilities and support for several peripheral devices for example windows xp, 2000, vista. Simba printing Company will be able to work with more than one program to process and bringing out their tasks.
 - Unix is an operating system with elements that facilitate multi-user, multi-tasking environment stability and powerful networking capabilities.
 - Linux is an operating system developed from Unix with additional capability of supporting more devices on the network. This operating system can support Simba Printing Company to develop the computer network which will ease communication for example if this company has more than one room or buildings.
 - Macintosh operating system. This is an operating system that characterized by graphical user interface with elements of cooperative multi- tasking. It is relevant to Simba Printing Company because of its power and tools in desktop publishing.
- (b) Functions of operating systems in daily activities of Simba Printing Company:
- Schedule of jobs. The operating system can determine the sequence in which jobs are executed in the computer. For example, in Simba Printing Company one can roll printing jobs for printing and at the same time do data entry. This is possible because of the multi-tasking character of operating system as it enables the processor to do each job as submitted.
 - Manage hardware and software resources. The operating system controls the tasks done by both the hardware and software. It enables them to communicate during processing. For example, data is entered using a keyboard is received in the central processing unit for processing and it is given out as an out by output devices.
 - Maintenance of system security. The operating system provides facilities that help to secure the whole system. For example o/s provides prompts for creating a password or it may provide a security application like windows 10 provides the system with windows defender which may help Simba Printing Company to secure its systems.
 - Resource sharing. Operating system facilitates multi-user and multi-tasking functionalities. It enables the scheduling and execution of application programs for many users. For example, Simba Printing Company may be running a networked system; with help of an operating system different users can use the system to execute different tasks.
 - Memory allocation and loading of programs. The operating system ensures that programs are transferred from ROM to RAM for access to the user and also handles

files used by the programs. For example, saving/creating of files. This procedure is controlled by operating system in allocation of space for those files on the system.

- Error reporting. If there is an error during execution of tasks, the operating system furnishes a diagnostic message to the user through the screen or program execution is stopped for the users' corrective response. For example in case of printing and there is an error in the process like paper jam, open tray, used papers, the error is immediately reported to the user for rectification and always provides suggestions.

(c) Factors to consider when choosing an operating system for Simba Printing Company's computer system:

- Types of computer in terms of size and make. For example, earlier apple computers would not run Microsoft operating system. Specific activities need specific types of machines and this computer may not necessarily accept to be uploaded with any operating system. Therefore Simba Printing Company needs to choose a computer that can accept a cross section of operating systems.
- The compatibility of the operating system with application software. For example, if the company has installed a CAD (Computer Aided Design) program must ensure that the operating system acquire is able to manage its information.
- User friendliness of the operating system. The operating system provides an interface for the use in either graphical user or common interface. The systems with graphical user interface are easy to use by the end user than the command interface operating system. For example it is hard for Simba Company to use the disk operating system because of its command nature and can easily use windows, Linux or Mac O/S because of graphical user interface environment.
- Hardware configuration for example memory capacity, memory capacity, processor speed and hard disk capacity. For example of I GHZ, RAM 1GB for 32 bitz or 2GG (64-bit) and hard disk 16GB.
- The cost of the operating system. Different operating systems has different price on market depending on the distributor or policy of the producer some operating systems are free others are priced therefore, the Simba Printing Company must choose what it can afford and beneficial to them depending on the nature of work.
- Reliability and security provided by the operating system. Operating systems come along with security application which requires the user to keep updating in order to have them active. For example, windows 10 has windows defenders which can help Simba to protect its computer system. Operating system provides facilities for creating passwords and other codes to protect the computer system.

Solution 7

- (a) (i) A computer's desktop is the primary user interface that appears after the process of booting is complete and the operating system has fully loaded in the Random Access Memory (RAM). It includes the desktop background (wallpaper) icons of files and folders.
- (ii) Shortcuts. A shortcut is an icon with the north east pointing arrow at the bottom left side that points to a program, a data file and a folder. Shortcuts can be placed on the desktop or stored in other folders. Double clicking a short opens the original file on the same machine. This is why a shortcut cannot open on another machine. However, deleting a shortcut does not remove the original file.
- (iii) Recycle bin. This is a storage location on a computer for temporarily deleted files, from which they can be retrieved or restored to original location or permanently deleted.
- (iv) File extension. A file extension is the suffix in the form of "xxxx" at the end of the file name that indicates what type of file it is. For example, Docx is used for Microsoft word documents. The file name extension also helps an application program recognize whether a file is a type that it can work with.
- (b) (i) Steps followed to create a folder:
- Option one. Using the mouse
- Find the location where you want to create the folder e.g. desktop or any documents or removable disks.
 - Right click anywhere in the chosen location, a list of instructions will appear.
 - Point to the instruction "new" and another list of instructions will appear besides "new".
 - Point to "folder" and click. A folder with a default name "new folder" will appear.
- Option two. Using the command prompt:
- Open the command prompt, this can be done by win + R and typing into the Run box. Win + x can also be pressed for some windows and select command prompt from the menu.
 - Navigate to where you want the folder to be by using the command. Prompt navigation commands to open the location that you want the folder to reside in.
 - Create the folder in the chosen location by typing mkdir folder name and press enter.
- (ii) Renaming a file:
- Option one:
- Right click on the file you want to rename.
 - Click on the 'rename' option.
 - Type in the new name of that file.
 - Press the 'ENTER' key or click anywhere on the screen.

Option two

- Right click the file you wish to rename.
- Select properties.
- Select 'rename' or type the new file name in the file name box with the option of "rename" you will be prompted to enter the new file name.
- Click OK. The file will be renamed.

(iii) Delete a file:

Option one:

- Locate the file you want to delete.
- Highlight it by clicking on it once.
- Then either press the delete key on the keyboard or right click the file, click on the option "delete" then press "yes" the file will be deleted.

Option two:

- Press the windows key + E to open the file explorer.
- Press the Tab key until you are in the section of the window containing the file you want to delete.
- Use the arrow keys to move to the file is highlighted.
- Right-click the highlighted file to view available options to cut, copy or delete.
- Click the delete option and then yes the file will be deleted.

(iv) Moving files from one folder to another:

Option one:

- Open the folder containing the file you want to move.
- Select the file you want to move.
- Right click on it a pull down menu appears
- Click the "cut" option.
- Locate and open the folder where you want to move the file.
- Right click and then click the "paste"

Option two:

- Open the folder with the file to be moved
- Point with the mouse at the file to be moved
- With the pointer still at the file, hold down the left button of the mouse and drag the file to the final destination or folder in this case.

(v) Restoring files from the recycle bin

Option one

- Double click on the recycle bin icon
- Double click on the file you want to restore.
- Click on the button "Restore"

The file will be restored back to its original location.

Option two

- Open the recycle bin
- Right click on the file you want to delete
- Click the restore button

The file will be restored back to its original location from where it was deleted.

(c) The advantages of using a flash disk in file management:

A flash disk is a small portable flash memory card that plugs into a computer universal serial Bus (USB) port and functions as a portable hard disk.

Advantages:

- They are simple to use. A flash disk only requires to be plugged into a computer's USB port and the documents stored on it are readily accessed.
- Therefore, flash disks provide faster data access speeds compared to other storage devices.
- Portable programs from the flash disk can be run without having to install them on the host computer. This helps to save the computer's disk space.
- Flash disks do not have movable parts floppy disks, hard disks making them more durable than other storage devices.
- They have very small sizes that make them easy to carry around with their small sizes; they do not require special carriage bags or containers. They can be carried in pockets, handbags, etc.
- They have bigger storage capacity unlike most of the other storage devices like CDs, DVDs and floppy disks. This enables users to store large files like media files, computer files and programs.
- They use less power compared to the other storage devices like the hard disk disks. Hard-disk disks require several motors in order to rotate the disk platters and move the read and writing head;- USB disks have no moving parts or motors hence consuming less power than hard disk disks.

EXAM 2 SOLUTION JUNE 2018

Solution 1

(a) **Benefits of effective planning**

- Planning helped focus on the objectives of BEL by employees and management. That means the employees' efforts are focused towards attainment of the objectives.
- Planning also helped in coordination between the different departments namely, production, accounting, marketing and research. That has also enabled BEL to attain its overall objectives. It has also ensured better management and service delivery.
- Planning enabled management of BEL to minimize risks and manage change, this is because when plans are well laid down, decision making and innovativeness becomes very easy on part of management.
- Planning fosters motivation of employees who then work hard to achieve the expected objectives. Such has helped BEL to remain competitive. This is because BEL's products are of high quality.
- The establishment of a research department was a result of the planning processes adopted by BEL. Before this department, there was no adequate data necessary for further planning. However, ever since the department was established, there has been reliable data and accurate premises that has enabled BEL to have sustainable plans.
- Planning fosters quick decision making and innovativeness. This is because employees are given a chance to think through BEL's products. They come up with new ideas which are researched to come up with the best. This is done by the research department.

(b) **Limitations of planning**

- At BEL, Planning involves too much expenditure. Money and effort both are required in planning. Planning includes collecting information, data forecasting and evaluation of alternatives. It requires salary and allowances to the experts in the process of providing services. So, planning has been accepted as costly process by small and medium size organisation.
- Planning is a time consuming process. It delays the business activity to come in action. In the process of planning following the procedures of planning takes a lot of time which may create problem to the organisation where immediate action has to be made. So in such situation planning and following set plans was not suitable.
- as planning is time consuming, it is not suitable in emergency situation because quick decisions are desirable in emergency situation but planning delays the emergency demand in organisation
- Lack of reliable data and problem of accurate premises before the research department was established. For planning assumptions have to be developed for future action but the future is uncertain and unpredictable. To make

planning easy, reliable data and accurate premises is necessary. in the lack of reliable data and accurate premises; there is chance of business loss and failure

- Planning is the game of prediction. Rapid changes occur in macro and micro environment of business so, planning is to be made in a flexible way to compress the plans in the future
- Planning encourages false sense of security against future risk and uncertainty. As future is uncertain, it is unpredictable. Therefore, planning cannot give accurate and reliable results.

Solution 2

- (a) Overall assessment, here there is no guaranteed consistency of the criteria and areas of assessment the supervisor writes his/her judgment about the appraise. There is no guaranteed consistency of the criteria and areas of assessment.
- Behavioural incident methods, it only concentrates on the employee behaviour in each task.
 - Grading/ rating, managers are asked to select one of a number of levels to which the appraise displays the given characteristic which is called rating scales.
 - Result oriented schemes it reviews performance against specific targets and standards of performance agreed in advance by manager and subordinates together.
 - Guided assessment, the supervisor is required to comment on a number of specified characteristics like integrity and adaptability.
 - Assessment centre method that tests employees at high level, that is , it tests social situations and reveals openness of employees.
 - Human asset accounting that tests employees' ability to earn revenue for the organisation.
 - Paired comparison method that involved comparing of performance between employees in an organisation.
 - Management by Objectives (MBO) that involves a manager interacting with subordinates to see to it that the objectives of the business are being met.
- (b) (i) Job evaluation is the way of establishing relative advantages of jobs within a business in order to establish pay differentials.
- (ii) **Advantages of carrying out job evaluation**
- Improves relationships between management and workers.
 - It gives basis for salary, training and promotion schemes within an organisation.
 - It ensures that staff performing similar tasks receive equal pay.
 - It shows work content of jobs and the difference between them.
 - It reduces the effects of traditional arrangements for pay.
 - It encourages management and employees alike to think of jobs in terms of key components.

- It enables management to exercise effective control over the labour costs since they can give appropriate pays for each job.
- Helps harmonize the organisation goals with those of the workers since it ensures that conflicts are resolved as they arise

Solution 3

(a)

(i) Leadership is the process of influencing others to work willingly towards an organisation's goals and to the best of their capabilities.

(ii) **Traits exhibited by James Odekal that are related to effective trait theory**

- Maturity, James Odekal was emotionally and mentally mature as observed by the different committees he was chairman.
- He was foresighted and visionary and the community believed in him.
- James Odekal is open minded, being that he showed the characteristic of accommodating other's view points
- He is a leader who is intelligent and has ability to think logically, analyze accurately as indicated in the scenario.
- James Odekal is creative and innovative who does things at the right time.
- He had a sense of responsibility, by shouldering the consequences of his actions and was also dependable.
- He also had a good human relation skill since his community liked him.

(b) **Benefits enjoyed by Hamar Limited resulting from Odekal's effective leadership**

- Essential for survival in highly competitive and fast changing business environment.
- Promotes innovation and creativity in finding better ways to achieve goals.
- Effective leadership secures commitment by mobilizing ideas, experience and motivation of employees.
- It also sets direction by helping teams and organizations to understand their purpose, goals and value to them.
- It supports challenges and develops people by maximizing their contribution to the organization.
- It creates confidence in individual workers of the organisation that enables them to complete tasks more efficiently.
- Helps harmonize the organisation goals with those of the workers since it ensures that conflicts are resolved as they arise

Solution 4

- (a) Financial ratios are relationships that exist between accounting figures, and which are usually expressed in percentage terms.
- (b)
- (i) Liquidity ratio is the ratio that shows the ability of the firm to meet its short term obligations when they are due.
 - (ii) Efficiency or activity ratio: is the ratio that indicates the efficiency of which the firm is using resources at its disposal.
 - (iii) Profitability ratio; refers to ratios used to assess business ability to generate earnings compared to expenses and other costs incurred during a specific period of time.
 - (iv) Dividend policy ratio; shows what percentage of its profits a company is returning to its shareholders in form of cash and dividends.
 - (v) Financial leverage ratio, which demonstrates a company's ability to pay its long term debts.
- (c) **Importance of ratio analysis to business**
- Helps to compare with other firms that are willing to supply similar figures and hence give a measure of relative efficiency.
 - It helps an entrepreneur by providing a basis for making future business policies.
 - Helps the entrepreneur to determine the progress of the business.
 - It helps in comparing with the past years, changes taking place in the business itself and the situations in which it is operating.
 - It is also used in evaluating business and shares by investors where the business is selling its shares to the public through the stock exchange.

Solution 5

- (a) Computer networks simply means a collection of computer software and hardware devices that are logically and physically arranged with the aim of exchanging information and sharing other resources.

- (b) **Computer network models Mafa enterprises could have used to set up the computer networks**

The two models are:

Peer to peer network; where all computers serve as server computers and as clients at the same time (manage and use resources).

Client – server network; where the networked connected computers have a central computer (server) to manage the resources and computer that use the resources (client)

- (c)
- (i) **Reasons why Mafa Enterprises opted to depend on networking as opposed to stand-alone computers.**
- Mafa enterprise has opted to depend on networking because:

- Availability of connectivity and communication – network users are able to communicate with each other using technologies emails.
- Resource sharing – networking helps the company to share resources like data, information, hardware and software.
- Cost effectiveness – The companies are able to minimize the costs spent on initial instalment, and operations.
- Data security and management- networking helps the company to manage the data by providing backups and security policies.
- Performance enhancement. It is used to enhance performance by use of applications that can distribute the tasks to various clients on the network.
- Internet access: internet is the global intercommunication of computers and computer network to facilitate global communication.
- Network therefore helps the companies to communicate outside its locality.
- Internet access sharing: networking allows multiple users share a single internet connection.
- Gain competitive advantage by marketing its products
- Cheaper Licenses; software licenses are likely to be cheaper compared to buying several stand-alone licenses.

(ii) Challenges that Mafa Enterprise is experiencing with the use of a computer networks

- High initial costs of establishing an appropriate system to effectively achieve their objectives. These may include the hardware, software and network requirements.
- The growth rate of the enterprise. The demands and requirements from the customers may override the ability of the system to do as required.
- Inadequate skills by personnel to manage the network and customers to interact with the network.
- System attackers. These include the computer virus, hackers, and others that may delete, disrupt, distort and obtain information without authority.
- The costs of maintenance and operations that includes upgrading.
- Breakdown of the central server faults whole system. If part of a system that, if it fails, will stop the entire system from working.
- Network attracts misuse from staff. This involves spending working time on personal activities like social media and other contents.
- Easy spread of virus on a network. Virus can easily be spread on network most especially if the network is connected to internet.

Solution 6

(a) Requirements necessary for the formation of the company's first information technology centre.

- Computer hardware. The physical components of the system that include computer sets, power system, etc.
- Computer software. The set of instructions that directs a computer to perform specific tasks or operations e.g. system software, programming language and application software.
- Computer network. This is the collection of computer hardware, and computer software and other devices to enable sharing of resources.
- IT personnel – group of technicians and professionals and end-users system.
- Source of finances- the board of governors need to properly identify the sources through which they will be able to get the funding for the Information Centre

(b) Stages in the development of the company's information technology Centre

- **Project Initiation**

Initiation would be the first phase of developing TCL's information technology centre. This is where the value and feasibility of TCL would be measured. Typically there are two evaluation tools which can be used to decide whether or not to develop the centre: i.e. Business Case Document and Feasibility Study.

- **Project Planning**

The project team needs a solid plan to guide them, as well as keep them on time and on budget. This will give TCL guidance for obtaining resources, acquiring financing and procuring required materials. The project plan will prepare the project team for the obstacles they might encounter over the course of the project, and helps them understand the cost, scope and timeframe of the project.

- **Project Execution**

This is the phase would be associated with project management. This phase will assist the team leaders to allocate resources and keep team members focused on their assigned tasks so that all deliverables of the project are achieved on time.

- **Project Monitoring and Control**

Monitoring and control are sometimes combined with execution because they often occur at the same time. As the TCL team leaders execute their project plan, they must constantly monitor their own progress towards achieving their project plan. To guarantee delivery of what was promised, teams must

monitor tasks to prevent scope creep, calculate key performance indicators and track variations from allotted cost and time.

- **Project Closure**

At this phase TCL development team will close by communicating completion to board of governors and all the stakeholders.

Alternative

- Planning: This majorly involves budgeting.
- Feasibility study- this involves the investigations about the need for developing the TCL Information Centre.
- Analysis – This involves the reviewing of different suggested solutions, allocation resources and identify the project team
- Designing –
 - (a) The blue print of TCL information Centre.
 - (b) In case there is need to design software for TCL. This considers the logical requirements, physical specifications. These may be summarized as software, hardware, data storage and schedules for implementation.
- Construction or Development;
 - (a) Construction: Building the TCL centre based on the blue print
 - (b) Development and testing: this considers the acquisition of hardware and software development process, coding and testing of each module.
- After developing and testing, then implementation follows– this is where the system is put into production to be used by the users.
- Evaluation and maintenance. This is done to ensure that the centre was built according to the plan and is maintained to ensure continuity and minimize risks

(c) Factors to consider during the purchase of the computer hardware

- Purpose of the computer hardware operations are executed by different computer hardware therefore purchase should be based on the purpose, task or operations to be done.
- Initial cost for the computer hardware. This must be related to the budget of the company.
- The supplier for the computer hardware should be dependable.
- The cost of maintenance and operation which must be dependent on the budget of the company.
- After sales services which include warranty and technical serves. These reduce the maintenance costs of the company for a certain period of time
- Compatibility. This is the ability to work with other systems like being able to install the software and connect to other available devices.
- Storage. Different computer hardware has varying storage capacities. Since the organization is growing rapidly, the organization may want to opt for hardware with appropriate storage.

- Size of the organization. The size of the organization suggests the number of employees. The number of employees determines the different specifications of the computer hardware.

Question 7

(a) (i) Advantages of using online databases in an organisation

- Saves money. One of the advantages of online database software is that it can save the organisation/business money. When you don't need to buy software program for your business, this could result in major savings overall. In most cases, businesses pay for a software program and then pay for a licensing fee for each computer that uses it. Using an online database may prove cheaper, depending on the number of computers you use. You also don't need to invest in servers to store the data at your business.
- Offers flexibility in usage. It allows your business to be flexible. You only pay for the amount of storage that you use. You need not worry about purchasing servers. If the business grows or shrinks, you need not be concerned about the cost of database software or servers.
- Technical support. Using web- based database program can shift the technical support burden to someone else. Paying a company for access to an online database includes technical support. If the database has problems, you simply contact the company and the staff handles it. You don't need to pay for an IT professional for this purpose.
- Wider access. Having access to the database at all times from multiple locations is another major advantage of this type of database. With online database, you can access information from any computer and the information is readily available all the time. All employees can have access to information and collaborate with another on projects regardless of the location. This can increase productivity and improve efficiency.
- Provide the most updated versions. Online databases are dynamic in nature. Their applications are periodically updated, making it more robust to care of the changing needs of the organisation. This offers organisations the opportunity to stay informed about significant business trends.
- Offer end user searching information. Online databases offer search tools for users to look for desired information by typing key words and or phrases. Such information can support comparative study, research and other information that can improve service delivery they can also help support the user in learning how to manipulate the application.
- Acts as enabler. Online databases proactively connect various users with the information they require.
- Inquiries and immediate responses to queries. Online databases give users the ability to get immediate response to their inquiries

(ii) Challenges of using online databases

- Power failure. The organisation's data activities can be shut down in the event of power failure. In most cases the information is stored away from the organisation's servers.
- Rapid changes in technology and software. Both technology and software are always revolving. This leaves the organisation's users at bay. The cost of retraining staff is high and sometimes staff are discouraged to learn new codes and interfaces.
- Virus attack. Online databases are prone to virus attacks from the many viruses hanging in other online applications. The viruses can also lead to breakdown of the organisation's management information systems.
- Version control. There exist many online databases which gives a challenge of standardization across a short period of time. The organisation has to keep switching application versions, sometimes sticking to absolute or unfriendly software.
- Does not allow staff to develop scripting skills. Most of the content that is inbuilt has ready to use codes. These do not facilitate staff to build strong scripting skills to meet changing requirements in the organisation.
- Require Internet connection. Access to online databases require internet connection, this can be costly in developing countries.

(b) Explanation of the terms from the table:

Field

These are column title/headings in a table e.g. staff ID, name, title etc.

These are the smallest components under which data is entered e.g. title, department etc.

Records

This is a single structured data item. It is always in one row under different fields e.g. AD001. Barungi, CEO, ADM, 0775 214476

Primary key

It is a field on a table which is unique and enables the identification of every record in a table e.g. AD001, HR001 etc.

(c) Operations that can be performed on a computer database

- Creating new database file, databases can create new database file for fresh data entry, query and other manipulations.
- Deletion of files. Created files can be deleted if not needed. This allows processing of updated information.
- Retrieving of data; allows opening and accessing of saved information.
- Creating of reports. Reports can be extracted from processed data. This is obtained from different tables.

- Validity checks. This can be done to ensure data correctness during entry.
- Relational database management. Data from different tables can be accessed and their data worked on as desired.
- Sorting and filtering of desired data.
Sorting arranges data alphabetically or numerically in ascending or descending order. Filters and sorts can be combined, allowing the user to filter the data and control the sort order of the fields

EXAM 3 SOLUTION NOVEMBER 2018

Solution 1

- (a) Training refers to the process of imparting skills in employees on how to do the job better. This is aimed at improving employee skills in areas where he/she has little or no experience.

While

Development refers to the design and implementation of learning programmes that will produce measurable and noticeable change in a person's behavior, knowledge, skills or attitudes.

(b) **Importance of training**

- It minimizes the cost of training to skills by the organisation needs.
- It leads to increased productivity through improved performance.
- It equips job incumbents with skills to ensure that fewer accidents, better health and safety prevail in an organisation.
- It means that less supervision is required and therefore managers can attend to other business commitments.
- It attracts new recruits and ensures that the organisation has a supply of suitable managerial and technical staff for the future.
- It helps organizations manage change by letting people know why the change is happening and giving them the skills to cope with it.
- It supports an internal job market through transfer and promotion.
- It can build relationship between staff and manager in different areas of the business.
- Motivates staff since each will be equipped with knowledge of business objectives and skills to achieve those objectives.
- Promotes flexibility in business operations.

Solution 2

- (a)
- (i) Identify a problem to be dealt with or an opportunity to be exploited basing on the current and future conditions of environment.
 - (ii) Develop objectives based on the mission statement. These should be specific addressing key issues like profitability, productivity, efficiency, growth, resources etc.
 - (iii) Develop tasks to meet those objectives – this is the statement of the course of action or activities needed to be carried out to achievement of set goals/objectives.
 - (iv) Determine the resources needed to implement tasks that is, determine the costs involved and the likely benefits of each planned option.
 - (v) Determine tracking and assessment method – evaluate the plan by giving an alternative means of achieving goals. This is done by assessing effectiveness, efficiency, innovations.
 - (vi) Finalize the plan by selecting the best alternatives, assign responsibilities to different departments, sections and individuals.
 - (vii) Distribute to all involved in the process by distributing copies to the department, individuals and sections due to implement it.

(b) **Relevance of planning**

- Through planning, organizations are able to focus employee efforts, towards achievement of goals and objectives that are in line with strategic direction of an organisation and employees focus on the activities that are consistent with the goals of the organisation.
- Planning helps managers cope with change, and prepare for the future, since the environment is dynamic, uncertain and complex, planning enables a manager to forecast on future opportunities and threats. This helps the organisation devise ways of making advantage of opportunities and ways of reducing challenges and threats. This leads organizations to cope with change.
- Planning. This is because; the resources needed are determined, mobilized and allocated. This means that they are only those resources needed that are used. That helps management to focus on other issues like monitoring.
- Organizations are engaged in day to day decision making. Planning becomes relevant here because it forces people to continually direct their efforts to the activities planned.
- Planning forces managers to consider all the internal environment factors of an organisation. Thus planning enables a holistic view of the organisation.
- Planning provides performance targets and standards. This is because during planning, managers set objectives, targets and standards which guide the performance process.
- It provides a basis and framework for other management functions like staffing their will focus on manpower that would implement given plan, it helps directing employee efforts to do what is planned and helps in controlling what had been planned during the planning process.
- It also brings about competitiveness since it emphasizes a forecast that enables the organization to determine the nature and extent of market conditions. This enables the organisation to produce goods which are on demand.

Solution 3

Strengths

- Family labour was used that was not expensive providing Mamo with a chance to have a firm stand as far as initial costs were concerned.
- Mr. Kato secured a large piece of land where Mamo enterprises was established. That enabled him to establish the animal husbandry and crop sector.
- Assured of labour /employees from the neighborhood at reduced costs that enabled him to buy other inputs / assets for Mamo Ltd.
- Rears indigenous breeds which he crosses with exotic breeds overcoming the high incidence of diseases and gives high output.
- Diversified from animal husbandry to include crops as alternative source of income. If animal husbandry fails, Mr. Kato can benefit from the crop sector.
- Has permanent source of water enabling Mamo to have high production even when it is a dry season.

- Makes silage from maize to feed animals (cows and poultry) leading to increased production.
- Good milk sales that have availed Mamo with money to meet the running costs.

Threats

- Unskilled labour employed by Mamo from both family labour and employees from the neighborhood. They lacked expertise in agriculture.
- Inadequate finances needed to buy other inputs that forced him to borrow from Semuto Sacco.
- Indigenous breeds of animals that take long to mature and also produce low quantities of products especially milk.
- Loss of some animals due to failure to produce large sized calves beyond what the local breeds could carry.

Opportunities

- A ready market for the farm products like milk from the neighboring communities and United Arab Emirates. This has made Mr. Kato to work tirelessly and also encourage people in the neighborhood to carryout agriculture.
- People in the neighborhood have taken up serious farming and have formed a farmers cooperation. That has gone a long way in providing marketing of produce and acquisition of loans.
- Presence of District Agriculture Officer Mr. Kute that gives advice to Mr. Kato and other farmers on how to improve their crops and animals.
- Mr. Kato is a member of Semuto SACCO from where he secured a loan that was used in securing important farm assets.
- Formation of Semuto co-operative union that has helped in marketing farmers produce and securing loans for them.

Threats

- Prevalence of pests and diseases that contribute to reduced yields including tick bone diseases.
- Isolated cases of bush burning during the dry season put tension on the agriculture enterprise because it can lead to lead to loss of the whole enterprise.
- The dusty dry weather roads make it difficult to transport produce and inputs due to numerous potholes.
- Hot conditions prevalent in the area that necessitated use of irrigation in the crop fields and pasture areas.

Mamo's response to the threats

- Use of irrigation using piped water for the dams to various crop fields. For example maize and bananas.
- Intervention of the district agriculture officer to advice farmers and carryout vaccination against diseases.
- Residents have been encouraged to stop bush burning through meetings organized by Memo to educate them on dangers of bush burning.
- On the issue of un-skilled employees, agriculture officer and extension workers would be called in to talk to an employees and train them in various ways to handle / and care for animals and plants.

Solution 4

- (a) Corporate social responsibility refers to the cordial interaction between business with their stakeholders with whose interests it is confronted in a responsible and ethical manner.

Businesses should consider being socially responsive because of the following:

- Socially responsible businesses tend to have more secured long-run profits. This is because of the better community relations and improved image that responsible behavior brings.
- It helps firms enhance their public image to gain more customers, better employees, access to money markets and other benefits. Since the public considers social goals to be important, businesses can create a favorable image by pursuing social goals.
- Involvement by businesses can solve difficult social problems creating a better quality of life and a more desirable community in which to attract and hold skilled employees.
- By being socially responsive, businesses are likely to face less government intervention and regulations which adds economic costs and restrict management's decision flexibility.
- A business has a large amount of power in society. This requires an equally large amount of responsibility to match it.
- Social responsibility will improve the price of a business stock in the long run. The stock market will see the socially responsible companies as less risky and open to public attack. Therefore it will award its stock a higher price earnings ratio.
- Businesses have the financial resources, technical expertise and management talent to provide support to public for charitable and public projects that need assistance.
- Social problems must be dealt with at some time; so businesses should act on them now before they become more serious and costly to correct and to take management's energy away from accomplishing its goal of producing goods and services.

(b) **Challenges resulting from demographic changes**

- Difficult to determine demand and supply as companies focus on people who are potential buyers in relation to their age, size and sex.
- Difficult to acquire specific information about different population in terms of fashion and design of their products.
- Companies can find it difficult to identify trends in the population whether it is increasing or reducing in as far as demand is concerned.
- Difficult to deal with ever changing tastes of a changing population that requires companies to become innovative and productive in an effort to satisfy customer needs at a particular time.
- The company might find it difficult to meet the demands of a changing population according to the standards of that population. That is, in terms of the quality of products put on the market as regards packaging, cleanliness, the quality itself i.e. flavours, and scents.

Solution 5

- (a) This is the practice of fitting the set-up of the computer and the work space to fit the computer users of Epitop Software Solutions Co. Ltd and their work needs in order to minimize physical stress on them.
- (b)
- **Musculoskeletal disorders** (MSDs) these are debilitating, painful conditions affecting muscles, tendons, tendon sheaths and nerves, one of the most off-cited MSds is carpal tunnel squadron (CTS), a condition in which a nerve within a specific gateway in the wrist is pinched, causing an array in symptoms ranging from unpleasant to painful. These include numbness, tingling, sharp pain, partial paralysis, another MSD is tendonitis. If care is not taken, MSDs can occur to the software developers of ESSCOL.
 - **Back injuries.** Sitting for long with a wrong posture while the software engineers of ESSCOL work on computers can lead to cumulative trauma leading to back injuries.
 - **Headaches and migraines:** if the software engineers of ESSCOL work for long hours with wrong lighting on their computer screens, this can lead to headaches. Poor sitting posture while using a computer can also lead to headaches and migraines because it causes active trigger points in the neck and shoulder leading directly to the head.
 - **Eye stress.** Computer screens with very bright or dim light can lead to itching, burning, fatigue in the eyes and even blurred or double vision. If caution is not taken, the software engineers of ESSCOL can end up with those symptoms of stressed eyes.
 - **Stiff neck.** If the software engineers of ESSCOL keep their neck in rigid positions for long while working on the computers, they may experience pain and immobility in the neck area.
 - **Obesity:** Continued sitting in one place while using computers may result in body overweight. This has accompanying health complications that can result into hypertension and other diseases.
- (c)
- The software engineers of ESSCOL should set the screens of their computers so that the screen is at the eye level and the keyboard should be in such a position that the elbows can rest at ninety degrees by their side.
 - Good sitting posture; the software engineers should learn to modify the body mechanics. They should sit tall aligning their ears, shoulders and hips. Hands can be switched when using a mouse, wrists should completely be let to rest during breaks including taking hands of the mouse.
 - The software engineers should learn to adjust their work patterns so as to reduce prolonged computer time whenever possible, work should be broken into smaller segments and switch between tasks that use different motions.

- The software engineers should adopt to taking breaks from their working desks and move. Moving relaxes tissues, lubricates joints, prevents stiffness, improves blood circulation, reduces fatigue and builds stamina.
- The software engineers should exercise even while at their computers. They can rotate their necks , shoulders, turn their heads side to side, pull their shoulders down and back, stretch up, roll eyes, flex toes up and down, rotate their feet, exercise their eyes by periodically looking away from their computers to focus on distant objects and so on.
- The software engineers should physically keep fit to help them avoid and treat problems related to computer use. They should build their stamina with exercises for strength, flexibility and cardiovascular health.

Solution 6

- (a) Data transmission is the process of sending digital or analog data over the wireless computer networks of KUST within the individual campuses and between the two campuses.
- (b)
 - **Radio Network Internet Cards (Radio NICs).** A Radio Network Internet Card operates within a computer device to provide wireless connectivity. It is a wireless network adapter, the Radio NICs will be necessary for the few old desktops in KUST. The laptops and PDSAs are already equipped with wireless connectivity cards.
 - **Access points hardware.** An access point contains a radio card that communicates with individual user devices on the wireless Local Area Network. This hardware will be required to broadcast a wireless signal that computers on the wireless LAN of KUST can detect and tune into for data transmission within one campus or between the two campuses.
 - **Routers.** A router transfers data packets between networks. Given that there are two LANs of KUST, the wireless router will give wireless computer users the ability to send and receive data packets over the two networks.
 - **Repeaters.** Wireless repeaters are devices that will enable the extension of the range of existing wireless LANs of KUST instead of adding more access points. A repeater basically regenerates a network signal to extend the range of the existing network infrastructure. The wireless LAN repeater in KUST will receive radio signals from access points, end-user devices or other repeaters and retransmit the frames helping to overcome signal impairments. This will be important in case KUST wants to expand their wireless network.
 - **Directional Antennae.** Directional antennae improve the range of wireless LAN. Two directional antennae pointed at each other, each connected to an access point, will be used to connect the two different campuses of KUST. They bridge large unblocked distances.
 - **Extension points.** These are also called wireless relays. These will extend the range of the wireless networks of KUST by relaying signals from wireless enabled computers to the access points.

(c)

- A very large number of staff and students of KUST will easily access the network. This is because anyone with a mobile device like a PDA, smart phone and a laptop will easily connect to the network as long as they are within the range the University wireless network.
- Wireless networks are convenient to use. The staff and students of KUST will be able to work from any anywhere within the university premises of the wireless network signal and be able to access the sever. Wireless will enable total mobility and also enable colleagues to collaborate and share information anywhere within the University premises.
- It will enable being your own device (BYOD). The wireless network of KUST will enable and facilitate the BYOD phenomenon. Laptops, tablets, and smart phones that belong to individual staff and students will be brought into the University premises and given access rights. As a result, KUST computers will not be overused.
- The wireless network will increase productivity because the staff of KUST will be able to collaborate where and when they need to. The wireless network will bring freedom of operation and speed up the working processes.
- Scalability. It will be easy for the wireless network administrators of KUST to add new users with no difficulty and at no extra cost. Relocating offices will be done with ease.
- **Cost reduction:** They are not subject to regular physical damages as opposed to wired networks that require regular maintenance.
- **Innovations:** Wireless networks are accessible from all locations; they are not usually disturbed by physical obstructions making their users to be more exposed to more usages.

(d)

- **Limitations on wireless signals.** The lower floors like in basement areas in some of the buildings of KUST may experience limited wireless signals. This will interfere with the data transmission.
- **Security threats.** There will be a risk of security breach when KUST wireless users open their internet connection to the air waves. Unsecured file sharing coupled with unsecured wireless network can be disastrous. The wireless network can be vulnerable to cyber-attacks which can lead to loss of information.
- There is likely to be diffraction of the signals from one campus of KUST to the other if there are sharp objects like mountains between them. With diffraction, the signals may end up not reaching the access points of KUST where data is being broadcasted to.
- There is likely to be distortion of the signals when data is being transmitted from one campus of KUST to the other when there are strong winds and rains. As a result, the information being transmitted will lose its integrity and availability.

- KUST will have to experience more costs of boosters to regenerate signals between the two campuses. The cost may be for the maintenance of the boosters like upgrading software.

Solution 7

(a) The meaning of office automation.

An office automation system is an information system a computer based which HXT Associates will use to collect, process, store and transmit electronic messages.

(b) Characteristics of office automation systems that HXT Associates firm will enjoy.

- Automating manual tasks, this feature focuses on automating every possible task in work. Mr. Okello will be able to employ less labour and yet ensure efficiency.
- Multi-tasking; The OAS will enable the HXT Associates employees to handle different tasks at the same time e.g. emailing; scanning of documents could be done at the same time.
- Ease work load. Installing an office automation system decreases the workload the OAS will enable the HXT Associates employees to do a lot of work but within a short time.
- Integration. OAS allows integration with other applications; this brings on board the advantage of multiple usage of software; jobs done in other applications can easily be integrated in OASs.
- Competitive advantage. OAS will help HXT Associates gain a competitive advantage over other firms that don't have the systems in place.

(c) How HXT Associates will apply the functions integrated by office automation systems given below;

Electronic publishing;

This will give users of the OAS will use this function to create, edit, revise, store and print documents such as letters, memos, reports and manuscripts. Examples of electronic publishing systems that the employees of HXT Associates can use include word processing and desktop publishing.

Electronic communication;

This is the computer mediated communication whereby the employees of HXT Associates will exchange messages with others, individually or in a group examples of these applications include; electronic mail, voice mail, fax and desktop video conferencing.

Electronic collaboration;

The employees of HXT Associates will use networks of microcomputers to share information, update schedules and plans and cooperate on their projects regardless of their geographical location. If group ware is installed on the computers, it will be possible for people in Mubende and others in Kaberamaido to edit the same document at the same time. Other possibilities are electronic meeting and teleconferencing.

Image processing

The employees of HXT Associates will use this function of office automation systems to convert text, drawings and photographs into digital form that can be stored in a computer system. The digital form can then be manipulated, stored, printed. This is made possible by use of scanners, digital cameras, smart phones to mention but a few.

(d) Disadvantages associated with office automation systems

- **Initial costs are relatively high.**

HXT Associates will have to incur high costs of buying new hardware and software to run the OAS.

- **Resistance to change**

Older staff members of HXT Associates may have a harder time to adjusting to new technology and be unable to use it effectively. The employees can resist change because of the fear of the unknown, they may also think that since they do not have the skill they could easily lose their jobs and therefore will try so much to resist switching to the new automated system.

- **Complexity**

Setting up and maintaining a database requires extensive planning. The entire automated system involves several steps that need to be followed in order to come up with the fully fledged system. This makes the entire process very complex.

- Office automation systems require skilled maintenance and failure to maintain the automation may result into lost production. This definitely raised the costs once in service. The OAS requires maintenance, updating and monitoring.

- **Vulnerability**

OAS store data in database which is centrally located, in case of failure of hardware or system, the entire operations of the entire firm go on standstill. Or the firm may require a clear recovery procedure or technical person making it expensive for the firm.

- OAS requires electricity in case there is no power supply at the office it indicates that the whole HXT Associates operations will be halted.

EXAM 4 SOLUTION JUNE 2019

Solution 1

SCENARIO

(a) **Unethical behaviors observed at Paxton S.S.**

- The major cause of ethical deterioration at Paxton S.S is the rapidly spreading corruption where recruitment of teachers is in the hands of the head teacher alone who does not consult heads of department neither conduct interviews, only teachers see a new staff recruited.
- Also because it is a well performing school, the teachers who go to market /advertise the school have ended up asking for bribes from parents and students to be admitted in the school.
- The head teacher has most often delayed to pay teachers' salaries; this began when the director went for campaigns. The head teacher uses this money to do business first and make profits and later they pay teachers which have caused delay in payments of workers at school and demotivation.
- Poor management, being that the owner of the school is a member of parliament during the campaigns he had no time for the school and management was poorly conducted. Some teachers would abandon their lessons to attend his rallies.
- When it is time to assess learners learning it is always supposed to be objective, valid, fair but at Paxton S.S it is done unfairly .Teachers do not mark students exams, they forge marks.
- Teachers' absenteeism at Paxton S.S. is one of the serious causes of ethical decline of the school; it has greatly reduced the overall effectiveness of the school, diminished students' achievements and has damaged school reputation.
- Also some teachers have violated their ethical code of conduct and have started befriending young girls in the name of giving them better marks.
- There are also unpleasant emotions that are seen among teachers like corporal punishments, which have affected student's morale.

(b) **Possible solution to improve the standards of Paxton S.S.**

- The head teacher needs to create time for the school since he spends most time in his business which has affected the performance of the employees.
- Management should hold a staff workshop on motivation and a refresher training be conducted on the roles of a teacher in school.
- Teachers' code of conduct issued by the Ministry of Education should be given to all teachers for them to revise and adhere to it.
- Teachers should be reminded that they need to respect themselves and keep their dignity for their future development and this will rebuild confidence in the staff once again.
- Quality assessment of students should be conducted to allow students exercise their ability and encourage the spirit of competition; this will bring ethics in the school and market the school automatically.

- The head teacher should take it upon himself to always make teachers be in the know about government policies whenever they are written and approved like a policy on corporal punishments; this policy needs to be read to teachers and be understood to avoid embarrassments.
- There is need for a proper system of recruitment and it should be observed by the school administration and managers. The process of recruitment of workers needs to be followed to avoid corruption and recruiting unprofessional workers.
- Also there is need for the directors of the school to come up with a policy of paying teachers directly to their accounts to avoid delays of salaries.

Solution 2

(a) The influence of political factors on a business environment

- The political stability in the country is essential to the success of the business in Uganda since it creates free movement of people and goods from one place to another. It attracts investors in the country and exportation and importation of goods leading to increased revenue in the country and in businesses. Therefore, as a manager it is important to analyze the current and potential political influences and pressures that are likely to impact on the business.
- If the regime of a country is dictatorial where government officials are in a habit of grabbing private property, business development can be compromised because the business owners will be disorganized once their investments are disorganized in one way or another.
- Corruption is a barrier to business development in Uganda. Some firms in this country survive and grow by offering bribes to government officials. The success and growth of such companies are not based on the value they offer to consumers and may be that is why most products are overpriced or sub-standard not fit for human consumption.
- Also when the government does not follow and implement its laws like the government allowing everyone willing to set up a factory anywhere in the country without gazetting particular industrial places, this affects other business like setting up a maize milling plant near a hospital where it always make noise to the patient and this can force the owner of the hospital to close.
- Policies that restrict the growth of multinationals in the market automatically limit the business operations hence its growth. Therefore, businesses need to be flexible enough to respond to changing rules and policies.
- Staff who observe regular discrimination are more likely to leave the business increasing the turnover levels, in any business if the voluntary turnover is high the company can lose skilled workers, competent workers, yet recruiting and training replacements can be costly to the company.

- Bureaucracy can affect the time of obtaining information and documents required to open a business or to obtain some authorizations, the problem can have a major impact on the decision to open a business or to attract foreign investors.
- Lack of transparency in the provision of public information by the public institutions hinder entrepreneurs from obtaining the information necessary for the proper course of the economic activities. The public institutions must be transparent in providing public information to satisfy the needs of people.

(b) **Economic factors faced by businesses.**

- Interest rates can affect businesses in that most businesses in Uganda depend on loans from banks or other financial institutions as a source of financing. Higher interest rates results in higher total business expenses for companies with debt, they can also reduce consumer spending since it makes it expensive for consumers to take out loans to buy things like cars and homes.
- Inflation rates can cause increase in business expenses such as rent, utilities and cost of materials used in production. Rising costs are likely to force businesses to raise prices of their products and services to keep pace with inflation and maintain profits. Inflation can also reduce the purchasing power of consumers unless employees increase wages basing on the level of inflation.
- Consumer confidence in a business makes it possible and easy for them to be willing to spend money than consumers with low confidence making the business to prosper when consumer confidence is high.
- Employment during periods of economic boom, jobs tends to be plentiful. Since companies need workers to keep up with demand. When unemployment is low, consumer spending tends to be high because most people have income to spend, which is good for businesses and helps drive growth, when unemployment is high, consumer spending tends to be low because unemployed people do not have excess income to spend.
- Economic recessions can affect business in that they can make great losses and face decrease in sales and profits during that period. In order for business to reduce their costs, most of them usually resort to staff cuts, retrenchment and firing, reducing capital expenditure, advertising budgets, research and development activities, this affects companies and organizations.
- Taxes also lower the overall profits for a business, because portion of the money earned is owed to the government. The rate of taxation may influence what a company charges for products and services if the business is looking to attain a certain level of profitability.
- Exchange rates have significant effect on companies that do business beyond the boundaries. When companies exchange products or services across

borders causing two or more currencies to become involved, fluctuation in exchange rates can lead to gain or losses for the business.

Solution 3

(a) **Necessary procedures to be carried out by purchasing department while procuring raw materials**

- The manufacturing company must know its needs of a new product whether it needs to be reordered or it is a new item for the company to use.
- The company must have a specific need for example some industries have standards that help determine the specifications, others have no point of reference; the company needs to specify the necessary product by using identifiers like colour, or weight.
- The company needs to determine where to obtain the product for example if they have an approved vendor list if they do not have them they have to search for a supplier using purchase orders or research a variety of other sources like in magazines or internet.
- The company can investigate all relevant information to determine the best price and terms for the product, it also depends on the company's needs or specialized material the company can look for three suppliers before it makes a final decision.
- Make a purchase order which is used to buy materials between a buyer and seller. It specifically defines the price, specifications and terms and conditions of the product or service and any additional obligations.
- The purchase order is delivered by email, personally or using other electronic means and the delivery method is specified in purchasing documents and recipient acknowledges receipt of the purchase order and the two parties should keep copies.
- The expediting of the purchase order address the time lines of the service or materials delivered and it becomes especially important if there are any delays, the issues most often noted include payment dates, delivery times and work completion.
- When the company delivers the product, the recipient accepts or rejects the items, acceptance means that the company has to pay for them.
- The three documents must match when an invoice requests payment that is the invoice itself, the receiving document, and the original purchase order, with these documents it reveals confirmation from both the receiver and supplier and any discrepancies must be resolved before the recipient pays the bill.
- The company must maintain proper records in case of any need of audits. They include the purchase records to verify any tax information and purchase orders to confirm warranty information.

(b) Factors that affect the decision on the type of production system

- Availability of technology; with the developments in technologies like computer aided manufacture, computer aided design and automation allows firms to design, develop and produce products quickly, and much wider variety of similar products to appeal to different segments of the market.
- The nature of the final product, different products will be produced in different ways like the products in farming are tied up with the land that they are produced on whereas producing a new shoe or dress requires very different processes.
- The market size; in situations where the firm is producing large numbers of standardized products, production can be simplified into a number of stages to keep the products on market.
- The resources available; the production system will be restricted by the finance available the number of the premises, machinery and tools available.
- The stage of development of the business that is when firms are first set up they tend to produce small amounts, and their production system will be limited, however as a firm grows it can increase its capacity and so the production system can grow and produce greater variety goods.
- Labour intensive versus capital intensive production. In less developed countries labour intensive is cheap as compared to capital intensive which may be the best option for most firms in Uganda.

Solution 4

(a) Methods of communication that could be used by Odrech's team.

- Oral communication which is face to face communication that involves direct talk and conversation between the speaker and the listener when they are both physically present at the same place. It conveys a personal warmth and friendliness and develops a sense of belonging.
- Written communication, this means putting the message in writing and is generally in the form of instructions, letters, memos, policy manuals, and information bulletins. It is more effective when it is required to communicate information that requires action in the future.
- Non – verbal communication it includes facial expressions and physical movement. Non-verbal communication affects the impressions we make on others like a handshake tells a lot about a person's disposition, a glance, a stare, a smile, a wink or a provocative movement are all various forms of communication that could have been used by Odrech's team.
- Information Technology ,Mr Odrech could have communicated through media by texting a message to the team step in for that short period he went out than leaving the participants confused.

(b) Advantages of written communication.

- It can be used as a reference in case any information is required.
- Written communication can help the authority to delegate the power and authority to the subordinates.

- It is easy to preserve the documents of written communication for future reference and they act as a permanent record. With written communication one can easily present a complex matter in an attracted way.
- It also prevents the waste of money and time without meeting each other the communication and communicate can exchange their views.
- Written communication helps make communication effective. It is more dependable and effective than those of other forms of communication.
- It also helps to maintain the images of both the person and the organization as well.
- It is a proper and complete communication system for there is no opportunity to include any unnecessary information in a written document.
- The information and messages that are preserved can be verified easily and if there is any misunderstanding any party can easily verify the information.

Solution 5

- (a) The meaning of the commonly used terminologies in spreadsheet software.
- (i) A work book
It is a collection of worksheets. The work book comes with a default sheet and the user is able to add as many sheets and also make different changes on it, like change the font color and rename the worksheets
 - (ii) A worksheet
It is a grid of columns normally indicated by letters and rows indicated by numbers. This is the main working area and all the computations are done here.
 - (iii) A row
It is provided space between horizontal grids in a worksheet. Each row is identified by a row number which runs vertically at the left side of the sheet.
 - (iv) A column
This is the vertical arrangement of cells from top to bottom. Each column is identified by a column header which runs horizontally at the top of the sheets.
- (b) Application of spreadsheet software in the day-to-day operations of the business
- Manage daily life work. Mr. Wambedde can use the spreadsheets to manage the daily work e.g. work progress, and team management.
 - Data Analysis. The employees of Exquisite Microfinance can use spreadsheets for data analysis for example they use it to track how many people have paid their loans or those that have defaulted.
 - Storing data. The primary purpose of a spreadsheet is to store data. The Exquisite Microfinance employees can enter their data for example daily transactions into the excel worksheet and it is stored and saved in the computer for reference.

- Use of charts. Spreadsheet software have tools for data visualization incase Mr. Wambedde wants a report, the work can be summarized and presented using different categories of charts. These can also help the mangers get an insight about the report they wanted fast enough since charts summarise data.
 - Future planning. Basing on the current data, spreadsheet can help the managers of Exquisite Microfinance to project their future performance. Additionally spreadsheets are in position to help employees of Exquisite Microfinance is performing and also highlight areas for growth or reconsideration.
 - Task management. Mr. Wambedde can use spreadsheets to assign tasks by creating grids with the names, responsibilities and due dates for each person in the department. Each person in the Microfinance can actually view how tasks are allocated with ease.
 - Budgeting. With the layout consisting of rows and columns, spreadsheet will allow employees of Exquisite Microfinance for quick formatting of the budget.
- (c) The meaning of the term cell referencing.
A cell reference is the means of addressing a cell usually by its column, a letter designation followed by a numeral, its row designation.
- (d) Types of cell referencing.
- **Relative Referencing**
These are cell references when copied across multiple cells change based on the relative position of rows and columns. For example if a simple addition formula in (1 "= (A1 +B1)" is copied to cell C2, the formula would change to "= (A2+B2)" to reflect the new row.
 - **Absolute Reference**
Is a cell address that doesn't change if you copy the formula elsewhere. Considering a simple additional formula in C1=(A1+B1), if the cell reference is to be copied to cell C2 and one wouldn't want the cell reference to change, this is achieved by placing dollar sign "\$" within the cell addresses in the formula.
The absolute reference in the above instance will be "(\$A\$1+\$B\$1)" if the value of cell C2 should be the sum of the cells A1 and B1.
 - **Mixed referencing**
A mixed cell referencing is where one has either an absolute column and relative row or an absolute row and relative column.
For example \$A2 or B\$3
Using the above case \$A keeps the A column intact but the second row updates to the row location of the target cell.
B\$3 B column updates but the third row keeps intact.

Solution 6

(a)

(i) A topology as used in computer networks refers to the logical pattern in which computers, printers, routers, scanners and other devices are connected together in a local area network for communication purposes and sharing resources.

(ii) Types of network topologies

- **Bus topology.** This is a specific kind of network topology in which all of the various devices in the network are connected to a single cable or line.
- **Ring topology.** This is a network topology in which each node connects to exactly two other nodes, forming a single continuous pathway for signals through each node - a ring.
- **Star topology.** This is a topology for a Local Area Network (LAN) in which all nodes are individually connected to a central connection point, like a hub or a switch.
- **Mesh topology.** This is a type of networking where all nodes cooperate to distribute data amongst each other.
- **Tree topology.** This is a tree network is a combination of two or more star networks connected together. Each star network is a local area network (LAN) in which there is a central computer or server to which all the work station nodes are directly linked.

(b) Security measures to be observed by users at Tim Tim Hospital

- Computer users in Tim Tim hospital the computer in such a way that will not interfere with or disrupt the normal operation of computer network that will be set up. The users should minimize the risk of spreading viruses on the network, for example, by scanning storage devices.
- The computer users will have to respect the rights of other users on the computer network of TimTim hospital. These rights include privacy, freedom from harassment and freedom of expression.
- Policies will have to be set to govern the computer usage on the computer network of Tim Tim Hospital. All the computer users will be expected to know and follow these policies established for the computer network of Tim Tim hospital.
- The computer users of Tim Tim hospital should under no circumstance give unauthorized users of the hospital computers access to any computer on the network.
- The administrator of Tim Tim's hospital computer network also will have a responsibility to protect the rights of the computer users on the network and promote respect for applicable laws, and license provisions, to set policies consistent with those rights and responsibilities, and to publicize those policies to the users.

(c)

(i) Ways in which internet usage is likely to be abused by users at Tim Tim Hospital

- Checking personal sites like social media and email during working hours. The users of Tim Tim hospital are likely to spend most of the productive hours on Facebook, Twitter, and WhatsApp; which in the end can be addictive.
- Accessing internet pornography. Internet pornography is sexually explicit content made available online in various formats including images, video files, video games and streaming video. Tim Tim hospital employees who will surf pornography will waste the hospital's internet resources and lower productivity.
- Carrying out personal business on the hospital's band width and computer network. Availability of internet will tempt the employees of Tim Tim hospital to their personal work using the hospital's band width which is an unethical behavior.
- Hacking into other organisation's computer networks. Computer users like the systems administrators or anyone else with Information Technology skills can hack into another organisation's computer network. If this is done by computer users of Tim Tim hospital, it can lead to imposing monetary fines on the hospital.
- Cyber bullying. The Tim Tim hospital computer users are likely to use electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.

(ii) Measures to be employed to minimise internet usage at Tim Tim Hospital

- **Set up policies of internet usage**
Clear guidelines regarding the use of internet via the computer network of Tim Tim hospital will have to be established. This will spell out expectations from the hospital's computer users when it comes to the usage of the internet.
- **Enforce the policy**
The hospital computer users must know from the beginning that the policy is going to be enforced. They have to be made aware of how the policy will be enforced by use of monitoring software. This involves monitoring internet traffic and visually inspecting the browser caches of the hospitals computers or the "cookies" file folder.
- **Establish productivity goals.** One way to determine if the computer users of Tim Tim hospital do not waste time on the internet is to establish productivity goals. If the goals are reasonable, the computer users will be less likely to waste the working time on any other activity if they have a deadline or a specific job to do. By not scheduling regular work or time sensitive projects for the hospital

computer users will create an opportunity for less productivity as the users will be on internet for their personal issues.

- **Discipline internet abusers.** The management of TimTim hospital will have to impose penalties on internet abusers. These penalties have to be well spelt in the ICT policy of the hospital. This will sound a warning to the would-be internet abusers with time.

Solution 7

- (a) Explanation of the steps of the SDLC and one deliverable for each stage to the Head teacher.

(i) Planning phase

Many plans that are essential to the successes of the system development are drafted at this stage. These plans will help the school guide the team through the closure and execution phases.

Deliverable at this: Acquisition plan, Quality Assurance plan, Project Management Plan and concept of operations will be some of the deliverables expected at this stage.

(ii) Requirement analysis phase

After the documents of the planning phase are approved, the requirement analysis phase begins. At this stage, the electronic records system will be defined more in detail with regard to system inputs, processes, outputs and interfaces.

Deliverable at this stage

Functional Requirement Document, test and Evaluation master, interface control document and privacy impact Analysis will be some of the deliverables expected at this stage.

(iii) Design phase

It is at this stage that the requirements which will have been defined in the previous stage into complete, detailed specifications for the electronic records system for Pangen Secondary School to guide on the development phase.

Deliverables: Security Risk Assessment, Conversion Plan, System Design Document, Implementation Plan, Maintenance Manual, Data Retention Plan will be some of the deliverables at this stage.

(v) Development phase

The deliverables in the previous stage are converted into a complete information system. It is at this stage that the Pangen secondary school will get the full realization of the electronic records system. The programmer will do the actual coding following the design that was made in the previous stage.

Deliverables at this stage: Contingency Plan, Software Development Document, Test Files Data, Integration Document, electronic records system will be the deliverables at this stage.

(vi) Integration testing and validation

It is at this stage that individual software modules are combined and tested as a group. The electronic records system will be evaluated to ensure that the developed system meets all technical requirements including performance requirements.

Deliverables: test Analysis Report, Test Analysis, Approval Determination, Test problem Report will be the deliverables of this stage.

(vii) Implementation

At this stage, the electronic records system for Pangen Secondary School will be installed. All modules are should be operational and the system should be fully functional

Deliverables: The electronic records system for Pangen Secondary School, Change Implementation notice, Version Description Document, and the User documentation will be the deliverables of this stage.

(b) Disadvantages that Pangen Secondary School will face as a result of using the SDLC.

- Documentation may be very expensive and time consuming for the Pangen Secondary School. Software keeps changing, as the system is being maintained, user documentation changes and therefore needs to be updated. This might be expensive for the School.
- SDLC encourages stiff implementation rather than creativity. The steps are predefined, indicating that the developer of the electronic records system may not have the chance to use alternative approaches because they simply have to follow the stipulated phases of the SDLC.
- Often times, it may be difficult for the school to test performance of the system not until the system is fully coded. This is so because testing is normally done after coding, the SDLC doesn't give a provision of testing at each individual stage.
- The school may get an electronic records system as understood by the developers but might not really meet the school needs since design is based on user requirements.

(c) Alternative methodologies to SDLC the developers can use to come up with the electronic records system.

• Waterfall prototyping

When using the prototyping the developers will build a simplified version of the electronic records system and then present it to the school to be used. Then the employees of the school provide feedback to the developers, who will then go back and refine the system requirements to incorporate

additional information. Once the user requirements are defined the prototype code is thrown away and an entire new program is coded.

- **Joint Application Design (JAD)**

With this method the system users who are the employees of the school and the application developers will hold collaborative workshops called JAD sessions. The JAD shortens development time and improves the quality of the final product by focusing on the upfront portion of the development life cycle, thus reducing the likelihood of errors that are expensive to correct later.

- **Object Oriented Development (OOD)**

The object Oriented Software consist of three Macro processes i.e. Objected Oriented Analysis, Object Oriented Design and Object Oriented Implementation.

This method will describe the functioning of the school using several tables. These tables will then be analyzed with the purpose of identifying the necessary changes that must be implemented to improve and optimize the functioning of the school. Implementation of the suggested changes in the school's operation is then put into effect by developing the information system of the school.

- **Rapid Application Development (RAD)**

This methodology will use Join Application and prototyping to define requirements and radically decrease the time needed to design and implement system.

EXAM 5 SOLUTION AUGUST 2019

Solution 1

(a) **Factors that caused conflict at St. Marks S.S**

From the above scenario there is behavioral conflict where some teachers think they are more favored than others and in the same vain the head teacher has misinterpreted the staff thinking that he has satisfied their needs which was not true, caused conflict in the school.

The conflicts at St Mark S.S were as a result of the discrepancy between the goals set by the school and the individual teachers who are after satisfying their own needs like requesting for loans to purchase cars, asking for increase on their pay but not implementing the vision of the school as is understood by the head teacher and other stake holders.

Also as the population of students increased in 'O' level this caused worry to teachers who needed an addition allowance on their monthly pay because it required more efforts in supervising students, and too much workload also increased especially when it came to marking which became notable cause conflict.

It is assumed that if the subordinates are not allowed to participate in decision making process, then they will show resentment which will induce conflict as well. In addition if teachers were to be allowed greatly participate in decision making the levels of conflict would also tend to be higher due to greater awareness of individual differences.

Ambiguity of roles that were to be performed by teachers, he had many professional teachers with different specialties for example the mathematics and English teachers who would mark books everyday and yet the numbers were high while others were also complaining of weekend tests which caused conflict since they received consolidated pay which they thought was not enough as compared to the work load.

The scare resources were a big a challenge in this school, little fees was collected, and government capitation grant always delayed yet the head teacher had to share the little resources among the many staff which was demanding an increment in allowances and amidst that scarcity he selected a few teachers whom he advanced with loans to buy cars using school funds.

There was also poor communication since some teachers did not understand how the system operated. They knew that with an increase of

students would lead to an increase in the income of the school and they ignored the fact that also expenditure increases at the same time and whenever the Head teacher would talk to them they could not easily understand it and this caused conflict.

(b) **Strategies that should be applied by the stakeholders at St. Mark S.S to manage the conflict.**

The teachers can use the smoothing strategy that is covering up the conflict by appealing the need for unity rather than addressing the issues of conflict itself. Individual teachers who have internal conflict like feeling jealousy of their fellow teachers who have cars they can ignore and forget about the conflict.

A compromise in the conflict can be reached by balancing the demands of the conflicting parties and bargaining in a give and take position to reach a solution. The teachers and head teachers with the board of governors can bargain and see if they can increase their allowances.

The head teacher can call the staff meeting and discuss why it's necessary to teach students extra lessons, weekly assessment tests and teachers can give in their own opinions and agree on the way forward as a team.

The head teacher can apply problem solving that is confronting the conflict in order to seek the best solution to the problem, since according to the scenario the head teacher had emphasized team work but there were still different opinions which needed attention to through discussions and respect for differing viewpoints.

The head teacher can also redesign the school structure and work flow so that it is decentralized like the Heads of department can be given the mandate to make decisions on matter concerning their departments.

The board of governors of the school as one stakeholder who monitor and implement government policies can hold meetings with the head teacher and teachers as well and resolve some of the challenges that are faced by the staff and the school as well.

Solution 2

(a) Factors that SOTAN Uganda Ltd would have considered when tagging prices onto their newly introduced product on market.

- When the new product was introduced on the market the management needed to consider the initial development and marketing costs for example the raw materials used, hiring of labour, and other costs of construction of building the factory that is what they invested in at first and a certain small percentage would be included in the price.
- The manufacturer would have also considered the activities of his competitors for example, if the product was of particular advantage like it was original natural with no chemical added unlike other Vaseline, this would help to overcome his competitors then they would drop their prices, SOTAN the manufacturer would follow the same suit to maintain her customers and attract more through advertising and sales promotion.
- The state of the market for the product, for example since there was a high demand for the product, considering the shortage of supply, then SOTAN needed to place his price higher to be able to break even since SOTAN products were of quality, their customers had trust in them already.
- Also SOTAN brought the product on market at a time when the economy was down business was slow this required to set prices at a much affordable rate to its customers.
- Since the company sells / supplies to one of the big NINA super markets in South Africa the buyers have a bigger share of bargaining power over the price the supplier will set the price in agreement with them and this has given SOTAN an opportunity to price the product higher compared to domestic market which helps to recover the initial cost.
- Also prices cannot be set without reference to other parts of the marketing mix. The distribution channels used will affect price, different prices might be charged for the same product sold direct to consumers or through intermediaries this will allow the product to be available everywhere in the country.

(b) Importance of the products life cycle in the business planning of SOTAN Uganda Ltd.

- The introduction stage is the most important since it raises the awareness of its customers to get to know the product. The firm's costs are high as profits are nonexistent or very little due to low sales and light distribution of promotion costs.

- The growth stage is important for SOTAN Uganda Ltd to be aware of, it is a period of rapid revenue gain, sales have to increase and the product need to be accepted. The costs are reduced due to economies of scale, sales volume increases significantly and profitability begins to rise.
- At maturity stages the costs are decreased as a result of production volumes increasing and experience, increased competitors enter the market, prices tend to drop due to the proliferation of competing products and the brand differentiation with feature diversification is emphasized to maintain or increase the market share.
- The saturation stage the company experienced a decline or stagnant in the volume of sales the prices become very competitive and profitability also decreases and this becomes more of a challenge to production however, this does not mean that the business should close.
- The decline stage is the final stage of the cycle when the sales, profits and cash flow will become weaker, therefore at this level the company should think of withdrawing quietly without hurting its customers.

Solution 3

(a) Stages of decision making process in an established organisation;

- Defining the problem, this involves asking the right questions, isolating the crucial problem from other issues. A problem statement should be developed, described as specifically as possible, identify the extent to which the symptoms of the problem and when and where they occurred and the underlying causes thought to be.
- Collection of the relevant data to determine the root cause of the problem, some information relating to the problem must be collected. The Defining the problem information can be gathered from internal or external sources of the organisation.
- Diagnosis and analysis of the problem, the collected information is diagnosed and subjected to a study. The quality of information gathered determines the quality of decision that is, if the information is not based on facts, then judgment must be made about the degree of certainty and reliability of information.
- Finding the root cause of the problem. The actual cause of the problem should not be confused with symptoms which are simply the indicators of the underlying causes and it should be established before a solution is made.
- Identification of resources and constraints i.e. before efforts are made to solve the problem, a critical look must be made at the resources available

to be used in the solution. At any given time there can be more than one problem such problems must be prioritized according to the urgency and the resources available and the problem of the highest priority must get the first attention.

- Development of criteria for successful solutions, this is to come up with alternative solutions for a problem. The criteria must be consistent with the objective so that the decision that meets the criteria will achieve the given objective.
- Generation and development of alternatives. All possible solutions should be considered because the most obvious solution may not be the optimum solution although creativity should be encouraged to develop a variety of alternatives.
- Evaluating alternatives and selecting an alternative with the most advantages is most critical in decision making, experience and effectiveness of the judgment principles are key therefore one needs to compare each alternative for their positives and negatives.
- Implementation of the decision; this is about putting the selected alternative into action and seeing it through its completion. Convert your decision into a plan or a sequence of activities and execute your plan by yourself or with the help of subordinates.
- Monitoring feedback, for it provides the means of determining the effectiveness of the implementation decision and always builds a process which would give periodic reports on the success of the implementation.

(b) Disadvantages of group decision making in an organization.

- The process is time consuming, getting them organized, planning and coordinating their meetings, defining and explaining to them the purpose of the meeting and the goals, reaching the solutions takes a lot of time.
- The participants in the decision making have their own interests to protect which may lead to personality conflicts that may create interpersonal obstacles which diminish the efficiency of the process as well as the quality of the decision.
- When it is a very big group some members may simply agree with the others for the sake of agreement since there are social pressures to conform to. This makes other good members to be silent and follow the consensus of the majority members.
- The group may focus on one or few suggested alternatives and spend all the time in evaluating these and may never come up with other ideas, thus limiting the choices.

- Decisions made by the group may not always be in agreement with goals and objectives of the organization especially when the goals of the group and those individuals do not reinforce each other.
- In group decision all the participants involved have their own ideas which are in their favor; in turn they protect their own interest. This brings disparities among the members in the group which is not very healthy leading to personal conflicts among them.
- Also some members of a group may start having a feeling that they are different from others and this actually leads to informal groups within the larger formal group, which may generate negative sentiments towards other groups or people outside the group.

Solution 4

(a) Different leadership styles

- **Authoritarian (autocratic) style:** This focuses its power onto the management and all interactions within the group are more towards the manager. The manager alone exercises decision making and authority for determining policy, procedures for achieving goals, work tasks and relationships, control of rewards or punishment.
- **Democratic style** is where the focus of power is more with the group as a whole and there is greater interaction within the group and the leadership functions are shared with members of the group, the manager is more part of team, the group has a greater say in decision making.
- **A laissez – faire (genuine) style,** the manager observes that members of the group are working well on their own, and he consciously makes a decision to pass the focus of power to members, to allow them freedom and action, to do as they think best and not to interfere, but is readily available if help is needed.
- **Paternalistic style of leadership,** the leaders work by acting, showing parental figure and taking care of their subordinates as parents. The leader supplies complete concern for his workers and in return receives the complete trust and loyalty of his people.
- **Transactional leadership style;** the leaders focus on their leadership by motivating their followers through a system of rewards and punishments. It identifies the needs of their followers and gives rewards to satisfy those needs in exchange of certain level of performance.
- **Transformational leadership style** is where the leader is not limited by his or her followers' perception. The leaders inspire their followers with a sense of purpose and excitement, they also create a

vision of what they aspire to be, and communicate their idea to their followers.

(b) Differences between autocratic leadership and democratic leadership styles.

- Autocratic leadership styles create a strict division between the one giving the orders and those expected to follow them i.e. they tend to make decisions independently which can result into abuse of power while democratic leadership authority is centralized and power is derived from being in strict control of situations.
- Democratic leadership is more effective than autocratic. The democratic leaders offer guidelines to their team members and seek their input on making decisions while autocratic decision generally get made much more quickly and it works best in situations where rapid decisions are often essential.
- There is centralization of power in autocratic leadership while democratic leaders prefer to delegate to the group members.
- Autocratic leadership is task oriented that gives more emphasis on the completion of the task successfully while democratic leadership is relation oriented, which aims at improving the superior subordinate relationship by sharing powers with the group members.
- Autocratic leadership shows high level of control is presented while democratic involves the low level of control.
- There is freedom of expression and independence in thinking in democratic leadership which is not in the case of autocratic leadership.

Solution 5

(a)

(i) Presentation software

This is application software that is used to create visual aids for effective presentation of ideas, images, solutions, topics, messages and any other information in slides to a group of people with the use of a projector and a computer.

(ii) Slide show

This is a presentation of a series of pictures, slides of information on a projection screen or electronic display device in a prearranged sequence either automatically at regular intervals or manually controlled by the presenter with use of computer arrows or a presentation remote control device.

(iii) **Animation effects**

This is a feature of presentation software that allows various elements on each slide to appear after a certain amount of time or when a presenter presses a button, add sound to the presentation and they allow the presenter to decide which elements ore and how they move.

(b)

- **Normal view.** Normal view is the main editing view, where you write and design your presentations.
- **Slide sorter view.** Slide Sorter view gives you a view of your slides in thumbnail form. This view makes it easy for you to sort and organize the sequence of your slides as you create your presentation, and then also as you prepare your presentation for printing. You can add sections in Slide Sorter view as well, and sort slides into different categories or sections.
- **Slide show view.** Use Slide Show view to deliver your presentation to your audience. In this view, your slides occupy the full computer screen.

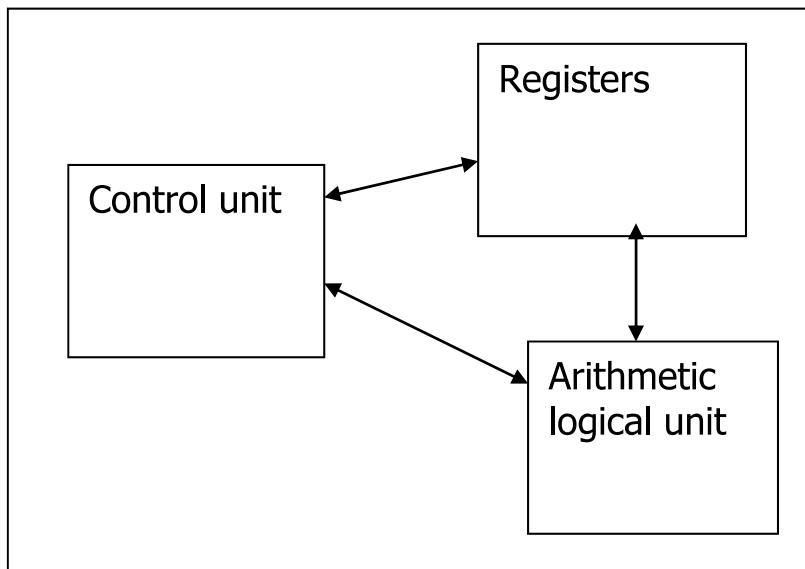
(c) Guidelines Mr. Mayo follows when creating and effective presentation in (b) above.

- Font style and size.
Mr. Mayo chooses a font style and size that his audience can read from a distance.
Mr. Mayo keeps his text simple by using bullet and short sentences trying to keep each in one line. This helps him to actually present his information other than reading it.
- He uses art and graphics to convey his message rather than using so many words. His audience can easily relate to the art and graphics illustrations than to mere words.
- Mr. Mayo used charts and graphs to summarize numerical information. This is so applicable when he is presenting financial statements.
- Mr. Mayo uses high contrast between background colour and text colour. This helps him to set a visually satisfying contrast level with either a light background with dark coloured text or dark background with light coloured text.
- Mr. Mayo creates minimal slides. This aids him to maintain a clear message and to keep his audience attentive and interested.

Solution 6

(a) Using an illustration explain the functions of the three main subsystems or functional units of the Central Processing Unit.

Structure of the Central Processing Unit (CPU)



Functional units of the central processing unit

- (i)
- (ii)
- (iii)

Control unit
Arithmetic logic unit
Registers

The Control Unit (CU)

This part interprets sets of instructions and transmits directions to the other components of the computer system. This part controls all the other parts of the computer systems.

Arithmetic logic unit (ALU)

The ALU contains the circuitry that performs data manipulation. This part is responsible for mathematical functions, which include, multiplication, division, subtraction and advanced mathematics such as logarithms, trigonometry.

Registers

These are used for special purpose high speed temporary storage locations of data and instructions which are in use. They hold data needed quickly or frequently prior to execution and stores information about the status of CPU and currently executing programs.

(b)

- (i) Meaning of the term "port" as used in the case study.

A port refers to a physical connection point on the motherboard where different cables and storage devices are connected to enable communication to external devices.

- (ii) Mention three types of port that can be found on a motherboard.

Ethernet port

An Ethernet port is an opening on computer network equipment that Ethernet cables plug into they accept cables with RJ-45 connectors

USB port

A USB port is a standard cable connection interface for personal where printers, scanners, external hard drive can be connected.

Parallel port

A parallel port is a type of interface found on computers for connecting peripherals. Parallel ports send multiple bits of data at once.

Serial port

This is a connector by which a device that sends data one bit at a time may be connected to a computer

(c) Functions of an interruptible power supply (UPS)

- (i) High and low voltage protection, when electric supply is too high or too low, the UPS built in regulator will make the adjustments to keep the electricity in range that can be used. The UPS does this when its battery converts alternating power to direct power.
- (ii) Surge protection. General UPS uninterruptible power supply is installed in order to protect equipment from power surges.
- (iii) UPS provides temporary electrical energy when there is a power failure at the main source. This can allow users to save their work. UPS automatically perform the stabilization voltage when the input voltage changes so that the output voltage used by the computer system is in form of stable voltage.

(d) Explanation of the use of the following power cables:

(i) VGA cable

These use a series of pins to transfer video signals between such as monitors and the computer.

(ii) Ethernet cable

This cable is used to join two network devices. The cable contains four thin wires that allow data to be transferred at high speeds between the devices in the form of a series of electrical pulse.

(iii) SATA cable

Transfer data between the computer's internal component and the motherboard.

(iv) USB cable

These cables allow peripherals to connect to the computer and transfer data at a high speed.

Solution 7

- (a) (i) Data security: These are measures and controls that are put in place to protect data from unauthorized access, altering, corruption and loss.
- (ii) Software security is an idea implemented to protect software against malicious attack and other hacker risks so that it continues to function properly under such potential risks. This guarantees software integrity, authentication and availability.
- (b) (i) Integrate security into the system development life cycle (SDLC) for DIKST bank's customized accounting software. Building security into the SDLC of the bank's accounting software will improve efficiency and reduce costs if it is done the right way.
- Continuously patch the accounting software. Majority of software attacks exploit known vulnerabilities associated with old or out-of-date software. It should be ensured that all of the accounting software for DIKST bank have up-to-date patches.
 - Educate and train the accountants of DIKST bank. DIKST bank should have a well-organized and well maintained computer systems security training curriculum for the accountants so that they can play a role in protecting the accounting software.
 - Automate routine tasks. Attackers resort to heavy automation to detect open ports, security misconfigurations and so on. Use of manual techniques cannot defend against such attacks. The ISSO of DIKST bank has to automate day-to-day security tasks such as analyzing firewall changes and device security configurations.
 - Enforce least privilege. The ISSO has to ensure that privileges given to the accountants are the minimum required to perform their job functions. This will reduce the unnecessary access rights that may cause a variety of compromises.
- (ii)
- Establish strong passwords and change them regularly. Passwords can be on financial documents themselves and on all the bank's computers. This is to avoid unauthorized access to the financial documents of DIKST bank.

- Data backup. Financial documents in digital form should be backed up on external storage devices. The external storage devices on which financial documents are backed up or have to be kept away remotely from where the computers are.
- Use antivirus software. Viruses corrupt data causing it to lose its integrity, availability and authentication. Antivirus software can protect the financial statements of DIKST bank from being corrupted.
- Using Data-leakage prevention software. This is a monitoring tool which the ISSO of DIKST will have to set up at key network touch points to look for specific information coming out of the bank's internal network. It can be configured to look for any bits of information relevant to the bank's financial documents that would indicate a breach.
- Educate the accountants about safe online habits and proactive defense. When surfing the web, it is common for any unsuspecting to click on a link or download an attachment that is harmless only to discover they have been infected with a virus. Educating the accountants about what they are doing and how it can be dangerous is a more effective strategy than having the ISSO professionals to constantly react to the accountants' bad decisions.

EXAM 6 SOLUTION DECEMBER 2019

(a) Patterns of communication used by the manager of BANAL Company Ltd.

- **Wheel network.** In this pattern information flows to and from one central member of the group. Mr. Okiria Patrick, the manager, informed the heads of departments that he himself will always pass on important information concerning the organisation and that any information that is critical the heads of departments would always inform the general manager before they communicate to their fellow employees in the department.
- **Chain network.** With this pattern, members communicate with one another in a predetermined sequence, at BANAL Company Ltd heads of departments were encouraged to communicate to their fellow team members and discuss matters concerning their departments. This was done to make sure that the work is performed in a predetermined order to avoid mistakes.
- **Circle networks.** In this pattern, group members communicate with others who are similar to them in experiences, beliefs, areas of expertise, background, office location, or even where they sit when the group meets. At BANAL Company Ltd they emphasized this pattern by holding early morning brief meetings and every department to report on challenges and achievements of the previous week; this was to forge a way forward on key areas.
- **Channel network.** With this pattern, it is characterized with high levels of communication. Every member communicates with every other team member. At BANAL Company Ltd employees would always interact during time for breaks to share their work experiences and since meals were central every employee in the company was encouraged and automatically each would find their level.
- **Y pattern.** This pattern is more complicated and is separated into three groups where the other group members can communicate with the other members group through the leader only.

(b) Attributes of effective communication at BANAL Company Ltd

- With a good number of patterns of communication the manager was always clear and could easily clarify in case the communicated message has not been understood during the brief meetings.
- The manager and heads of departments were always direct in sending information to the concerned employees in the company.
- Also since the manager encouraged proper communication in the organisation, relevant information was very key and it was mostly encouraged, this could easily reduce on wastage of time.
- The manager used appropriate language that was always simple and easy for every employee to understand what has been communicated at all levels.

- Everyone who communicated using different patterns especially during the time for meals and Monday briefings would encourage team members to be attentive and encourage them to give feedback from whichever department communicated.
- The manager, Mr. Okiria Patrick, ensured that communication patterns shouldn't be expensive to the company to maintain and that also every employee should be in the know of what takes place in the organisation.
- All the information was directed to the appropriate people as defined by the reporting structure of BANAL Company Ltd which made the whole system easier.
- At BANAL Company Ltd as observed communication was not only the responsibility of the manager alone but also other employees were given information. Thus, having time to communicate to your subordinates is key in communication.

Solution 2

- (a) The Definition of decision making.
Decision making is process of choosing the best alternative for reaching objectives. Decision making is the process of identifying and choosing alternative courses of action in a manner appropriate to the demands of the situation.
- (b) Differences between programmable and non-programmable decisions.
- Programmable decisions are repetitive or routine and made according to specific procedure while non-programmed decisions are one-shot; they just come about depending on the urgency of the problem that has 'come up.
 - Programmable decisions, here problems are well structured and alternatives are well defined while non-programmable, managers face ill structured problems.
 - Programmable decisions, the problems are solved and decisions implemented through established policy directives, rules and procedures while non-programmable decisions require a custom made response and are usually handled by top management.
 - Programmable decisions are delegated to lower level managers while non-programmable decisions are made by top level managers since they are made in unique circumstances and the result of such decisions are often unpredictable.
- (c) **Factors that influenced the general manager at KAYIZIK Farm to make a quick decision.**
- Intuition. Effective decision makers like Kalyemera Michael, do not rely on analytical and methodological techniques alone. Being that he was a veterinary doctor he had experience based on reasoning by weighing and balancing the end result as options are taken.

- Personality and cognitive intelligence of the general manager influenced his ability to find an effective solution of the moment when he realized that Newcastle was killing most of the birds on the farm.
- Emotional intelligence. The general manager was very understanding, emphatic to the owner of the farm. He had self-management skills that helped him to prevent any more negative consequences that would have arose at the farm.
- Quality and accessibility of information. The general manager had enough information about Newcastle disease and how dangerous it could affect the poultry farm economically. So to save the face of the farm and avoid more losses, he had to sell the surviving birds.
- . All Values decisions are based on values. The general manager placed a high value on the farm and tried to avoid alternatives that create hardships to the owner of the farm and employees who would have been looked at as careless.
- Degree of certainty. The more certain the general manager would have become the outcome of the decision, he was calm and confidently took a decision. He was able to calculate the risk of selling the surviving birds and the potential return in relation to the worth cost the farm will have incurred.

Solution 3

Arguments for social involvement of a business

- Improvement of social environment benefits both society and business. Society gains through better neighbours and employment opportunities, business benefits from a better community since the community is a source of its work force and the consumer of its products and services.
- Social involvement discourages additional government regulation and intervention. The result is greater freedom and more flexibility in decision making for business.
- Problems can become profits. Items that may once have been considered waste (e.g. empty soft drink cans) can be profitably used gain.
- Modern society is an interdependent system and the internal activities of the enterprise have an impact on the external environment.
- Public needs have to be changed, leading to changed expectations. Therefore businesses should receive their charter from society and consequently have to respond to the needs of society.
- Business has got the resources. Specifically business should use its talented managers and specialists as well as its capital resources, to solve some of the society's problems.
- It's better to prevent social problems through business involvement than to cure them. It may be easier to help the hard-core unemployed than to cope with social unrest.

- It is a competitive tool used by businesses to advertise themselves to attract more customers.

Arguments against social involvement of a business

- Social involvement can weaken the international balance of payments. The cost of social programs, the reasoning goes would have to be added to the price of the product. Thus companies selling in international markets would be at a disadvantage when competing with companies in other countries which do not have these social costs to bear.
- Business people lack the social skills to deal with the problems of society. Their training and experience is with economic matters and their skills may not be pertinent to social problems.
- There's lack of accountability of business to society. Unless accountability can be established, business should not get involved.
- The primary task of business is to maximize profits by strictly focusing on economic activities. Social involvement could reduce the economic efficiency.
- Society must pay for the social involvement of business through higher prices. Social involvement would create excessive costs for business, which cannot commit its resources to social action.
- There's not complete support for involvement in social actions. Consequently, disagreements among groups with different viewpoints will always cause friction in the long run.

(a) Impact of advancement in technology to business organisations.

Positive Impact

- Businesses can easily access information about their competitors by using internet.
- With technology advancement it has helped business to get to know where to get cheaper sources of goods and services.
- There's easy cash transfer from one business to another, one locality to another and payment of suppliers which facilitates business operations.
- Also businesses can easily design different trade items like furniture, motor vehicles, clothes, etc. which attract a wider market.
- There's massive production and quality production as a result of value additions due to technological advancements.
- It has also improved agriculture mechanization through marketing on social media, use of modern equipments on farms, which has led to better quality output.
- Technology advancement leads to product research and development.
- Technology advancement led to improved and quicker movement of goods like use of air transport, perishable goods and as well it saves time.

Negative Impact

- There has been increased money laundering by using MTN cards, money transfers, etc.
- The business sector is facing the challenges of data security and privacy since information can easily be hacked into.
- Also there has been increased unrest from use of guns which leads to insecurity thus hindering quick development of businesses in some areas.
- Less productivity of employees because they waste time on new technology for example, playing games, twittering, chatting, etc.
- Increased production of low quality products that increase competition for example shoes from china, Taiwan, etc.
- There's loss of data through viruses and failure to get proper storage of computers and thieves.
- Decline/collapse of some businesses due to failure to cope with the speed at which technology is advancing.

(b) How internal factors influence the business environment.

These are factors that are usually under the control of a business and include;

- The objectives of the business should be focused the quality, quantity, and in good relations with society where the business is located.
- The policies of business should be favourable to the employees and the general growth of the business.
- The production capacity should be in relation with what the capacity/business can afford at a particular time any overproduction may affect its demand and supply.
- Better and advanced production methods need to be adopted in order to increase on the output of the business.
- Businesses need to employ good well organised management information system that are not complicated to the users but not easy to duplicate.
- There's need for high level participation of management in the day to day running of the business to avoid careless mistakes or poor/ wrong decisions that can be made by the subordinates.
- A proper and well organised experienced composition of board of directors has to be instituted, that can ably plan for the business to develop further.

Solution 5

(a) Definition of the terms in the context of GumaGuma Microfinance.

(i) Peer-to-Peer computerised data communication system.

- A peer-to-peer computerised data communication system is a simple network where each computer in each individual branch of GumaGuma Microfinance will double as a node and a server for the files it exclusively holds.

- A peer-to-peer computerised data communication system will be a network of computers in with no dedicated file server for GumaGuma Microfinance configured to allow certain files and folders to be shared with everyone or with selected users in each of its branch.
- (ii) Client/server computerised data communication system

The client / server data communication systems in the context of GumaGuma Microfinance refer to a mode of communication between multiple computers of its customers on a network that distinguishes one or more of them on its server. Each customer can send requests to the server of GumaGuma Microfinance.
- (b) Explanation of the basic components of a computerised data communication system in the scenario, and as applied to the setup of GumaGuma Microfinance.
 - **The message.** This is the data or information to be communicated between the branches of GumaGuma Microfinance or amongst staff with in a particular branch. It may consist of text, number, pictures, sound, video or any a combination of these.
 - **Sender.** This is a device that sends message and it is also called source or transmitter. Computers in the different branches of GumaGuma Microfinance will commonly be used as senders. These computers can be Clients or servers.
 - **Receiver.** This is the device that receives the data that was sent by the Sender. A receiver for GumaGuma Microfinance will be commonly computers in its different branches.
 - **Transmission medium/ communication channel:** This is the path (Wireless or wired) that will connect both the senders and receivers of information in GumaGuma Microfinance whether with in an individual branch or across different branches. It will be used to transmit data. The medium can be a copper wire, a fibre optic cable, microwaves twisted-pair cable, coaxial cable, etc.
 - **Encoder and decoder.** The encoder is a device that will convert digital signals in a form that can pass through a transmission medium. The decoder is a device that will convert the encoded signals into digital form. Senders and receivers of GumaGuma Microfinance will not communicate successfully without encoders and decoders.
 - **Protocol.** A protocol is a set of rules that applies on the full data communication procedure. This is like an agreement between the two devices to successfully communicate with each other. For example, how the data will be sent from one branch of GumaGuma Microfinance to another, or from one computer to another with in a branch, how the data will be traveling, how to ensure that full data has received, how to handle errors in transmission etc. is the protocol in this case. Both devices will follow the same set of rules or protocol so that they understand each other.
 - **Switches**

This is a networking hardware GumaGuma Microfinance will use to connect devices on a computer network. Switches uses packet switching to receive, and forward data to the destination device.

- **Routers**

A router is a networking device that will be forwarding data packets between computer networks in GumaGuma Microfinance. Routers will perform the traffic directing functions on the Internet.

(c) Safety measures GumaGuma Microfinance should consider putting in place.

(i) Pee-to-Peer computerised data communication system.

- **Access control.** This is a security technique that GumaGuma will use to regulates who or what can view or use resources in a computing environment. It is a fundamental concept in security that minimizes risk to the business or organization of GumaGuma microfinance.
- **Encryption.** This will be used by GumaGuma microfinance through the process of converting information or data into a code, especially to prevent unauthorized access to its computer system.
- **Fire wall.** A firewall is a network security system that will be used to monitor and control incoming and outgoing network traffic based on predetermined security rules. The firewall will establish a barrier between the trusted GumaGuma's internal network and untrusted external network. This will help GumaGuma to protect its network from unauthorized access henceforth protecting GumaGuma's information.
- **Policies.** A good network security policy is a formal document that outlines the principles, procedures and guidelines to enforce, manage, monitor and maintain security on a computer network. If GumaGuma designs a good network policy it will help ensure that the computer network is protected from any act or process that can breach its security.
- **Anti-Virus software.** Antivirus programs will help GumaGuma microfinance to protect its computer system from malware (malicious software). This will help avoid the deletion and corruption of files and data or slow your computer and allow hackers to steal GumaGuma's personal data.
- **Password.** **Password** protection is a security process that protects information accessible via computers that needs **to be protected** from certain un-authorised users. **Password** protection will allow GumaGuma's data to only be accessed to those with authorized **password to gain access to** certain information.
- **Creating security awareness.** GumaGuma microfinance needs to train its staff towards the good practice and ethics in information security management. Sensitisation will help cause awareness in data security.

- Network security policy governing the handling and transmission of data in the Peer-to-Peer network of each branch of GumaGuma Microfinance will have be put in place and enforced.
 - **Power** backup system will be used to provide energy to GumaGuma when the primary source fails.
- (ii) Client/Server computerised data communication system.
- **Authentication.** Authentication tools will have to be used by GumaGuma Microfinance staff to ascertain that they are dealing with their true customers on line. This will be accomplished by identifying someone through one or more of three factors: something they know, something they have, or something they are. For example, the most common form of authentication today is the user ID and password. In this case, the authentication will be done by confirming something that the user knows (their ID and password).
 - **Access Control.** Once the customer of GumaGuma Microfinance has been authenticated, the next step will be to ensure that they can only access the information resources that are appropriate. This will be done through the use of access control. Access control will determine which customers are authorized to read, modify, add, and/or delete information.
 - **Encryption.** Encryption is a process that the staff of GumaGuma Microfinance will use to encoding data upon its transmission to its customers so that only authorized individuals can read it. This encoding will be accomplished by a computer program, which encodes the plain text that needs to be transmitted; then the recipient receives the cipher text and decodes it (decryption).
 - **Password security.** Good password policies will have to be put in place in order to ensure that passwords of the customers of GumaGuma Microfinance cannot be compromised. For example, they shouldn't easily be guessed, they should be changed regularly, they should not be given away.
 - **Backups.** Customers' data on the corporate servers GumaGuma Microfinance will have to be backed up comprehensively and regularly. GumaGuma Microfinance can contract with a service provider to back up all of their data or they can purchase large amounts of online storage space and do it themselves. They can also acquire technologies such as storage area networks and archival systems which are now used by most large businesses given that its branches are spread all over the country.
 - **Fire wall.** A firewall is a network security system that will be used to monitor and control incoming and outgoing network traffic based on predetermined security rules. The firewall will establish a barrier between the trusted GumaGuma's internal network and untrusted

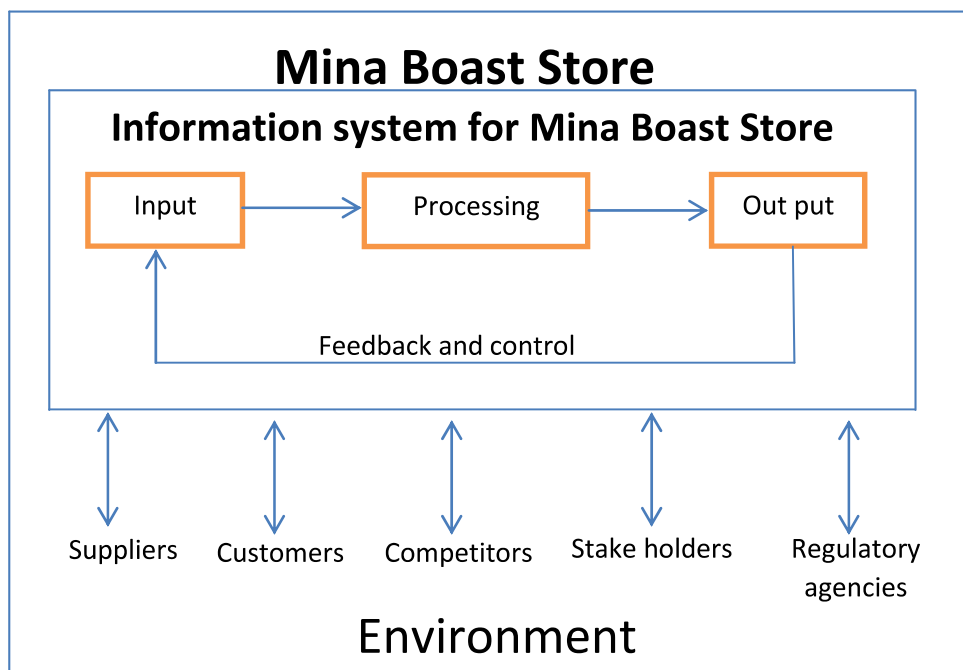
external network. This will help GumaGuma to protect its network from unauthorized access henceforth protecting GumaGuma's information.

- **Policies.** GumaGuma should come up with a security policy detailing the principles, procedures and guidelines to enforce, manage, monitor and maintain security on a computer network. With defined security policies, employees of GumaGuma Microfinance will understand the who, what, and why regarding their organization's security, and how risk can be mitigated
- **Anti-Virus software.** Antivirus programs will help GumaGuma microfinance to protect its computer system from malware (malicious software). This will help avoid the deletion and corruption of files and data or slow your computer and allow hackers to steal GumaGuma's personal data.
- **Password.** This is a string of characters used to verify the identity of a user during the authentication process. Password protection will allow GumaGuma's data to only be accessed to those with authorized password to gain access to certain information
- **Creating security awareness.** GumaGuma microfinance needs to train its staff towards the good practice and ethics in information security management. Sensitisation will help cause awareness in data security

Note: All the security measures can work for either of the data communication systems

Solution 6

- (a) Illustrate what the second paragraph is trying to put forward.



- (b) Explain the necessity of the given activities below and their deliverables in the IS of MBS.

(i) Input.

The Input activity captures or collects raw data from within MBS or from its external environment. The external environment of MBS comprises of customers, suppliers, stakeholders, regulatory agencies and competitors. It involves capturing and assembling elements that enter the system of MBS to be processed. For example, items bought, items sold, etc., which must be secured and organized for processing.

(ii) Processing.

Processing converts the raw input from the input activity in (i) above into a meaningful form. Processing involves transformation process that converts input into output. An example is carrying out mathematical calculations concerning how much has been spent on bought items for the store.

(iii) Output

Output transfers the processed information from the processing activity in (ii) above to the people who will use it or to the activities for which it will be used. Examples include weekly reports about how much stock has been bought, sold off and what is remaining in MBS.

(iv) Feedback

Feedback is output that is returned to appropriate staff of the MBS to help them evaluate or correct the input stage. It is data about the performance of the IS of MBS. For example, information about the weekly sales performance is feedback to the sales manager of MBS.

(v) Control

Involves monitoring and evaluating feedback to determine whether a system of MBS is moving toward the achievement of its goal. The control function then makes necessary adjustments to MBS's input and processing components to ensure that it produces proper output. For example, a sales manager of MBS exercises control when he or she reassigns salespersons to new sales territories after evaluating feedback about their sales performance.

Solution 7

- (a) The roles of the given computer hardware components.

(i) The system unit

A system unit is the casing that houses the primary hardware devices required for the computer to perform as expected. The devices housed in the system unit include the motherboard, CPU, RAM, expansion slots and other components, as well as the case in which these devices are housed. It also has ports where external input and output devices can be attached to for them to communicate with the CPU.

(ii) Input devices

The role of input devices is to provide data and control signals to an information processing system, particularly, a computer.

(iii) Output devices

Output devices relay the response from the computer in the form of a visual response and sound.

(iv) Storage devices

Storage devices are any computing hardware used for storing, porting and extracting data files and objects. They can also hold and store information both temporarily and permanently, and can be internal or external to a computer, server or any similar computing device.

(b) Input devices MMT will have to acquire as part of their computer hardware components that will translate text, sound or graphics into digital, as the need will arise.

- **Keyboard** - The keyboard will be used to type information (text) into the computer or input information. This text will be converted to digital, a language that computers understand, for the expected results by MMT.
- **Scanners**- allow for the transfer of pictures and photographs into a digital form for modification on the computer. A scanner 'scans' the image from the top to the bottom, one line at a time and transfers it to the computer as a series of bits or a bitmap. MMT can then send that image as a fax or even print it out. With optional Optical Character Recognition (OCR) software, MMT will be able to convert printed documents such as newspaper articles to text that can be used in a word processor.
- **Digital cameras**; will allow MMT staff to take digital photographs which can be stored on memory chip or disk that can be transferred to their computers. These cameras will also help them capture sound and video which can be edited using their computers to their satisfaction as a media house.
- **Microphones**: Given that MMT is a media house, it will sometimes require a voice input or speech recognition input hardware. Speech recognition devices accept the spoken word through a microphone and convert it into binary code (0s and 1s) that can be understood by the computer.
- **Light pen**: The employees of MMT can utilize light pens as a light-sensitive detector to select objects on a display screen.
- **Touch screen**: The employees of MMT can use Touch panel displays and pads as alternatives to keyboard.
- **Trackball**: a pointing device, is a mouse lying on its back. To move the pointer, you rotate the ball with your thumb, your fingers, or the palm of your hand. The employees of MMT may like the fact that trackballs is stationary so it does not require much space to use it. In addition, it can be placed on any type of surface, including the users' lap.
- **Digitizer**: this device will be used by the employees of MMT to convert pictures, maps and drawing into digital form for storage in computer.
- **Optical mark reader**: this will be used by the staff of MMT to recognize a pre-specified type of mark made by pencil or pen.

- **Bar code readers:** MMT might have a long list of inventory. This may encourage the staff of MMY to use Bar codes to help organize and be able to index information of each item. A barcode reader or scanner will be used to read the barcode and print out the details of item product into a database so a MMT can easily keep track of its inventory.
 - **Voice recognition devices:** this will allows the staff of MMT to input data to a computer system by speaking to it.
- (i) Steps that MMT staff should always follow when searching their computers for the various hardware components that they contain.

Click in the search box on the taskbar,

Type **Device Manager**,

Then select **Device Manager** from the menu.

- (ii) Hardware components a computer has, including the
- Keyboard
 - Printers
 - Monitor
 - Scanners
 - Disk drives
 - Memory
 - Processors.

EXAM 7 SOLUTION DECEMBER 2020

Solution 1

(a)

Strengths

- Located in Apach district a cotton growing area giving Gemma an advantage of getting raw materials cheaply.
- Employs a skilled labor force of Egyptians who give expert advice.
- Employs family labor which is cheap
- Invested in use of modern equipment in production of its goods.
- Production of quality goods that are competitive domestically and internationally
- Gemma is a registered company and hence operates in accordance with government laws and regulations.
- Team work is emphasized
- Gemma Ltd is a big company that has been able to produce in bulk for both domestic and international markets.

Weaknesses

- Use of unskilled labor that produces uncompetitive products.
- Low innovativeness resulting from employment of unskilled labor force.
- Inadequate research and development

Opportunities

- Abundant raw materials, that is, cotton from Apach district.
- Abundant market from within Uganda and international that has encouraged more investment in the business.

Threats

- Competition from synthetic fibers like nylon, rayon and silk, etc.
- Low prices charged by competitors on similar commodities produced
- Competition from new entrants producing similar goods like Gemma Ltd
- Increases in export taxes that reduce on the level of profits.
- Impassable roads in the village where Gemma is located.

(b) Response of Gemma Ltd to threats

- Aggressive advertisements of its goods to establish brand loyalty and create consumer awareness of the products among other things.
- Engaged in production of quality goods.

- There was need to re brand its goods to help in clear identification of these goods in the market.
- Maintenance of fair and stable prices for its goods.
- Recruitment of skilled employees that has brought new innovations in the organisation.
- Training of employees, that has improved morale and skills of workers.
- Good customer care that has increased customer loyalty amidst competition.

Solution 2

(a) Appropriate time for price review

- When a new product is being introduced on market, the product tends to be high to cater for the in initial development and marketing costs. Such a product is first directed to higher income groups but as the product attracts increasing sales, and initial costs begin to be covered, price can be reduced and production volume stepped up.
- When placing existing products in new markets whereby a low price has to be considered if that product is to obtain a foothold in a new market or an increased share in an existing market. Such low price attracts considerable sales and at the same time discouraged competitors.
- Price reviews may be necessary because of the rising costs of production. Labor costs increase from year to year, same as materials costs, energy costs interest rates, etc. if such costs cannot be offset by improving productivity, then prices have to be revised upwards.
- When competitors change their price structures, such that if the competitors lower or increase prices and your product does not offer any particular advantage over his like in other marketing mix, then you have to follow his price trends.
- When competitors change other elements in their marketing mix. If competitors throw out a challenge by improving a product and offer a better distribution service, this can be countered by price changes. However this can also depend on the sensitivity of the market to price changes. For instance, if price is a dominant issue, they will prefer lower prices to higher quality or improved distribution arrangements.
- When balancing prices between individual products in a product line. This applies to highly differentiated products in the consumer area. For example a motorcar manufacturer, makes differentials in models in a product line, like in terms of engine capacity, number of doors, etc.
- The concept of a loss leader whereby one product in a product line is reduced to below cost levels with the aim of attracting attention to the

product line or range as a whole. This can help to establish a share of the total market.

(b) Factors that determine choice of a distribution channel

- The cost of the channel such as salaries of sales people, travel expenses, cost of credit given, etc.
- The extent of control that can be exercised over the channel.
- Whether the channel improves or worsens the image of the goods. For instance, high quality and expensive output would not apply in a low price cash and carry store.
- The geographical coverage of the channel
- Reliability of the distributors in relation to ensuring continuity of supply, product presentation and provision of information to consumers
- Product whereby if the product is of a high quality/ a high-cost item, distribution costs will represent a small proportion of total costs of manufacturing and marketing such a product
- Customer characteristics, awareness and interests. For instance if a customer realizes that there are price advantages when middlemen or retailers are by-passed, then the channel of distribution has to be adjusted.
- Market
- Middlemen
- Company
- Marketing environment
- Competitors

Solution 3

(a) The types of training at Kyelima Ltd

- On the job training that may include rotation' job instruction, coaching, secondment, delegation by the boss internship
- off- the- job training this may include lectures or talks, role playing exercise, group discussions, short and long courses
- Induction or orientation meant for the new employees to adapt them to the specialized job requirements and work methods.
- Apprenticeship where a worker is appointed as an apprentice and placed under the charge of a qualified senior worker. The apprentice learns methods of work by observing and assisting the senior.
- Refresher training/ retraining which is necessitated by changes in technology and work methods.

(b) Benefits of training for Kyelima Ltd

- Improved competence that has lead to improved efficiency and productivity
- Low employee turnover because of the high morale that leads to job satisfaction. As their productivity increases, there is employment in earnings and career prospects.
- Stability and progress of Kyelima Ltd. Improved confidence of the workers leading to self management and hence limited supervision.
- A good public image was created attracting more customers and employees.
- A reduction in wastage and accidents.
- Has enabled Kyelima to easily cope with the environmental changes.
- It helps reduce on supervision since a well trained employee is self reliant.
- Promotes delegation and decentralization of authority. This is because trained employee easily accepted new and challenging assignments.

Question 4

(a) The primary objectives of Kwetu Ltd like those of other businesses include

- Wealth maximization here the aim is to maximize wealth if its shareholders. Here Kyelima Ltd needed to ensure that long term investment decisions match with short run capacity utilization.
- Profit maximization this is a major objective. Achieved by ensuring that Kyelima's revenues exceed its costs
- Growth and expansion whereby businesses aim at growing successful business for the benefit of the customers, employees, shareholders, suppliers and the community in which the company operates. Whereby businesses aim at growing successful business for the benefit
- Survival whereby Kyelima Ltd had to devise means of keeping afloat amidst the high competition and the environmental changes.
- Creating customers

(b) Strategies that Kwetu Ltd can use to achieve the above include following;

- **Growth or expansion strategies** that lead to expansion of the functions and operations of Kwetu so that it can benefit from economies of scale and economies of scope. These are pursued when an organisation wants to produce more goods which when sold will result in more income. Such is necessary for long term survival of Kwetu Ltd.
- **Stability strategies** geared towards maintaining the current course of action or scale of business operations. This strategy is pursued by the business when the organisation is doing well and the environment is changing slowly.

- **Strategic alliance strategies** where two or more organisations merge in order to do business together thus benefitting from economies of scale and economies of scope.
- **E-business strategies** that promote electronic networking of businesses to businesses or business to customer transactions using information technology and the internet. They are useful in terms of accuracy, speed and cost reduction, which enable a business to gain competitive advantage.
- **Retrenchment strategies** geared towards reduction of corporate costs or losses through reducing operations of an organisation, re-engineering an organizational structure and process downsizing or restructuring so as to gain efficiency and improved performance.

Solution 5

(a) Description of the following terms used in the scenario.

(i) Computer

A computer is an electronic device that gets and accepts data, stores it and processes the data in to meaningful information as desired by the user.

Or

A computer is an electronic device for storing and processing data, typically in binary form, according to instructions given to it.

Or

A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via a computer program.

(ii) Computer generation

Computer generation refers to the history of computers based on evolving chip technologies where by each new generation, computer circuitry, size, and parts have been miniaturized, the processing and speed doubled, memory got larger, and usability and reliability improved.

Or

Computer generation refers to the state of improvement in the product development process whereby each generation of computers is

characterized by major technological development that fundamentally changed the way computers operate, resulting in increasingly smaller, cheaper, powerful, efficient and reliable devices.

(iii) Information Technology

Information Technology is the study and use of systems particularly computers and telecommunications for storing, retrieving, and sending information.

Or

Information technology (IT) is the use of any computers, storage, networking and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data.

Or

Information technology (IT) is the use of computers to store, retrieve, transmit, and manipulate data or information.

(iv) Social impact; the effects of Information Technology on the people and community at large. These can be positive or negative, that is society can benefit from Information Technology or suffer

(b) Ways how the use of computers and information technology has

(i) Negative social impacts

- There is **reduced physical interaction among people**. It has increased isolation, reduced social skills and increased human to machine interactions as a result of over use of technology which has created a wall between many people globally.
- Excessive viewing of Internet pornography can warp a person's ideas about sexuality. Pornography contains extreme, unrealistic depictions of sex acts. Watching of those images might confuse people, especially children, at the least, or even warp their ideas about sex, gender and relationships.
- Computer addiction. Over long term, computer addiction can cause physical damage. Using a mouse and keyboard for many hours every day can lead to repetitive stress injuries. Back problems are common

among people who spend a lot of time sitting at computer desks. Late-night computer sessions cut into much-needed sleep time. Long-term sleep deprivation causes drowsiness, difficulty concentrating, and depression of the immune system. Computer addiction can indirectly lead to poor overall physical condition and even obesity given that there is no physical exercise when someone is sitting before a computer.

- **The** use of computers and information technology has come with **loss of jobs**. Job losses may occur for several reasons, including: Manual operations being replaced by automation. For example, robots replacing people on an assembly line. Job export. e.g. data processing work being sent to other countries where operating costs are lower. Multiple workers being replaced by a smaller number who are able to do the same amount of work. e.g. A worker on a supermarket checkout can serve more customers per hour if a bar-code scanner linked to a computerized till is used to detect goods instead of the worker having to enter the item and price manually. This has both economic consequences, loss of income, and social consequences, loss of status and self-esteem.
- **Reduced innovation:** Before Information Technology People would see it that by all means to create or do things to achieve their goals but currently dependence on information technology has taught people to assume that without this technology some things cannot be done. For example communication, people must use a phones or internet to communicate if not they will wait until the internet is available and this delays procedures of doing work
- Information Technology has dragged people into **time wasting**. With the ability to provide ways of communication through Internet especially social media people like use spend their useful time on this media chatting and reading information which may not be of any use in the development of their day to day lives:

(ii) Positive social impacts

- Use of computers and IT has made **communication between people in different parts of the globe become an easy and fast process**. This is via different ways like e-mail, instant messaging, phone calls or video calls.

- Use of computers and IT has come with **easy access to information**. It has brought new opportunities for leisure and entertainment, the facility to make contacts and form relationships with people around the world, and the ability to obtain goods and services from a wider range of suppliers.
- There is **improved access to education** via the internet, e.g. distance learning and on-line tutorials. Computers and Information Technology have come with new ways of learning, e.g. interactive multi-media and virtual reality.
- Computers and Information Technology have come with **new dimension of job opportunities**, e.g. flexible and mobile working and virtual offices.
- Computers and Information Technology have enabled to **enhance research** in fields of education, business by accessing information from different sources through internet. This has promoted their development in a shortest possible time
- Computers and Information Technology have promote **Social Networking**. This is a new technology of communication through use of Social media platforms such as WhatsApp, Facebook twitter and others. This has enabled quicker and faster communication and execution of some managerial activities like meeting on line for example through the use of Zoom application.
- Computer and Information Technology have contributed to the **Increase in productivity**. This is as a result of use of new technologies that make work easy, reduce on operational costs, enabling easy and affordable marketing and easy access to information especially for comparison.
- Computer and Information Technology have enhanced **E-Commerce** through provision of technology tools that can help in business transactions. For example Information technology has provided for advertising on almost all social media and education platforms and provided for applications for ordering the purchase of goods and services up to the level of ordering for food from a restaurant.

Solution 6

(a) Explanation of the term used in the scenario.

(i) Computer virus

A computer virus is a type of malicious software / program that when it was executed on the computers of KRI, it replicated itself by modifying other computer programs.

Or

A computer virus is a type of computer program that when it was executed on the computers of KRI, it replicated itself by modifying other computer programs and inserting its own code. When this replication succeeded, the affected areas are said to be "infected" with a computer virus.

Or

A computer virus is a software program that has spread from one computer system of KRI to another, causing interferences with the normal computer operations like deleting everything on hard disks, corrupting or deleting data and slowing down the computers.

(ii) Computer based information system (CBIS)

A combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination, and decision making in KRI.

Or

A CBIS is a computer system or set of components for collecting, creating, storing, processing, and distributing information, typically including hardware and software, system users, and the data itself in KRI.

Or

A CBIS is an organized integration of hardware and software technologies and human elements designed to produce timely, integrated, accurate and useful information for decision making purposes in KRI.

(iii) Software security

Software security refers to controls/measures set by KRI's CBIS was set up to protect software against malicious attack and other hacker risks so

that the software continues to function correctly under such potential risks.

(iv) Information security

This refers to the measures KRI should have implemented for the preservation of confidentiality, integrity and availability of their information.

Or,

These are practices KRI should have put in place for protecting information by mitigating information risks.

Or

The means KRI should have put in place to achieve protection against unauthorized use of information, especially electronic data.

- (b) Ways in which KRI can achieve password security, authentication and physical security measures in-order to enhance the confidentiality, integrity, and availability of information with in their CBIS.

(i) Password security

- Use complex passwords. KRI shouldn't encourage passwords that are easy to remember. If passwords are easy to remember they can easily be compromised. It is better to use a complex password. A good password could require the use of a minimum of eight characters, and at least one upper-case letter, one special character, and one number.
- Change passwords regularly. It is essential that employees of KRI change their passwords on a regular basis. Users should change their passwords every sixty to ninety days, ensuring that any passwords that might have been stolen or guessed will not be able to be used against the company.
- KRI should train employees for the awareness of reasons why it is necessary not to share passwords. One of the primary methods that is used to steal passwords is to simply figure them out by asking the users or administrators
- KRI should see to it that their employees especially those using the system to use of unique password. This protects the information on individual computers because every individual but use his password which must be specially created by him.

(iii) Authentication

- **Password-based authentication:** Passwords can be in the form of a string of letters, numbers, or special characters. KRI should create reliable passwords that should be long enough and consist of various numbers, letters, and characters.
- KRI should use **multi-factor authentication** (MFA); an authentication method that requires two or more independent ways to identify a user. Examples include codes generated from the user's smartphone, Captcha tests, fingerprints, or facial recognition.
- Use of **certificate-based authentication**; KRI should use technologies to identify users of its CBIS, machines or devices by using digital certificates. A digital certificate is an electronic document based on the idea of a driver's license or a passport. The certificate contains the digital identity of a user including a public key, and the digital signature of a certification authority. Digital certificates prove the ownership of a public key and issued only by a certification authority. Users provide their digital certificates when they sign in to a server. The server verifies the credibility of the digital signature and the certificate authority. The server then uses cryptography to confirm that the user has a correct private key associated with the certificate.
- KRI should use **Biometric authentication**: Biometrics authentication is a security process that relies on the unique biological characteristics of an individual. Common biometric authentication methods include: Facial recognition, Fingerprint scanners, Voice identification, and Eye scanners.
- KRI should use **Token-based authentication**: Token-based authentication technologies enable users to enter their credentials once and receive a unique encrypted string of random characters in exchange. KRI staff can then use the token to access their protected system instead of entering their credentials all over again. The digital token proves that they already have access permission.
- **Intrusion detection systems**:. These may include Network, Host-based, and Perimeter Intrusion detection Systems. KRI will be able to control traffic to and from devices on the network, identify threats inside the network, detect the intruders to the network

(iii) Physical security

- Locked doors: the security installed onto the computer becomes useless if the intruder can physically remove a computing device.

High-value information assets of KRI should be secured in a location with limited access.

- Physical intrusion detection: High-value information assets of KRI should be monitored through the use of security cameras and other means to detect unauthorized access to the physical locations where they exist.
- Secured equipment: Devices should be locked down to prevent them from being stolen. One employee's hard drive could contain all of your customer information, so it is essential that it be secured.
- Security personnel: Security guards should be employed to safeguard the premises where the system equipment is kept to avoid intruders from vandalizing them
- CCTV cameras for monitoring all activities that take place around the premises and inside the operational areas.

(c) Explanation of the **three** components of KRI's CBIS pointed out in the scenario.

- Computer network: This is the connection of KRI's computers for communication and sharing of resources like information within KRI.
- Computers. These are devices which are terminals on KRI's network which accepts input or data, processes it into information and stores it. Information and data on these computers can be shared among other computers within KRI's computer network.
- Human. These are the computer users of KRI's network that input data, gives instructions to the computers on how it is supposed to be processed, disseminates the resultant information to the intended parties where need be.

Solution 7

(a) Explanation of;

(i) Data processing

This the conversion of BEH's raw data into useful information

Or

This is the transformation of BEH's raw data into meaningful output.

(ii) The three stages of data processing

- Data input: This is first stage of data processing where raw facts are supplied by the data clerks of BEH into a system like a computer for processing with the help of input devices like the keyboard and scanner.

- Data manipulation: This is the second stage of data processing which involves the actual execution of instructions and then conversion of the raw facts from the input stage into meaningful facts as desired by the data clerks of BEH.
- Output of processed data: This is the last stage of data processing where the processed data is delivered in the form of information/results and are displayed to the data clerks of BEH in form of text, audio, video, etc. and meaningful to them.

(b) Explanation of the **three** types of data processing referred to in the scenario.

- Manual Data Processing: BEH has manually been processing some data without using any machine or tool to get required results. Fee receipts have always been performed by hand.
- Mechanical Data Processing: With this type of data processing, BEH has been using devices such as calculators to work on their data especially arithmetic calculations.
- Electronic Data Processing: EDP is the modern technique to process data. The data is processed through computer; Data and set of instructions are given to the computer as input and the computer automatically processes the data according to the given set of instructions.

(i) Reasons why BEH is phasing out the manual and mechanical means of data processing?

- Manual data processing: BEH has realized that it is next to impossible to avoid errors with Manual data processing, it is labor intensive, very time consuming and tasks are repeated.
- The output from the mechanical data processing very limited or minimal.

(ii) Reasons why BEH has fully embraced EDP

- BEH can do the processing quickly without errors as it is done through various programs and by using a pre-defined set of rules.
- Processing of a large amount of data with high accuracy and efficiency is possible.
- The electronic data processing system is computerized and is designed to improve quality and maximize productivity of BEH.
- BEH is in position to store large amounts of data in a form that is easily retrievable.
- In manual data entry, there are always chances of repeated entries. However, with electronic data processing, such mistakes can be completely eliminated by BEH.

- Another big advantage is that this type of data processing requires less human intervention. That means, BEH will be hiring fewer executives and will successfully reduce the cost of managing data.

EXAM 8 SOLUTION MARCH 2021

Solution 1

(a) Steps of Management by Objectives

Establishing organizational goals. The top level managers are responsible for setting up organizational goals to begin the entire MBO process and these goals have to be strategic for them to be effective and easy to implement.

Establishing the unit of objectives. Objectives set at lower levels of the company like departments must be designed to meet the general goals established by top management.

Reviewing group members' proposals. At this level the assistant managers for example of departments, make proposals about how they will contribute to unit objectives. Each team member is also given the opportunity to set objectives in addition to those that meet strategic goals.

Negotiating or agreeing. At this stage the managers confer together at this stage to either agree on the objectives set by the team members or negotiate further as long as they reach a point when all the objectives set from managerial level to lower level are agreeing to lead them to lower level.

Creating action plans to achieve objectives. After the manager and team members agree upon objectives, action plans must be defined. Sometimes the action plan is self-evident.

Reviewing performance. Performance reviews are conducted at agreed upon intervals. Persons receive good performance reviews as to the extent they attain most of the major objectives. When objectives are not attained the manager and group members mutually analyse what went wrong. They equally discuss the corrective actions like new objectives are set for the next review period.

(b) Challenges faced practicing Management by Objectives

Mention of a company of choice

MBO is only considered effective for short term goals like up to two years. This is because it's mostly quantitative in nature and also planning cannot accurately forecast due to constantly changing socio-economic and technological environments which affect the stability of goals and objectives.

Also MBO as a way of managing companies it may not be understood by all. For example top management may resent treating their subordinates as equals and subordinates may treat it as a ploy to make them work harder. Since the top

management is usually overpowering, the objectives may be set too high by them expecting the subordinates to agree and follow.

It is also time consuming and is more suitable in stable environments. MBO systems are likely to be less effective where the changes in managerial environment occur too fast.

Looking at the steps affected in MBO requires a lot of paper work such as training manuals, instructional booklets, questionnaires, performance data and reports into the company. Managers need information feedback to know exactly what is going on in the company. The employees are expected to fill a number of forms thus increasing the paper work.

It is also challenging and tiresome coordinating objectives of the company with those of the individuals and the departments. Managers may face problems of measuring objectives when the objectives are not clear and realistic.

Also while effecting MBO individuals goals may come in conflict with those of another like in a school setting the academics department may conflict with department of welfare on the objective of serving meals on time and finishing lessons in time some teachers may tend to encroach on time of serving meals.

MBO requires intensive training of staff in their roles to enable them work towards achievement of organisational objectives.

MBO can also create more company problems than it can solve. The subordinates try to set the lowest possible targets and the highest when objectives cannot be restricted in number; it leads to obscure priorities and creates a sense of fear among the subordinates.

Solution 2

(a) Various stakeholders needs and expectations

Boards of directors are interested in the allowances and other benefits which they get in exchange for their responsibilities of making sure that the organization is well managed and ably accountable to its shareholders.

Government is interested in taxes paid by the manufacturing company and also the economic benefits derived from them such as provision of employment to citizens, payment of utilities and also contributing to the growth of domestic product that leads to national economic growth.

Business partners and international investors are also interested in corporations that are well managed. For example the banks are more interested in offering

loans or grants to corporations and likewise they expect them to be trustworthy and able to play their part.

Competitors need to monitor the operations of the company for purposes of benchmarking the procedures and processes to effectively compete in the market.

Shareholders are the ones who buy shares and have invested their resources in a company; they are interested in the success of the company. The shareholders want to invest in a manufacturing company that is legitimate, sustainable, competitive, accountable, responsible and transparent to be assured of successful sustainability.

Managers endeavor to make sure work is done efficiently with and through other employees in order to achieve the set goals using employees in order to achieve the set goals using the available resources. They are interested in equitable remuneration and good terms and conditions of service in exchange of managerial services they offer to the manufacturing company.

The local community, society and general public are interested in corporations that show concern for social and environmental protection issues; observe corporate social responsibility in their society where they have set up the manufacturing industry.

Customers are interested in timely quality goods and services and value for the money they pay. They can only purchase the goods and services of manufacturer if the latter comply with their interests. It is also required that customers should give feedback to the corporation on whether the quality of products and services received is satisfactory.

Banking and other lending institutions that are interested in the company in seeing the company increase its ability to pay back borrowed money plus the interest.

Suppliers; are interested in having market in these manufacturing industries so as to sell their suppliers. They are also interested in being paid promptly. It is also important that the manufacturing industries

Should ensure that the interests of suppliers are served in accordance with principles of corporate governance.

(b) Mendelow's visual tool of stakeholder mapping

The analysis of stakeholders designed by Medlow's

Level of interest

		Low	High
Power	High	A	B
	Low	C	D

High power and high interest; In a manufacturing company there are stakeholders who have high power and high interest who are known as key players and they are at B. Management has to really keep them happy because they have the willingness and ability to do something about it if they are upset.

High power and low interest. In the similar industry of manufacturing there are some stakeholders who are in box A that have high power but they are not likely to take action even if management does something which they dislike. They may be willing to take action because of professional reasons. Management does not need to be so careful with these people however it has to keep them satisfied , since once provoked they can take action and turn into key players.

Low power with high interest. These stakeholders in a manufacturing company have to keep informed and they are in box D for they cannot do much about themselves but they might be able to influence key players to take action on their behalf.

Low power and low interest. These type of stakeholders have minimal effort and they are in box C. Management may readily ignore these people without serious effect. For they will do nothing even if what they do not like is happening.

Solution 3

- (a) Strategies used by Ms Opio Jane & Ponny Brenda in pricing their products at Eden Company.

Low prices. Eden Company priced their product according to the litres packed because they knew that customers will only buy what they can afford and what they think was reasonable for them.

Market price. The proprietors of Eden Company did consider the price at the market by comparing what their competitors were offering and they did it in consideration with the quality that was being offered on market by then.

High price. At Eden company the proprietors new that pricing their product high would not attract many customers. So quality of the energy drink became a center of attraction to many customers since it did not matter how many litres one had consumed but buying what one can afford would give similar results.

Demand oriented pricing. During the year where some months are hot it attracted high demand and prices would increase slightly a little but during rainy seasons prices would reduce as well as the quantity demanded and this would make the company incur some losses.

Penetration prices. When they started as a way to enter the market they gave out free samples purposely to attract customers and also to prove their quality. The feedback they would get after determined quantity for sell as well as the price.

Destroyer pricing. The proprietors of Eden Company priced their product at first at lower price compared to their competitors to attract customers to their juice and there was intensive advertising of the product. They only stopped the adverts when the market was saturated.

Promotional pricing. They lowered the prices of their product in order to attract customers and also whenever it would delay in the shelves of the supermarkets they reduce the prices and carry out a promotion hoping that they would buy it all.

- (b) The various stages of development for Eden Juice product.

Introductory stage. This was the very first stage that the proprietors of Eden company had to face. They carried out advertising and promotion to help the customers be aware and recognize it more quickly so that they are able to get potential customers who are equipped with true information about the product.

Growth and acceptance stage. Here customers began to demand for the product in big numbers, sales increased and materialized.

Maturity stage (competition stage). Sales continued to increase but also other new companies entered into the market and the existing ones were trying to improve their services of which somehow caused reduction in the products selling price to meet the competitors.

Market saturation stage. At this stage the proprietors had paid the development costs and as a Eden company reached at its most profitable level.

Decline stage. Sales continued to drop and profit margins fell drastically due to changes in weather and increased competitors, but the proprietors of Eden Company remained determined to find new uses of the product to develop a wider range of products and develop new markets.

Solution 4

(a) Social environment affects the business in the case study.

Mr. James Odongo considered all age groups the young and the old while he was stocking his shops and this increased the number of customers since whoever came could easily be served accordingly.

Well knowing that retail shops do well in populated places he concentrated in town centers where the population is high and customers can easily purchase commodities at any time of the day and night.

Ethnicity; James Odongo was not discriminative for he put into consideration all tribes that were in that area this was to make sure he meets their tastes and preferences and that's what would determine what to stock in his shops.

Household and family structure; the proprietor of Gentex company also considered setting up supermarkets to cater for all household no matter how big the family was they would purchase whatever they needed at that time.

Sex; his supermarkets provided a variety for both male and female which attracted a large section of people and in all supermarkets they had similar products.

Geography or region; regional supermarkets that were set up were employing workers that can speak the common language in that area and this would increase on their sales and customers felt comfortable to buy from them.

Class; the supermarkets attracted people from all categories, social classes that had different values.

Growth; the growth rate in the national & regional population was a blessing towards the business since the demand would automatically increase leading to an increase in profits thus expansion.

- (b) How Gentex Company responded to technological environment as it operated its businesses.

The management of Gentex Company ensured that every employee recruited was trained on using updated technology that were installed in their supermarkets this was meant to bring them up to speed and to be able to match with present technological demands.

They installed the transaction processing system purposely to record and process the routine transactions in the supermarkets meaning that each transaction was recorded as it happened to improve on the accuracy and speed.

Management also installed the management information systems so as to be able to generate a regular series of reports for the managers. These reports would help in making decisions.

Decision support system, this was to help management to make decisions in situations with high levels of uncertainty. Since this system is flexible, versatile it helped management to be more proactive in the management of supermarkets that were in different regions.

Gentex company management had also office automation systems that was meant to enable employees to increase their efficiency and productivity amongst employees when they are processing data and information to standardize their work.

They also applied the present common communication methods like e-mails, WhatsApp groups, on different platforms to advertise their supermarkets located in different regions.

Solution 5

- (a) Explanation to the participants of the symposium the meaning of the words:

- (i) Software

The software are all the programs or computer instructions that tell the computers of SHIC what to do.

- (ii) Business software

Business software is the type of software that is used by SHIC to perform various business functions like marketing, governance, production in-order to accomplish specific business goals that the software supports.

- (b) Key factors which SHIC considered when finding out the business software that was fit for her business needs.

Cost; SHIC considered the price of the business software in regards to the value the software was bringing to the company. The manager compared the software

cost of the software with the current budget of the company and then settled for software that was affordable for the company and yet brought value to the company.

Compatibility with existing software and hardware; SHIC preferred software that was able to interoperate with the existing software and hardware that already existed in the company. The manager of SHIC was trying to avoid a situation where by he has to buy other hardware or software. It would have become expensive for the SHIC

Scalability; SHIC considered software that had the ability to accommodate the demands of the company as it grows without necessarily having to be redesigned. The scalable software allowed SHIC only pay and have the functions of the software needed at that time. This protected the company from paying for features of the software which the company didn't require at that point in time.

Accessibility; the business software of SHIC was to be used by suppliers, customers and other stakeholders to communicate and therefore needed to be accessible to anyone all the time. SHIC considered software that was easily accessible to all and all the time

Competitive advantage; SHIC considered the type of business software that was able to help the company outperform her competitors.

Portability; SHIC considered the ability of that the same software to be used in different environments.

Friendly user interface. SHIC must have considered software that is easy to use. Friendly user interfaces are encouraged and they motivate users to use them. Users normally welcome software that is easy to use.

Accessibility; SHIC must have considered software that is readily on the market and therefore easy to access. Once any client wants software then the company can easily get it. Most organisations do not want to purchase softwares that are difficult to access once required.

Security; information is key to any organization, SHIC must have chosen a software which is able to keep their information secure.

Availability of updates; SHIC must have considered a software which has updates. Updates are important because they could repair security gaps or even add new features to the software.

- (c) Ways how SHIC is using business software has transformed SHC Security; while using the business software it's easier to assign access level to the users of the platform. This in turns secures the information of the company since not everyone will be given the chance to access any information.

Faster customer management; the business software can help SHIC manage her customers and give them timely feedback. For instance use of invoicing billing software can easily help SHIC enter specific details of clients from the database and send the invoice to the clients without wasting a lot of time searching in files.

Reaching a wider scope of customers, through online marketing; some business software can enable SHIC market online, this will enable the company to reach out to large scope of customers. The scope will be both local and international since internet has the capacity to reach a wider scope.

Increased efficiency and effectiveness. Business software can be used to automated many tasks thereby improving the accuracy of many tasks, this therefore has the potential to increase the efficiency of any organisation

- (d) Describe using any three ways how ICTs have socially impacted the employees of SHIC

Computer-controlled robots are now common on production lines, replacing some of the employees in SHIC. As a result, some jobs in SHIC have disappeared as they can now be done automatically leaving some of the employees in SHIC unemployed.

The old skills of workers in SHIC are now out-of-date

Telecommuting: Employees of SHIC can now work from anywhere

Relationships of the employees of SHIC are mediated by ICTs. They can now hold meetings and relate virtually.

Unemployment; many people especially those that are ICT illiterate have been left unemployed because they do not have the required skills.

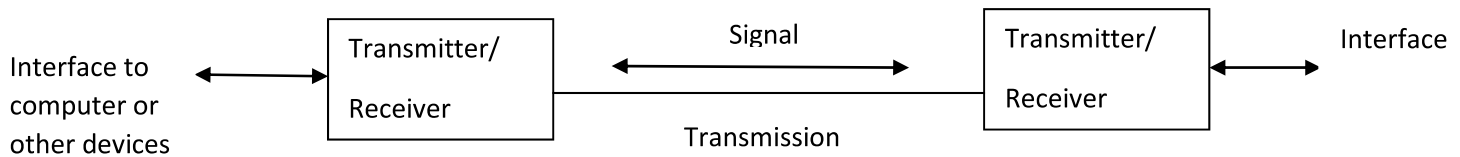
Addiction; many people are now addicted to different ICT tools. As a result this can cause health hazards like body aches, vision problems and then also this may reduce production at work places.

Solution 6

- (a)

- (i) An illustration describing how a channel will be beneficial to the users of the computer network in the research lab.

Illustration of a channel



A channel will provide a path through which two communication devices of the research lab will communicate. A transmission media like a twisted pair, untwisted pair will aid the communication

- (iii) Description any three physical channels mentioned in the scenario that are likely to be used when coming up with the network.

Twisted pair, a twisted pair cable is a type of cable made by putting two separate insulated wires together in a twisted pattern and running them parallel to each other. This type of cable is widely used in different kinds of data and voice infrastructures.

Coaxial cable; is a type of electrical cable that has an inner conductor surrounded by a tubular insulating layer, surrounded by a tubular conducting shield

Fiber optics cable is the technology that uses glass (or plastic) threads (fibers) to transmit data. A fiber optic cable consists of a bundle of glass threads, each of which is capable of transmitting messages modulated onto light waves.

(b)

- (i) Explanation of the type of network to recommend to Mr. Oketch for his six roomed house.

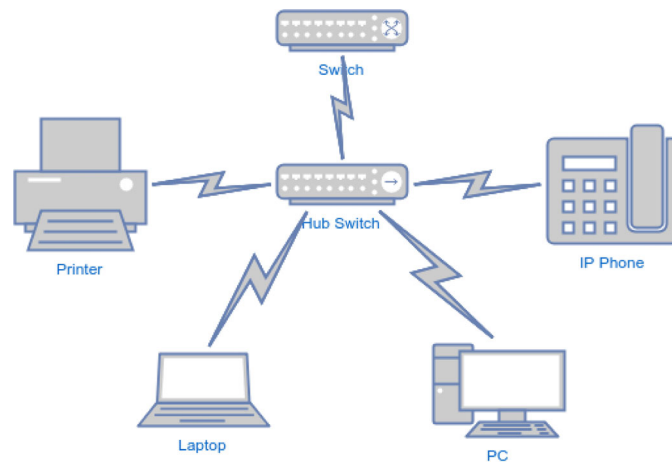
Type of network, Local Area Network, This type of network connects computers that are within the same physical location for example home or building and normally through Ethernet. Since the research lab is one six roomed house, a LAN will be fit

- (ii) Illustration to Mr. Oketch of the type of network recommended in b (i) above.

LAN

A LAN is a network of connected devices that exist within a specific location. ... A LAN may be wired, wireless, or a combination of the two. A standard wired LAN uses Ethernet to connect devices together. A LAN has the following characteristics Limited distance within a few miles, High data rate - 2 to 1000Mbps, Low error rate, Good response time, Private owned, No regulation and Share hardware, software, and data files among others.

Illustration of a LAN



Mr. Oketch would use a LAN

- (iii) Explanation of the advantages the young researchers would enjoy from using the types of network described in b (i).

Speed; LANs are relatively fast, the young researchers will upload and download their files relatively faster and this helps reduce wastage of time and resources.

Sharing of resources; resources will be attached to one network and if any young researcher is using any computer that needs any resources then it can be shared with the required computer. Resources which can be shared may include, printers, modems hard drives. So there is no need to purchase separate resources for each computer and it saves money.

Securing of data: the data of the young researchers will easily be kept secure since data is kept on the server since keeping data on a server is more secure. Data backup, which is a security measure, is easy to do on a LAN as all the data is kept on a LAN.

Solution 7

- (a) Explanation the term data processing cycle as used in the scenario.
The data processing cycle is the set of operations used to transform TSCL's data into useful Information. The data processing cycle has different stages, these may include; collection, preparation, input, processing, output, interpretation and storage.

(b)

- (i) Four major stages of the data processing cycle and the importance each stage to TSCL.

Data collection. This is usually the first step of the cycle and very crucial, this will help TSCL to collect data from the available sources. The employees of TSCL have to ensure that the data collected is accurate and defined so that the subsequent decisions based on that data are valid.

Data preparation. Once the data is collected, it then enters the data preparation stage. Data preparation, often referred to as “pre-processing” is the stage. It is at this stage that the TSCL raw data will be cleaned up and organized for the following stage of data processing.

Data input. This stage will enable the clean data of TSCL to be entered into the computer and then translated into the language a computer can understand. Data entry is normally done by using devices like keyboard.

Data processing. This is the stage which will enable the inputted TSCL data from the previous stage to be actually processed for interpretation. The raw facts will be converted into meaningful information.

Data output/interpretation. At this stage, output will be displayed to TSCL users in form of text, audio, video, etc. Interpretation of output provides meaningful information to use.

Data storage. The final stage of data processing is storage. After all of the TSCL data is processed, this is the stage that will enable it to be stored for future use. While some information may be put to use immediately, much of it will serve a purpose later on. The customers and employees of TSCL can always refer to this data at a later stage.

(c)

- (i) Explanation of the data processing model suitable for TSCL.

The data processing model suitable is the real time processing model. While using the real time processing model, the incoming TSCL, whether from employees or clients, is processed as soon as it occurs in a short period of time. For instance, if a client wishes to find out whether a seat near the window is still available, the clients get feedback as soon as he requests.

- (ii) Description of the advantages TSCL will enjoy from using the data processing model mentioned in C (i).

Fast; the customers of TSCL will always get instant feedback because while performing real-time processing, there is no significant delay in response.

Up to date information, TSCL will always present the most up-to-date information to her clients and this also enables the organisation to take immediate action. For instance, when the notice they have over booked the plane for economy class and yet the business class still has room, the airline can offer some clients business class at a reduced rate.

- **Insights from updated data;** this could also give TSCL the ability to gain insights from the updated data to detect patterns for possible identification of either opportunities or threats to the organization's business.

(iii) Factors the manager of TCL would consider when selecting an appropriate data processing model.

- **The response time:** The manager of TSCL considered the time taken before a desirable response is obtained. A response could be needed after a week, month or immediately, these factors determine which type of processing model should be adopted
- **The cost of initial installation and operations.** The manager of TSCL should have compared the cost of installing a system that supports a particular processing mode to the budget of TSCL. It's always better to work within the budget
- **Ease of development:** the manager of TSCL could have considered a systems that is easier to develop. Most systems that are easier develop are easy to use, maintain and may not be very expensive for the company.
- **Size of the company;** the bigger the company, most times the bigger the amount of data and the smaller the company the smaller the amount of data. The size of data to process could have been one of the guiding factors that could have informed the manager of TSCL about the model of data processing to choose.

EXAM 9 SOLUTION OCTOBER 2021

Solution 1

(a) Different types of leaders at Gabo Group Enterprises Ltd

Traditional leadership; whereby Tendo assumed the responsibility of administration and management when his father was challenged by the large scope of work and old age. Just because Tendo was the son of Mr. Mugalu, he was the rightful person to take over from his father so as to make sure that the increasing demand for Gabo's products regionally was catered for.

Charismatic leadership; whereby Mrs. Kato was endowed with exceptional qualities required to transform people into willing followers. She managed to convince errant employees pressing for salary increment at the time when Gabo was being extended to Tororo to calm down.

Mrs. Kato is also a situational leader because of the above action taken to settle down the errant employees of Gabo who were agitating for a sit down strike at the time when the enterprise was busy with plans of expanding to Tororo.

She formed a strong team of employees ready to work hard towards satisfying the regional market when customer demand for products of Gabo increased. She allowed all views to be tabled and discover disgruntled members who, led by Auma, represented the views of fellow employees that needed salary increment. Thus Auma emerged as an informal leader.

Mrs. Kato is a good functional leader who managed to make Gabo Ltd. a very profitable enterprise through her active participation in marketing. She advised Tendo to consider producing for other regional markets before setting up a new branch of Gabo enterprise at Tororo and that changed the face of Gabo. She even went ahead to connect Gabo to companies in Rwanda, DRD and South Sudan to distribute the cosmetics.

Mrs. Kato was appointed by Tendo and so she is also an appointed leader, that is, she holds that position for she was selected to that position because of her experience in the cosmetics industry.

(b) The drawbacks of Blake and Mouton's leadership styles:

Impoverished (1-1) which is also known as laissez-faire. The drawback is that leaders have little concern for people or productivity. They avoid taking sides and stay out of conflicts. They exert minimum pressure to get the required work done so as to sustain organisation membership.

Country club management (1-9). In this, management has great concern for the people and little concern for production. They try to avoid conflicts and concentrate on being liked, even at the expense of production. The goal is to keep people happy. This is a soft theory that would not help Gabo attain its motive of enlarging the market.

Task-oriented 9-1 this is also known as authority compliance management. Leaders in this position have great concern for production and little concern for people. Sees people as 'tools' for production. That people demand tight, unilateral control in order to complete tasks efficiently. They consider creativity and human relations to be unnecessary.

Middle of the road (5-5) leaders here have medium concern for both people and production. They rely on tried and tested techniques and avoid taking untested risks. They try to balance their concern for both people and production but are not strongly committed to either. Conflicts are resolved by avoiding extremes and seeking compromise rather than sound resolution.

Paternalistic management/ 'father knows best' (9+9). The leader takes a high level of concern from 9,1 and 1,9 to create a combined style of controlling paternalism. The paternalists strives for high results (high 9 from 9,1) and uses reward and punishment to gain compliance(high 9 from 1,9). Uses a high level of concern for people to reward for compliance or punish for rejection.

Opportunistic 'what is in it for me' management. The opportunist uses whatever grid style to obtain selfish interests and self-promotion.

Solution 2

(a)

Classical model	Administrative model
Assumes that a decision maker can identify and evaluate all possible alternatives and their consequences and choose appropriate course of action.	Built on the premise that decision making is inherently uncertain and risky. So managers make satisfactory and not optimum decisions.
Follows the following steps;	States that human decision making is bounded by peoples' limitations.
-List alternative courses of action possible and consequences of different alternatives.	That limitations of human intelligence constrain ability to make decisions and determine the optimum decision
Assumes all information about alternatives is available to managers.	That decision making is limited by incomplete information due to ambiguity, time constraint, costs involved, and consequences associated with known alternatives.
Assumes managers have mental faculties to process the information. So expected to rank each alternative from least preferred to most preferred.	That managers don't attempt to find alternatives when faced with uncertain future, unquantifiable risks considerable ambiguity, time constraints and high info costs but instead use a strategy called satisficing., that is explore a limited sample of all potential alternatives. Such limits optimum decisions.
Managers to select the alternative that leads too desired future consequences, thereby assuming that managers know what future course is best for the organisation.	

(b) Steps in decision making

Identify the problem, that is where do we want to go?, what do we want to achieve, what do we need to do to be the best?, what exactly is wrong?

Identify the objectives, that is, what is it we want to achieve?

Gather information, the more information that can be gathered internally and externally, the better the chance of success.

Analyse the information gathered to sort out irrelevant from relevant information.

Devise alternative solutions, that is, decide on the number of different courses of action to take so as to meet the aim.

Select alternative solutions you think will be most likely to meet the objectives of the organisation under the present circumstances.

Communicate the decision to all those involved. they need to know what is going to happen, what effects these changes will have and why have decided on that course of action.

Implement the decision by arranging for resources, issue appropriate instructions and ask for feedback on progress.

Evaluate, that is, using feedback, compare this with what was expected to happen.

Solution 3

(a) The communication methods used include;

Written communication using maps, textbooks, use of online notes newspapers and magazines.

Use of oral communication during group discussions where every learner is encouraged to participate.

Use of charts, projectors and graphs to enhance written communication is common practice at MEL.

In drama, non-verbal communication is emphasized where facial expressions, paralanguage like quality of voice, intonation, style of speaking are used.

- (b) Communication patterns used include;

Wheel network, where information flows from the teacher to group leaders

Then from the group leaders to selected members of the group in such a sequence that the answer from one is a clue to the next expected answer. This is referred to as chain network.

Circle network where the few members of group are selected to engage in discussion of the given with the rest of the selected members of the group.

All channel network where all members of the group are involved in the open discussion in presence of the teacher who then approves or disapproves the answers given.

- (c) Attributes of effective communication at MEL

Clarity and simplicity of the language used by learners.

Appropriateness of the presenters that made everyone to understand the message behind the drama.

Information received by the audience directly without any interruption

The feedback given by the audience reflected their alertness revealed the open mindedness. It also revealed that the message intended for the audience had been accessed.

The intended message had been communicated. The nodding was a sign of approval that the message had been delivered to intended recipient.

There was no information overload since the learners communicated in a formal style and language.

Solution 4

- (a) Stages in the employee training process;

Identifying the training needs by finding out what knowledge and skills potential learners currently have and what the organisation believes they should have.

Setting objectives where specific and measurable knowledge and performance objectives are set based on the gaps and deficiencies. The goal should be that once these objectives have been achieved, the expertise gap that existed should be completely filled.

There should be a program design where by a specific training program is designed showing the content and how it should be taught. This should be checked to from time to time to ensure that it meets both the learning both the learning needs of attendees and also the needs of the organisation.

Delivery stage where the training program is actually implemented and any supporting materials distributed.

Validation stage; where the success or failure of the training program must be evaluated. One common approach is by inviting feedback from participants. Or in case of students a test or an examination will be given at the end of the course on the subject matter that was taught.

(b) Benefits of employee training to an organisation

It leads to improved profitability as the trained employees develop a more positive attitude towards profit orientation.

It improves job knowledge and skills at all levels of the organisation increasing productivity of the business.

It helps boost morale of the labour force since through such training the knowhow is improved leading to confidence in work performance.

It reduces costs of consulting from outside sources, in production, personnel, administration, etc.

Helps develop a sense of responsibility to the organisation for being competent and knowledgeable.

It provides information for future needs in all areas of the organisation.

It improves the relationship between the bosses and subordinates. This through the interaction they go through during the training session. This is good for the organisation since it creates a conducive work environment.

Solution 5

(a) Explanation of the terms as used in the scenario.

Customised software

This is a kind of software designed for a specific user or an organisation in this case it is the software that will be designed to meet the specific needs of EPS.

SDLC

This is the conceptual model or a frame work that will describe the stages involved developing the EPS customized software.

User requirements

User requirements are what the users of the system will require from the system in this case what the staff of EPS would like the system to have.

Fact finding

Fact finding is process of collection of data and information based on techniques which contain sampling of existing documents, research, observation, questionnaires, interviews, prototyping and joint requirements planning.

- (b) Major steps that the HoITD will have to go through in-order to acquire the appropriate software for the EPS customized systems.

Requirements analysis; the first phase will help the HoITD understand the user EPS requirement without forgetting the of the organisations objectives. For instance if EPS has an objective of expanding, they have to get hardware with high expectations to accommodate the expansion of the system in future. Important to think about is whether or not the cost of hardware required fit within the budget of EPS. All the above will inform what type of hardware will be acquired.

System Specifications; this stage will enable the HoITD together and his/her team to clearly spell out the requirements needed from the hardware they anticipate buying for EPS. They must reflect the actual applications to be handled by the system and include system objectives, flowcharts, input-output requirements, file structure and cost. The specifications must also describe each aspect of the hardware specification required clearly, consistently and completely.

Request for proposal; after the requirements analysis and system specifications have been determined, the HoITD will draft request for proposal and then send it to selected vendors for bidding. Bids submitted are based on discussions with vendors.

Evaluation and validation; It is at this stage that the HoITD and his team will then evaluate and rank the vendor proposals and then determine the best suited to the EPS' needs. Items such as price, availability and technical support. System validation ensures that the vendor can match his/her claims, system performance. True validation is obtained verified by having each system demonstrated.

Vendor selection; this stage will let HoITD and his/her team will determine the winner. The bidder with the best combination of reputation, reliability, service record, training, delivery time, and lease finance terms and conversion schedule. The vendor is contacted and after then delivers the hardware.

Post- installation review; after hardware is installed, The HoITD will have evaluate the system and then determine whether or not what is installed is what was originally expected.

- (c) Fact finding techniques that the developers of the EPS customized software are likely to use in-order to generate the EPS unique requirements.

Observation: The system developers may participate in or watch the employees of EPS perform activities using the existing system. This can help them learn about the current system to learn about the system.

Questionnaire: This is a special-purpose document consisting of a series of questions that will allow the system developers of EPS customized software to collect information and opinions from respondents. The questionnaire can either be open ended or closed ended.

Interview: A fact-finding technique whereby the system developers will collect information from individuals through face-to-face interaction. The purpose of the interview is to find, verify, clarify facts, motivate end-users involved, identify requirements and gather ideas and opinions. The interviews can be structured or non-structured.

Discovery prototyping: The system developers will build a small-scale, representative or working model of what they think the EPS staff require and then give it to them. As the staff use the model, they will be giving feedback which could be in terms of complaints and this information will inform the developers about the requirements. After gathering the requirements, they use them to build the actual system.

Solution 6

- (a) Meaning of the terms:

Operating system

An operating system (OS) is system software that manages computer hardware, software resources, and provides common services for computer programs.

Utility Software

Utility software is software designed to help to analyze, configure, optimize or maintain a computer. It is used to support the computer infrastructure.

- (b) Functions of the operating system (OS)

Memory management: Main memory is a large array of words or bytes where each word or byte has its own address. An operating system decides, what part of it is in use by whom, what part is not, which process will get memory when and how much and then de-allocates memory from a process when execution is complete.

Processor management: The OS decides which process gets the processor when and for how much time. The OS keeps track of processor and status of process, allocates the processor (CPU) to a process and then de-allocates processor when a process is no longer required.

Device management: An operating system manages device communication via their respective drivers. The OS keeps tracks of all devices, decides which process gets the device when and for how much time allocates the device in the efficient way and then de-allocates devices.

File management: The OS keeps track of information, location, uses, status etc. decides who gets the resources, allocates the resources, de-allocates the resources

Security: The operating system uses password protection to protect user data and similar other techniques. It also prevents unauthorized access to programs and user data.

Error detection and handling: The operating system is responsible for detection of any types of error or bugs that can occur while any task. The well secured OS sometimes also acts as countermeasure for preventing any sort of breach to the computer system from any external source and probably handling them.

(c) Types of operating systems

Batch operating system: This is the type of operating system which does not interact with the computer directly. There is an operator which takes similar jobs having same requirement and group them into batches. It is the responsibility of operator to sort the jobs with similar needs.

Time-sharing operating systems: This is the type of OS where each task is given some time to execute, so that all the tasks work smoothly. Each user gets time of CPU as they use single system. These systems are also known as Multitasking Systems. The task can be from single user or from different users also. The time that each task gets to execute is called quantum. After this time interval is over OS switches over to next task.

Network operating systems: These operating system systems run on a server and provide the capability to manage data, users, groups, security, applications, and other networking functions. These types of operating systems allow shared access of files, printers, security, applications, and other networking functions over a small private network.

Real-time systems: These are operating system that serves real-time systems where the time interval required to process and respond to inputs is very small.

Distributed operating system: This is software over a collection of independent, networked, communicating, and physically separate computational nodes. They handle jobs which are serviced by multiple CPUs.

(d) Utility software and function

Disk management: This tool manages different drives in the computer such as flash drive, optical disk drive and hard disk drives and also enables users to manage the partitions associated with these drives.

Compression tools: These tools are used to reduce the storage space taken by different files on the computer. These type of software compress or decompress a file in the computer.

Disk defragmenter: This is a type of utility software that is used to increase the access speed by rearranging the scattered files in a disk stored on contiguous locations

Antivirus: Is a type of utility software that helps the operating system in providing a virus-free environment to the users

Solution 7

(a)

(i) Meaning of "office automation systems"

Office automation systems are computer based information systems that BBCL has been using to collect, process, store and transmit electronic messages, documents and other forms of communications among all the stakeholders of the company.

(ii) How BBCL has been office automation systems.

Electronic publishing systems: BBCL has been using the EPS to manipulate words, number and images to meaningful documents like newsletters, books, letters. Examples include word processing systems and Desktop publishing

Electronic communication systems: BBCL has been using this system to transfer and distribute text and images in electronic form over telecommunication networks. This system has enabled BBL to send electronic mail, voice mail and fax.

Electronic meeting systems: BBCL has been using video and audio to allow communication during conferences and meetings held with different stakeholders of BBCL in different locations. For example customers can hold a

meeting with the boss Mr. Kintu through Skype even if they are not in the same physical location.

Image processing systems: BBCL has been using these systems to electronically capture, store, process and retrieve images of documents for example, graphics, and photographs. These systems convert text, drawings and photographs into digital form that can be stored in a computer. These image systems may include digital cameras, scanners, and video-capture. These documents could have been sales orders, customers' requests etc.

Office management systems: BBCL was using these systems to provide an electronic means of organizing people, projects and data. The information created could have been used by BBCL to generate business dates, schedule appointments and manage client contacts. These systems include electronic office accessories, electronic scheduling and task management.

(b)

- (i) The type of information systems Mr. Kintu needs to install in-order to conduct his research

Decision support system; a decision support system is a computer-based application that collects, organizes and analyzes business data to facilitate quality business decision-making for management, operations and planning. DSS analysis helps companies to identify and solve problems, and make decisions.

- (ii) How BBCL will benefit from the use of the basic components of the new system mentioned in the scenario

Data management component: The data management component will be storing and maintaining the information that the Decision Support System of BBCL will want to use. The data management component will, therefore, consist of both the Decision Support System information and the Decision Support System database management system

Model management component: This will consist of both the Decision Support System models and the Decision Support System model management system of BBCL. This will help BBCL to create and manipulate models quickly and easily.

User interface management component: The user interface is an interactive graphical interface which makes the interaction easier between the DSS and its users. It displays the results (output) of the analysis in various forms, such as text, table, charts or graphics. The user interface management component will ensure smooth running of the BBCL user interface.

(iii) Benefits BBCL will realise from using the information system in b (i).

Solving complex problems; the DSS will help BBCL get solutions to complex problems that cannot be solved by the current office automations systems.

Improve interpersonal communication; the DSS will improve communication and collaboration among the managers using it for decision making

Faster decision making; since the DSS collects information from different stakeholders and different sources in a timely manner. This resource pool will enable the managers to make decisions faster. This is something that customers are always looking forward to allows for faster decision-making

EXAM 10 SOLUTION DECEMBER 2021

Solution 1

The external environment affecting the operations of NAMACO Ltd

Political/ Legal environment

- NAMACO is registered company
- The company is in good books with the government tax body Uganda Revenue Authority .since has been remitting taxes as expected
- Respects regulations by all health and safety bodies
- Standardization and quality control by National Bureau of Standards
- Good working conditions enjoyed by employees

Economic environment

- NAMACO enjoyed a monopoly in tea processing for a long time that enhance customer loyalty since it was the sole producer of tea for a long time.
- A large market that encouraged the company to expand its operations to other areas like Fort Portal
- Abundant labour force engaged in tea growing and harvesting and also Asians who are expert in tea processing
- Cocoa growing in Bundibugyo that attracted new entrants like Batco to start a cocoa processing factory and tea processing.
- Competition from new entrants
- Borrowed money that was used to purchased land for expansion of NAMATCO in Kasunga, Fort Portal.
- Inflationary tendencies
- Favourable climate for tea growing in Butare that encouraged Mr. Kwezi to invest in tea growing

Social environment

- The age distribution of customers especially that the population of Uganda is composed of more young people than the old. Such a population easily switched to cocoa products when Batco came on the scene.
- Other population issues of sex, marital status and family size also had a direct bearing on the establishment and expansion of NAMATCO.
- Community service that included proper waste management and tree planting became top on the agenda of NAMACO.

Technological environment

- Innovativeness of Mr. Kwezi brought new technology in tea growing and processing
- A new department of research was established by NAMACO to find out way forward in handling the environment that had become turbulent.
- New and modern machines were to be purchased for instance driers to cope with the competition.
- Establishment of the state-of-the-art tea factory at Kasunga, Fort Portal equipped with new technology is hoped to improve NAMATCO's competitiveness.

Solution 2

(a) Methods of promotion were adopted by management of MONET Ltd to keep existing clients and attract new ones.

- Advertising which method involves communicating persuasive information about a product to target markets by means of the written and spoken word, and by visual materials. This is done through principal media e.g.; press, commercial TVs, direct mail, commercial radio, and outdoor transport advertisement.
- Sales promotion which is a form of indirect advertisement designed to stimulate sales mainly by use of incentives. It may take several forms like; free samples, twin pack bargains, temporary price reductions, point of sale demonstration, special discounts,, cooperative advertisement, bonus/ prizes for sales representatives and provision of display material
- Public relations where the organisation communicates at a corporate level with the rest of the community. This includes; the public, the press the government and shareholders. Such enhances the image of the organisation.
- Publicity which refers to news about the organisation or its products reported in the press and other media without any charges to the organisation.
- Packaging whereby good packaging can attract customers hence increase sales and the reverse is also true.
- Direct selling also known as door to door retailing of goods and services to consumers through personal interactions and demonstrations in their homes or offices.
- Merchandising which is an attempt to encourage customers to buy at the point of sale in a shop, fuel stations and supermarkets. Display materials will attract attention of customers.

(b) Factors considered by MONET Ltd before choosing the best media to promote its products

- The costs involved were crucial. Since MONET Ltd was just starting, needed a media that would not be expensive.
- The target audience .whereby different people of different sex, age, attitudes and aspirations can be reached using different media.
- Media used by competitors, that is, if ones competitors uses a particular media, tends to use that same media to access the attention of its customers and show that there are alternatives.
- The impact required dictates the media to use
- The law governing mass media also must have been considered by MONET Ltd.

Solution 3

(a) Benefits of delegation in business organisations

- Delegation helps save time on part of the managers who can now embark on other more important and strategic plans.
- It increases the morale of subordinates since they come to understand that they are treasured by the organisation, they feel they are part, which increases their confidence leading to improved productivity.
- Enables the job to be done by the most experienced and competent people. The executive director or the manager may not be an expert in all fields .so involving a subordinate who has expert skills is ideal.
- Provides an opportunity for training and development to the staff and the teams to whom work is delegated.
- It enables the organisation to be functional that is, the manager gets the opportunity to have work done with and through other people. That's the real essence of management.
- Aids quick decision making since it brings the decision making process closer to the scene of operation, ie, the front line officers at the scene of operation don't have to refer cases high up the bureaucratic structure.
- It promotes team work since the managers and subordinates work together towards completions of given tasks.

(b) Limitations of effective delegation

- Some managers are workaholics they feel they can do all the work and thus no need of delegating some tasks to subordinates.

- The negative attitude towards workers when managers lack confidence and trust in their subordinates, so find it difficult to delegate.
- Unwillingness by managers to let others make mistakes since managers remain accountable for the mistakes made by the subordinates.
- Some managers fear being replaced if subordinates perform better than them so they tend to down play the importance of delegation.
- The nature of the organisation may be such that delegation is not given priority. Such is the case with bureaucratic organisations.
- Most managers do not have time to supervise the subordinates and since they will still carry the blame for mistakes done, they tend to not to delegate. Sometimes the subordinates lack the skills and abilities to take up the task as such, they are unwilling to take up the tasks.

Solution 4

(a) The need for motivation by organisations

- To attract competent employees. When employees learn about the high level of motivation enjoyed by the employees in an organisation, they will strive to join that organisation.
- To inculcate enthusiasm in employees so that they can improve on their performance by working harder and better.
- To direct and maintain the required performance behavior of employees until the set objectives are achieved.
- To guarantee employee commitment to the organisation.
- To harness employee latent potential given that employees have greater potential than they are exhibiting. So when they are motivated that latent potential tends to come out and they are able to do extraordinary work.
- To recognize and retain expertise since employees with special knowledge and skills, attitudes and competencies are able to use them to improve organisational performance.

(b) Strategies recommended by theory Z to managers

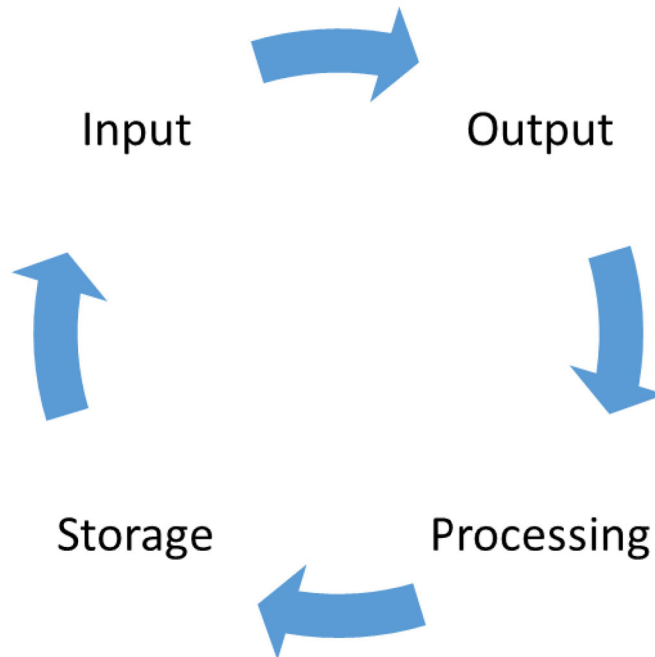
- Life-long employment guaranteeing job security. That would help managers and employees to formulate long-term career plans. That means that each employee will have a life-long stake in the organisation which motivates him to be committed to organisational performance.
- Holistic approach for betterment of total personal life. This involves socialization aimed at inculcating an organisation's progressive philosophy into every employee. That an employee has to be okay both in his personal

life and official life. This is because an employee with serious personal problems may not perform official duties as expected.

- Implicit and informal control of an employee. using appropriate explicit and formalized measures such as empowerment. This gives employees to practice self-direction, decision making, responsibility and self control in line with organisational goals which are satisfying and motivating to work harder.
- Collective formulation of organisational goals since every employee has a stake in the organisation and are therefore interested in. it's success. Such involvement make employees feel recognized and valued.
- Group-centred activities/ teamwork whereby work should be assigned to groups or teams and not individuals.
- Collective decision making and empowerment. This empowers subordinates to carry out collective decision making. They feel a sense of belonging. and recognition. which are very motivating.
- Slow promotion of employees emphasizes continuous performance appraisal and slow promotion of employees. This is because theory Z thrives in a flat, flexible and organic organisational structure.
- Flexible employment whereby employee who are categorized as intellectual capital prefer flexible employment because they tend to move from organisation to another where their skills are on high demand.
- Continuous investment in the development of talent through training, development and creating a learning organisation. This helps the organisation to adapt to the ever changing environment
- Moderately specialized career paths. Whereby multi-skilling is promoted. This enables an employee to perform a variety of activities and tasks in a given discipline.

Solution 5

- (a) The meaning of the terminologies;
 - (i) Data Processing
This refers to the transforming raw data of KNS into meaningful information
 - (ii) Computer Ethics
Is a part of practical philosophy which will deal with the procedures, values and practices that employees of KNS will use to govern the process of using the computer system without damaging or violating the moral values and beliefs of any individual, organization or entity.
- (b) Illustration the four major stages of the data processing life cycle.



- (i) Explanation to the employees of KNS of what happens to the data as it goes through each stages of the data processing life cycle.

Input; at this stage the data of KNS data is converted into machine-readable form by an input device like a keyboard, digitizer, scanner, or data entry from an existing source and sent into the processor.

Processing; at this stage, the input is provided the raw data of KNS will be processed by a suitable or selected processing method. The input data to a more meaningful form which is called information.

Output; is the stage where processed information will be transmitted to learners. Output can presented to users in various report formats like printed report, audio or video. Output will be interpreted so that it can provide meaningful information that will guide the learners for instance to tell them if they are progressing well or need improvement in certain areas of study.

Storage; is the stage where data, instruction and information of KNS will be held for future use. The stage will allow quick access and retrieval of the processed information.

- (c) The type of data processing method that Mr. Otim recommended KNS to use.

Electronic data processing is the modern technique to process data that will involve the use of computers to process the data of KNS. Data and set of

instructions will be given to the computer as input and the computer will automatically process the data according to the given set of instructions.

- (d) Strategies used by the data processing type identified in (c) to process the KNS data.

Batch Processing; this is where the KNS data accumulated over a period of time, will be entered, and processed periodically and appropriately. The information to be organized will be sorted into groups to allow for efficient and sequential processing.

Online Processing; this method utilizes Internet connections and equipment directly attached to a computers of KNS. This allows for the data stored in one place and being used at altogether different place. This can enable the students of KNS to access their reports from wherever they are for as long they have an internet connection.

Distributed Processing; this method is commonly utilized by remote workstations connected to one big central workstation or server. Multiple computers across different locations can share computer-processing capability.

Real-Time Processing; this technique has the ability to respond almost immediately to various signals in order to acquire and process information. These involve high maintenance and upfront cost attributed to very advanced technology and computing power. Time saved is maximum in this case as the output is seen in real time.

- (e) Approaches that KNS can employ to support the ethical practice of the employees that use computers.

Define and limit the appropriate use of computer resources; KNS should develop, communicate, and enforce written guidelines regarding the appropriate use of computer resources. Such guidelines will encourage staff to respect the company's computer resources and use them to enhance their job performance.

Structure information systems to protect data and information; KNS should implement a systems and procedures that limit the access to data of the students. For instance the secretaries can have a right to enter data into the computer, teachers can have access to manipulate assessment data of their course units that they are instructing but not those they are not instructing. Students can be given rights to view and comment about their performance but not to change their grades.

Install and maintain a corporate firewall; a firewall is a hardware and/or software device that can be installed to serve as a barrier between KNS and the outside world. This will limit access into and out of the KNS' network. The firewall can be configured to serve as an effective deterrent to non-work-related Web surfing by blocking access to specific, objectionable websites.

Train staff of KNS about computer ethics; staff of KNS should be given trainings about computer ethics so that they appreciate ethics and also get to learn the dangers and risks involved if computer ethics is comprised.

Reward ethical behavior; People spend more time at work than ever, so it's critical that employees feel a sense of honesty and integrity in the workplace. Management of KNS should recognize when the staff do the right thing because in most cases what gets rewarded gets repeated. This will motivate other staff to act ethically when using computer resources

Solution 6

- (a) The meaning of the terms;
 - (i) Software
Software a collection of computer programs or instructions that enable the programmers, system analyst of DWL and all the staff of TPM to interact with a computer
 - (ii) Programming language
These are coded instructions which the marketers of TPM and the programmers of DWL will use when designing the mobile applications.
- (b) Examples of utility software mentioned in the scenario and their respective functions.

Disk fragmentation; is a software utility that rearranges the fragments or discontinuous parts of each file stored on a computer hard disk so that the small, empty storage spaces adjacent to fragments can be used, effectively creating new storage space and possibly making file access faster..

Text editors; these provide facilities for the creation and amendment of programs. Text editors are provided with operating systems and software development packages, and can be used to change files such as configuration files, documentation files and programming language source code.

Antivirus software; is a type of program designed and developed to protect computers from malware like viruses, computer worms, spyware, botnets,

rootkits, key loggers and such. Antivirus programs function to scan, detect and remove viruses from your compute

(c) Characteristics exhibited most types of programming

Structured programming support; a good language should have necessary features to allow programmers to write their programs based on the concepts of structured programming. This enable programs to write, test and maintain programs with a lot of ease.

Naturalness; a good language should be natural for the application area for which it is designed. It should provide appropriate operators, data structures, control structures and a natural syntax to facilitate programmers to code their problems easily and efficiently. Therefore, the programming language should be easy to understand and learn. Syntax should be easier.

Extensibility; a good language should also allow extensions through a simply, natural and elegant mechanism. It should provide subprogram definition mechanisms.

Orthogonality; it should provide many different ways to achieve the same goal. This gives chance to the developer to choose the better one to be implemented. The more orthogonal programming languages make it easier to learn, read and write programs using that programming language.

Ease of program debugging; Programming language should have excellent debugging facility to debug errors. It should also have capability of program reviewing and warning generation

(d) The level of programming that the programmers and marketers will use to come up with the mobile applications.

High level programming language;

The marketers of TPM and programmers of DWL will use the high level programming language; this is a machine- independent programming language that uses familiar syntax to enable the programmer concentrate on the logic of the problem to generate codes. Such languages are considered to be high level because they are closer to human languages and further from machine languages. Examples are C++, Visual Basic.

(e) Advantages the marketers and programmers will benefit from using high level programming language.

Easier to learn; the marketers and programmers will find high level programming languages easy to learn and understand since the instructions resemble human language.

Machine independent; the mobile applications programmed by the marketers and programmers will not need to be reprogrammed once installed on new mobile devices since they are machine independent.

Less rigid; the high level languages have less rigid rules, forms and syntax, thus the potential for the marketers and programmers making errors is reduced

Solution 7

- (a) How the staff of the RD can use any three database objects found in MS Access to interact with KRDBMS.

Query, a query will be used by the staff to extract specific data from a table. A query takes information from the selected tables and displays a subset of data that meets a given criteria.

Form, the staff will use a form to enter data into the database. A form is a graphical representation used to enter data. The staff can use a form to add, edit, or display the data stored in the Access desktop database.

Report; in case the staff of RD want a patients report. A report will present data from a query or table and will place it in a neat, organized and readable form.

Macro, the staff of RD will use macro to automate database tasks and add functionality to forms, reports, and control. Macros will be used to automate a series of actions, make changes to data in databases.

- (b) Ways how the RD will benefit from the proposed Information system described in the scenario.

Improved data sharing; the KRDBMS will create an environment in which the staff of KH will have better access to more and better-managed data. It will enable the RD to share information with for instance the doctors, accounts and the patients.

Improved data security, the more users access the data, the greater the risks of data security breaches. Using the KRDBMS platform different user can be given rights to access specific data. In so doing security and privacy can be achieved.

Improved data access; the KRDBMS will make it possible to produce quick answers to queries. This indicates that the staff of the RD can ask for specific data using queries for instance, getting patients who have done CT scans in a month.

Data Consistency; when a data item which appears more than once in the database is updated, the KRDBMS will automatically update each occurrence of the data item in the database. Consistency is achieved by reducing redundancy.

Backup and recovery; the KRDBMS will provide backup and recovery procedures. DBMS usually provide for automatic creation of data backup and restore if possible. In case of a misfortune, the departmental data can easily be got back.

Easy update and retrieval; since KRDBMS uses multiple tables and relations. It will become easy to update and retrieve data from the database. This can be achieved by use of different queries.

(c) Other two commonly used Database Management Systems apart from MS Access

- MySQL,
- Oracle,
- Microsoft SQL Server

(d) Major components of the KRDBMS through which different users will use to interact with the database

Data Definition Language (DDL); the database administrator will use the DDL to develop and specify the data contents, relationships and structures of each database, modify these specifications when necessary. This will improve the integrity and security of the KH databases.

Data Manipulation language (DML); this will be used by the application developers to access, retrieve and update the data in the database. This allows to add to add, delete, or change records in the database as well as retrieve data. DML refers to the data elements by their logical name without requiring knowledge of the details how they are stored.

Access methods; the KHRDMS will use access methods to handle the details of physical access to the database.

Query Language; the users without programming skills to ask for information from a database using query language or report generator.

EXAM 11 SOLUTION MARCH 2022

Solution 1

(a) Benefits of effective communication as used by DEL

Communication promoted teamwork that helped in faster completion of organizational objectives.

Communication is motivational since it creates awareness of the business plan encouraging workers to pull effort towards achieving business objectives.

It has encouraged employee to supply vital ideas and suggestions for improving upon the work environment.

Has helped DEL to communicate changes; hence guarding against misinformation and ambiguity.

Communication has led to excellent performance since awareness of objectives and strategies help to focus efforts towards achieving organizational goals.

It helped the employees of DEL to quickly adopt changes in methods of operation to remain relevant amidst stiff competition.

(b) Causes of barriers to communication at DEL

Employs a cross-section of people from different cultures and that affects encoding and decoding of messages. Miscommunication has resulted from cultural diversity.

Different people have different perceptions about similar situations. For example, at DEL, some opposed lunch time meetings while others embraced them.

Some employees' intentionally withholding information is detrimental to operations of DEL. This caused blockage in communication.

Semantic barriers resulting from different interpretations of words and symbols and such distorted the intended meaning. At DEL heads of departments lacked cooperation with subordinates.

Sender's credibility whereby if the sender has a high credibility before the receiver, the message is taken more seriously and is accepted at face value. For the case of DEL, lack of cooperation between departments was a main barrier to communication.

The state of mind of the receiver, emotions, at the time the message was received, for example when happy, depressed or angry the interpretation is different.

There were feedback barriers resulting from the fact that subordinates did not freely offer feedback.

Poor timing, for instance last minute communication with a deadline may result in resentment by receiver because of the pressure exerted.

Inappropriate channel the channel selected must be the most effective. As per DEL the preferred channel was face to face via meetings since it emphasizes the strength of the message. It is supported by non-verbal gestures like eye contact, facial expressions, and tone of voice hence more effective.

Inadequate information

Physical distractions whereby face to face communication is liable to distractions e.g. telephone calls, walk in visitors or attending to other matters.

Organisational structure due to blocking of information between departments resulting from use of unclear channels

Solution 2

(a) Types of planning

Strategic planning refers to the process of determining overall objectives of the organisation, policies and strategies adopted to achieve those objectives. The organisation makes decisions and takes actions that affects its long-term performance. It is done by management and usually covers time period of up to 10 years. It deals with total assessment of the organization's capabilities. It determines the direction the organisation will take.

Operational planning involves establishing short range plans that cover a time span of one week to one year. This is done by lower level managers like supervisors, foremen, etc. and help to accomplish job responsibilities. They are used to support tactical plans by identifying specific procedures and actions required at low levels in organizations.

Tactical planning also known as intermediate planning emphasizes how the strategic plans will be done. It covers a short period of time and involves middle management such as functional managers, departmental heads, and product line

managers. These look at the resources available and determine the most efficient and effective mix of human, financial and material factors in order to accomplish goals.

Contingency planning where managers adapt alternative course of action to implement whenever the original plan proves inadequate or disrupted. In today's rapidly changing environment, there is need to keep all options open such that when there are changes, management prepares to cope with such changes. Contingency planning is necessary at each level of management and for strategic, tactical and operational planning.

(b) Relevance of planning to business organisations

Planning puts focus on business objectives because of the emphasis it puts on clarity and specificity of objectives. Objectives provide direction and all planning objectives are directed towards achievement of these objectives.

Planning facilitates control since it involves the continual analysis and measurement of actual operations against the established standards.

If businesses are to be in position to anticipate problems and uncertainties, then planning is vital. It helps in collection of relevant information for the purpose of forecasting the future accurately.

Planning is relevant in businesses because of the growing complexities of modern businesses with rapid technological changes, changes in consumer preferences and growing tough competition which necessitate operation in the current as well as in the future environment.

In as long as planning affect decision making process, it is vital. It specifies steps to be taken to accomplish organizational objectives and so acts as a basis for decision making about future activities.

Planning affects performance since studies have shown that organizational success is a function of formal planning. Those businesses that engage in formal planning perform better than those with no formal planning.

Planning serves as a prerequisite for employing all other management functions of organizing, leading, control, etc.

Planning helps in building teamwork since it encourages coordination of efforts.

Planning helps in the process of motivation. When plans are properly communicated to all members of the organization, everyone can feel involved in carrying them out. This increases their sense of belonging and become highly motivated.

Planning results into proper utilization of organizational resources; as such, it reduces on unproductive work, idle time for workers, down time for machines resulting in minimum cost of operations.

Solution 3

(a) Principles of effective delegation

- Functional clarity whereby functions to be performed, methods of operations and the results expected must be clearly defined.
- Matching authority with responsibility, authority should be adequate and should not only match the duties but also personal capabilities of the subordinate.
- Unity of command whereby a subordinate should be responsible to only one superior who is delegating the authority to the subordinate.
- The principle of communication becomes so important if one is to avoid misunderstanding and misuse of authority, both responsibility and authority should be clearly specified, openly communicated and properly understood.
- Principle of management by exception whereby management should delegate the authority and responsibility for routine operations and decision making to subordinates, reserving for themselves such tasks they alone are uniquely qualified.
- The senior delegating must not walk away from the subordinate to whom the task is delegated but must maintain some control of both the process and results of the delegated tasks.

(b) Barriers to delegation

These stem from the reluctance of managers to delegate authority and also from many subordinates avoiding taking on the authority and responsibility that goes with it.

Reluctance of executives

Belief that they can do the work better than subordinates. To such, delegation may require a lot of time in explaining the task and responsibility to the subordinates and the manager may not have the time and patience to explain, supervise and correct any mistakes.

A manager may lack confidence and trust in his subordinates since the manager remains responsible for the actions of his subordinates. Therefore he may not be willing to take chances with the subordinates in case the job is not done well.

Some managers lack the ability to command their subordinates. They may not be good in organizing their thoughts, activities and hence may not know what to do after delegation in order to help subordinate to complete the task.

Some managers feel very insecure in delegating authority especially when the subordinate is capable of doing the job better.

A manager may fear being known as lazy if he delegates most of his tasks. Everyone wants to look busy. So if there is not enough work for them to do due to delegation, then delegation is not possible.

If the manager believes that the control system is not adequate in providing early warning of problems and difficulties that may arise in the delegated duties hence delaying corrective actions and decisions.

Reluctance of subordinates

Many are reluctant to accept authority and make decisions for fear that they will be criticized or dismissed for making wrong decisions.

The subordinate may not be given sufficient incentives for assuming extra responsibility. Such comes with working hard and moreover under pressure.

Some lack self-confidence in doing the job and may fear that the supervisors will not be available for guidance.

Some are reluctant to accept new and added assignments when there is lack of necessary information and when the available resources are not adequate.

Remedies to barriers

Proper selection and training of subordinates in terms of the abilities and limitations before delegating authority.

Delegation must be complete and clearly understood such that the subordinates know exactly what to do, preferably in writing

Motivation of subordinates by management especially with the challenge of added responsibility.

Tolerance of subordinates' mistakes. Subordinates may not be experienced as the managers in making objective judgment, so management should not penalize them but instead encourage them to learn.

Establishment of adequate controls, these are check points and controls built in the system e.g. weekly reports.

Solution 4

- (a) Legal and regulatory procedures to be considered for a business to be established in Uganda.

Tax laws: The government levies charges upon the income earning base or expenditures of people or organizations. In that case, BBL had to ensure compliance.

Trade licensing whereby no trader is allowed to operate a business without holding a trading license. This provides the government with an opportunity to ensure that only the right people obtain a license.

Consumer protection whereby various laws are enforced by the government to ensure that consumers' interests are protected and are not cheated on their hard earned money.

Financial control measures whereby the government needs to ensure that its currency maintains its value. It is done through instituting financial control measures like credit control, import restrictions levying taxes, etc.

Bureau of standards where government sets standards for quality of various products made or imported into the country. Specifications in terms of quantity, quality, weight, mix, etc. that must be met by products requiring approval.

Employment and labour laws where issues of working conditions, minimum wage, and social security are emphasized.

Health and safety laws; the health and safety of workers is paramount.

Environmental regulations where laws aimed at protecting the environment are enacted for instance, treatment of waste products that may be harmful to the environment. Thus businesses are required to do an environmental impact assessment.

Exchange control whereby government restricts the outflow of money to other countries. Such must be regulated so as to maintain a healthy balance of payments.

Quality control

Copy rights and patents

(b) Social-cultural factors that influence operations of BBL

Attitudes, values and ethics determine the products, services and standards of conduct that are acceptable to the society. For the case of BBL, garments had to be made with consideration of the needs of the youth hence designs of skinny, boot leg, high and low waist jeans had to be made.

The education level, occupation and incomes had to be looked into. Management at BBL had to consider production of office wear including ladies and gents suits.

The population increases, marital status and sex had to be considered since trends revealed that more women and girls had taken to wearing trousers like never before.

Management style had to be adjusted. Here the traditional authoritarian style has to be replaced with the participative style allowing more autonomy for workers. That has brought in more workers hence improving the quality of work.

Age distribution where more youth are requiring skinny, boot leg, high and low waist jeans

Career attributes where many working women are wearing trousers

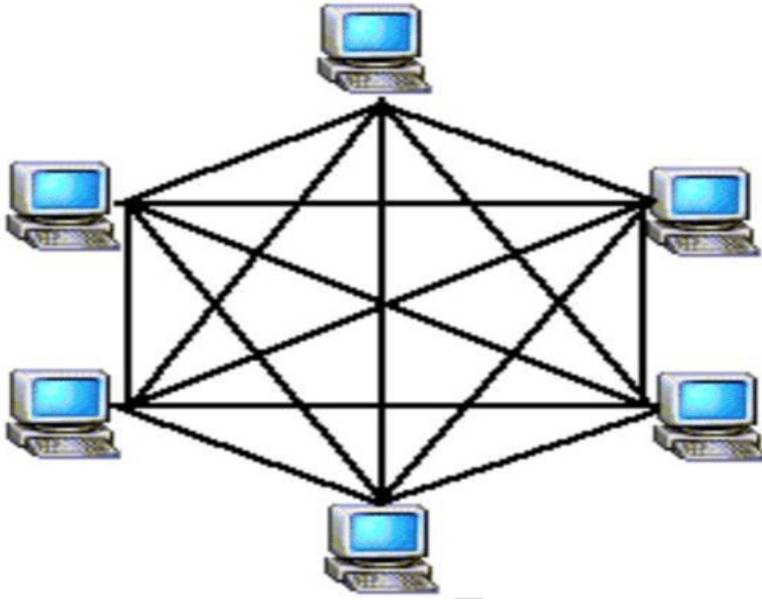
Solution 5

(a) Definition of computer network topologies.

Computer network topologies refer to the manner in which the links and nodes of a network are arranged to relate to each other.

(b) The limitations of the following computer network topologies.

(i) Mesh topology



Limitations

Amount of wires required to connect each system is tedious

Since each device needs to be connected with other devices, number of I/O ports required must be huge.

There are scalability issues because a device cannot be connected with large number of devices with a dedicated point to point link.

It's costly as compared to the opposite network topologies i.e. star, bus, point to point topology.

Installation is extremely difficult in the mesh.

Power requirement is higher as all the nodes will need to remain active all the time and share the load.

Complex process to set up.

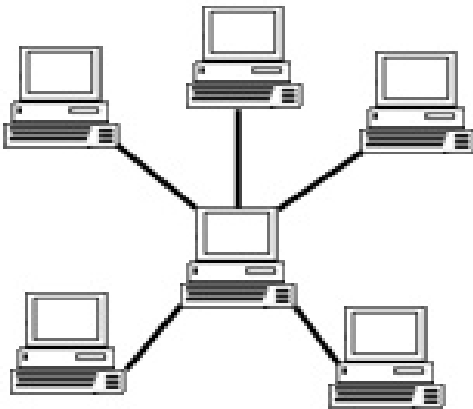
The cost to implement mesh is above other selections.

There is a high risk of redundant connections.

Each node requires a further utility cost to think about.

It is challenging maintain a mesh topology.

(ii) Star topology

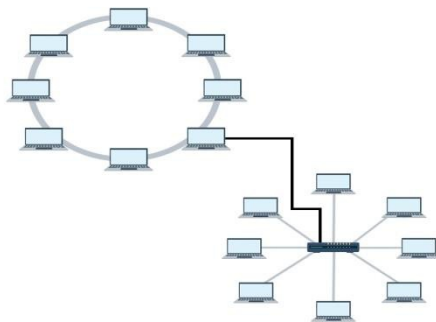


Limitations

If hub goes down everything goes down, none of the devices can work without hub.

Hub requires more resources and regular maintenance because it is the central system of star topology.

(iii) Hybrid topology



Limitations

Complexity of design: One of the biggest drawbacks of hybrid topology is its design. It's not easy to design this type of architecture and it's a tough job for designers. Configuration and installation process needs to be very efficient.

Costly hub: The hubs used to connect two distinct networks, are very expensive. These hubs are different from usual hubs as they need to be intelligent enough to work with different architectures and should be function even if a part of network is down.

Costly infrastructure: As hybrid architectures are usually larger in scale, they require a lot of cables; cooling systems, sophisticated network devices, etc.

(c)

(i) Reasons why mesh topology is preferred for wireless connections.

With a full mesh, each node is directly connected to every other node. This enables a message to be sent along many individual routes.

When one node can no longer operate, the rest of the nodes can still communicate with each other, directly or through one or more intermediate nodes.

Wireless mesh networks can self-form and self-heal.

A mesh network is a great option where there is poor connectivity in some areas, known as not-spots.

All nodes of a mesh topology cooperate to distribute data amongst each other.

The wireless mesh is inexpensive because fewer cables are required. Data is transferred using radio signals.

Wireless mesh topology-based networks have high levels of reliability when compared with other wireless topologies.

In a mesh network, devices can be added, removed, or relocated easily without any material cost, without much interruption in existing network.

No data traffic issues as there is a dedicated link between two devices which means the link is only available for those two devices.

Mesh topology is reliable and robust as failure of one link doesn't affect other links and the communication between other devices on the network.

Mesh topology is secure because there is a point to point link thus unauthorized access is not possible.

Fault detection is easy.

(ii) Reasons why star topology is preferred to other network topologies.

Less expensive because each device only needs one I/O port and needs to be connected with hub with one link.

Easier to install

Fewer amounts of cables required because each device needs to be connected with the hub only.

Robust, if one link fails, other links will work just fine.

Easy fault detection because the link can be easily identified.

Solution 6

(a) Definition of;

(i) Databases.

A database is a tool FTT uses for collecting, storing and organizing information about their travel clients.

(ii) Database management system.

Database Management System (DBMS) consists of a group of programs which FTT uses to manipulate the database they developed to securely manage the information of their travel clients.

(b) Ways in which FTT is benefiting from the use of a DBMS to effectively run its business processes.

Simplified data sharing. The DBMS allows FTT database users to easily share the data by following the correct authorization protocols. It provides operators access to well-managed data. As a result, they can rapidly respond to variations in the tours and travel business.

Enhanced data safety. The threats of data security breaches become more pronounced when several users access the database. Database management software offers better implementation of data confidentiality and safety guidelines through controlled user access for FTT.

Improved data integration. A DBMS stimulates an integrated view of the FTT's data. The company can quickly see how activities in one department can influence other departments.

Better decision-making. The DBMS provides access to well-managed data, making it possible for FTT's database users to make accurate and timely decisions.

Improved efficiency. The DBMS convert data into valuable information, enabling the operators of FTT database to make swift, knowledgeable decisions. This improves their performance and efficiency.

Support for multiple views of data. A database supports multiple views of data. A view is a subset of the database, which is defined and dedicated for particular FTT users of the system. Multiple users in the system OF FTT might have different views and each view might contain only the data of interest to a user or group of users.

Multi-user DBMS. The current DBMS FTT is using is designed for multiple users. It allows many users to access the same database at the same time. This access is achieved through features called concurrency control strategies. These strategies ensure that the data accessed are always correct and that data integrity is maintained.

Control of data redundancy. Data control is done centrally. Data in the sales department for example may need to be used by other departments like the management. This data can be centrally accessed by interested parties in FTT without having multiple copies of the same hence controlling redundancy.

Enforcement of integrity constraints. A DBMS provide the ability to the users of FTT database to define and enforce certain constraints to ensure that users enter valid information and maintain data integrity. A database constraint is a restriction or rule that dictates what can be entered or edited in a table such as a postal code using a certain format or adding a valid city in the City field.

Restriction of unauthorized access. Not all users of the FTT database system will have the same accessing privileges. For example, one user might have read-only access (i.e., the ability to read a file but not make changes), while another might have read and write privileges, which is the ability to both read and modify a file. For this reason, the DBMS provides a security subsystem to create and control different types of user accounts and restrict unauthorized access.

Data independence. Another advantage of a database management system is how it allows for data independence. In other words, the system data descriptions or data describing data (metadata) are separated from the application programs.

This is possible because changes to the data structure are handled by the database management system and are not embedded in the program itself.

Transaction processing. A DBMS includes concurrency control subsystems. This feature ensures that data of FTT remains consistent and valid during transaction processing even if several users update the same information.

Backup and recovery facilities.

Backup and recovery are methods that allow protection for data from loss. The DBMS provides for that to the data of FTT.

(c) Ways in which FTT uses the following database objects in its day-today activities.

(i) Queries

Through queries, FTT's database users are able to view data only from the fields they are interested in.

Queries can enable the users of FTT's to combine data from several data sources. These sources can be tables and other databases which can be integrated.

Queries can enable the different categories of FTT to view records that meet criteria they specify.

(ii) Reports

Database reports are created from data visualized for analysis, data discovery, and decision-making by the users of FTT. They contain useful data for decision-making and analysis for FTT.

Reports are used by the users of FTT to format, summarize and present data. A report usually answers a specific question, such as "How much money did was received from each customer in a given month?" or "What cities are our clients located in?"

A report can be run at any time by FTT users, and will always reflect the current data in the database. Reports of FTT database can be printed out, be viewed on the screen, exported to another program, or sent as an attachment to an e-mail message.

(iii) Forms

Forms allow the database users (internal and external) of FTT to create an interface in which they can enter and edit data. Additionally, FTT database users can use forms for viewing data in the database tables.

Forms have command buttons which can even be programmed to determine which data appears on the form, open other forms or reports, or perform a variety of other tasks. For example, FTT might have a form named "Customer Form" in which they work with customer data. This customer form might have a button which opens an order form where one can enter a new order for a particular customer.

Forms also allow the database administrator of FTT to control how other users interact with the data in the database. For example, the database administrator can create a form that shows only certain fields and allows only certain operations to be performed. This helps protect data and to ensure that the data is entered properly.

Solution 7

Explanation of;

(a)

(i) Information security threat.

Information security threat is a malicious event or action targeted at interrupting the integrity of BELs online business with the inspiration to compromise their data for purposes of exploitation.

(ii) Three examples of BEL's sensitive data likely to be at risk of hackers.

Credit card information: This include the Credit card number, Cardholder name, Expiration date, the CVV or security code, Account information, Credit limit, Current balance, Interest, Minimum payment and Rewards.

Passwords: These are a way for the website users of BEL commercial website to prove their identity when using the website. They are secret combinations of letters, numbers, and symbols that only the users of BEL commercial website know, to keep other people from seeing their private information and accounts on the Internet.

Contact lists: These are lists of people, groups, or organizations with whom BEL communicates with via their commercial website.

Internet browsing behavior: This is the likely search information that a browser brings with no much information search input by a BEL user. It is achieved with the help of an internet browsing device like a computer or smart phone as a result of frequent repetition of search about a particular topic by the same user, and requires little or no attention to complete. An example can be the type of ads the user frequently view or interact with.

- (c) The likely security threats to keep BEL commercial website and their clients unsafe from hackers and viruses.

Privilege Escalation: Privilege escalation occurs when an attacker exploits weaknesses within a system in order to gain access to unauthorized actions and information. In some cases, an attacker will begin with limited access and look for ways to increase their capabilities within the system. They look for flaws and vulnerabilities in the software or use shady skills to get past security.

Virus: A virus is a computer program that has the ability to replicate and infect other computers. Viruses are transmitted over networks or via USB drives and other portable media.

Worm: Unlike a typical virus, the goal of a worm is not to alter system files, but to replicate them so many times that it consumes hard disk space or memory and affects the boot sector. Worms cause computers to run slower or crash.

Trojan: These are programs that masquerade as normal, safe applications, but their mission is to allow a hacker remote access to one's computer. In turn, the infected computer can be used as part of a denial of service attack and data theft can occur. Trojan is a keystroke logger that can be used to capture passwords, credit card numbers, and other sensitive information.

Spyware: Spyware usually invades computers through software downloads. Shareware and freeware downloads, in addition to peer-to-peer file sharing are typical infection points. Like Trojans, spyware can pilfer sensitive information, but they are often used as advertising tools as well. The intent is to gather a user's information by monitoring Internet activity and transmitting that to an attacker.

Spam: These are unsolicited commercial e-mails. Such messages can disrupt user productivity, utilize IT resources excessively, and be used as a distribution mechanism for malware.

Adware: This is a short form for “advertising supported software”. It is similar to spyware in that it is used to observe a user's internet browsing habits. The purpose of Adware is to determine the type of ads a user may be most likely to view or interact with. It automatically generates target-specific ads in order to bring in revenue for the person or company that created it. It is generally directed at individuals who are likely to be the clients of BEL commercial website rather than BEL and is often unwanted, because it monitors, records, and uses one's online activity for promotional purposes.

Rootkits: These are programs designed to conceal their existence from the owner of the computer or system. They are activated when a system boots up before anti-virus software is started and provide administrative access to a remote, unauthorized user. Rootkits allow the installation of files and accounts for the purposes of intercepting sensitive information.

Botnets: A botnet is a group of computers that have been synced together to carry out a specific function. Botnets act as a force multiplier for individual attackers, cyber-criminal groups and nation-states looking to disrupt or break into their targets' systems. Commonly used in distributed denial of service (DDoS) attacks, botnets can also take advantage of their collective computing power to send large volumes of spam, steal credentials at scale, or spy on the clients of BEL and BEL itself.

Logic bomb: These are bits of code added to software that will set off a specific function. Logic bombs are similar to viruses in that they can perform malicious actions like deleting files and corrupting data of the clients of BEL and BEL itself.

(d) Ways BEL can employ to prevent data loss.

Should:

Make backup copies of essential business and personal information on a regular basis. These copies should be stored remotely in a different building in water and fireproof container or even the cloud.

Set up an IT security department with someone appointed to constantly monitor for data loss events and imminent security threats.

Obtain and use the latest copy of state-of-the-art anti-virus software appropriate for your computer systems. They should also install updates as soon as they become available.

Make sure that their computer systems are protected by a strong firewall to help keep unsafe network traffic out.

Update and patch all computer systems on their business network to keep security current.

Limit access to important data by implementing a system of strong passwords which should be updated regularly.

Educate its company employees, of all access levels, on a regular basis so they're aware of best practices. A slip up from any employee could have ripple effects on your entire organization, especially when shared storage is involved.

Ensure encryption of information so that it will be unreadable to anybody accessing it without authorization.

Ensure that data is protected from power surges. Power surges and power outages can and will wreak havoc on your computer system. They will need uninterruptible power supply (UPS) to achieve this. The UPS will provide near-instantaneous emergency power if the main supply cuts out so that they can save their documents and shut down their computers properly without damaging the hardware or corrupting the files.

Develop a disaster recovery plan. A lot can go wrong and become damaged in an emergency situation if employees don't know what to do when a particular threat emerges. A Disaster Recovery Plan will allow everyone in BEL to spring into action the moment a disaster occurs to minimize data loss.

Keep their computers dust-free and dry. Dust can build up and cause overheating, while humidity can induce rusting – damaging hardware. It's best to keep your computer in a safe, dry, dust-free area.

EXAM 12 SOLUTION JUNE 2022

Solution 1

- (a) 'Performance appraisal' is the assessment of employee's performance in some systematic and planned way to aid in management decisions about the employee.
- (b) Reasons why APA carries out performance appraisal
- To identify an employee's current level of job performance, that is, to be able to judge whether employees are performing at the acceptable levels.
 - To identify an employee's strengths and weaknesses so that timely steps may be taken to improve the quality of personnel.
 - To enable employees to improve their performance in relation to the business goals and set standards.
 - For rewarding employees for contributing to organisation goals. There is need to provide a record of each employee's performance for the purpose of incentive pay and rewards.
 - To motivate individuals so that each gets to know where they stand. Such gives them confidence and morale to develop themselves.
 - To identify training and development needs by identifying misplaced employees so that suitable remedial action may be taken.
 - To provide information for succession planning
 - To identify potential performance of employees such that it's fully tapped by the organisation. Employees will be stimulated to work extra hard so as to be rated high.
- (c) Some of the appraisal styles employed APA
- Tell and sell approach, where the manager tells the team members how they are doing and persuade them to accept what has already been accepted for improvement.
 - Tell and listen, where the manager tells the team member how he/she is doing but sits back and listen back to listen to the individual's view on appraisal and any other follow-up action required.
 - Problem solving where the manager joins the team member in mutual reflection on progress and mutual discussion about action required.
 - Sharing, considered best basis for an appraisal, in which the manager and the team member work together more or less as equals; this approach is closer to coaching

Solution 2

- (a) Routine decisions relate to the day-to-day operations, taken repeatedly in line with policies, practices and procedures, without much thought and deliberation and taken at lower levels of management

Strategic decisions are concerned with policy matters and exercise fundamental influence on the objectives, facilities and structure of the organization. It involves long term commitment; require careful analysis and considerable deliberation. It involves considerable risk and uncertainty and generally taken by top management.

- (b) The stages in which one would get involved in during the decision making process

Defining the problem where it involves the definition of desired results, identification of the causes and magnitude of the problem and the limits within which it can be solved.

Analysing the problem in terms of nature, impact, futurity and periodicity of the decision.

Developing alternative solutions by searching for and identifying viable or possible alternatives.

Evaluating alternatives by comparing and evaluating them in terms of cost, time, feasibility and contribution to objectives.

Selecting the best alternative which can make net maximum contribution to the goals by adopting a plan of action.

Implementing the decision by developing detailed plans, communicating the decision, getting acceptance of the decision, getting support and cooperation of those concerned and developing controls to ensure that the decision is converted into action.

Evaluation of the decision process such that if the evaluation shows unsatisfactory results, the process should be reviewed and the decision may be modified.

- (c) Some of the questions to be answered during the evaluation of decision process

- Was the problem defined adequately in terms of objectives, constraints and measures of success?
- Were likely alternatives identified?
- Were likely constraints identified?
- Was relevant information obtained?
- Was enough time spent on defining the problem and collecting the information?
- Was the available information analysed and interpreted logically?
- Was the preferred alternative implemented properly?

Solution 3

(a) Reasons why businesses in Uganda engage in corporate social responsibility

Public expectations that business must pursue both economic as well as social objectives.

Ethical obligation that a business firm can and should have conscience because responsible actions are right for their own sake.

Public image to gain more customers, better employees, access credit and other benefits.

Possession of resources to provide support to projects that need assistance.

To discourage further government regulations.

Increased profits as a result of community relations and improved image from responsible behaviour.

To improve the share price as stock market will view the socially responsible company as less risky and will award its shares a higher price earnings ratio.

Businesses must act on social problems before they become more serious and costly to correct.

Businesses can solve difficult societal problems and create a better quality of life and a more desirable community.

To attract more customers and widen their market share.

To help conserve the environment in which they operate.

(b) The types of corporate social responsibility.

Business and resources where businesses use resources responsibly without wastage, depletion and causing pollution.

Business and shareholders where the latter do not only get fair returns on their investments but access regular, accurate and full financial information about the business.

Business and workers where workers are entitled to fair wages, to participate in decisions, to membership to trade unions, to collective bargaining and the right to strike.

Business and the customers by business not exploiting customers through high price and poor quality goods and services.

Business and government by paying taxes to government so as to enable it create a conducive environment for business to flourish.

Business and community by providing goods and services, solving societal problems and ensure sustainable development.

Solution 4

- (a) The different types of leadership styles at MUC Advocates according to Robert Blake and Jane S. Mouton.

Impoverished (1-1) or laissez fares style where minimum effort is exerted to get the work done.

Country club (1-9) style where much attention is given to the needs of people.

Task (9-1) style where efficiency in operations results from arranging conditions of work in such a way that human element interferes to a minimum degree.

Middle of the road (5-5) style where performance is possible through balancing work while maintaining morale of people.

Team (9-9) style where work is accomplished from committed people with a common purpose leading to relationships of trust and respect.

- (b) The different types of leaders found at MUC Advocates:

Traditional leader whose position is inherited by birth like a child of a business owner.

Appointed leader who is occupying a certain position or rank by appointment.

Situational leader whose influence is effective at the right time at the right place.

Charismatic leader whose influence comes from his personality or personal attributes.

Transformational leader have the ability to make strategic changes, mission structure and human resource management.

Functional leader secures his position by what he does rather than by what he is.

Informal leader commands a group of followers informally but has a lot of power over them

Solution 5

- (a)

- (i) Definition of the term 'computer input device'.

A computer input device is any hardware device that sends data to a computer, allowing computer users to interact with and control it.

- (ii) Common features of computer input devices
 - Computer input devices accept incoming data and instructions.
 - Computer input devices convert incoming data and instructions into a pattern of electrical signals in binary code that is understandable to a digital computer.
- (b)
 - (i) Other computer input devices that can be used in a business environment.
 - Scanners
 - Microphone
 - Webcam
 - Video capture device or Digitizer
 - Interactive white board
 - Optical character recognition devices
 - Barcode readers and scanners
 - Biometric input devices
 - Digital cameras
 - Joystick
 - Light Pen
 - Track ball
 - Digitiser
 - Magnetic Ink Card Reader (MICR)
 - Optical Character Reader (OCR)
 - (ii) How each of the computer input devices are used in a business environment.

Scanner: Businesses sometimes have hard copies of documents or images that need to be put in digital form for purposes like easy storage and retrieval or sharing them with people who are remotely operating from where the physical documents are. In such instances, a scanner can be used to translate a hard copy into a digital file which can be stored on a computer storage device or can be sent to remote locations through computers that are connected to the internet.

Microphone: Microphones allow people to input audio material into computers. Microphones allow people to chat over the web. This technology allows far-flung participants to conduct business meetings, interviews and webinars - seminars conducted via the web. Microphones can also be used to communicate with the computer itself through a voice or speech recognition program. They can also be used in music and video production for music and video industries.

Webcam: Webcams, too, allow businesses to hold meetings with far-off people. Webcams translate live images for the computer so they can be sent via the Internet to another location in real time.

Video capture device or Digitizer: Businesses wishing to get messages out by featuring video on a website or YouTube need first to input the video into a computer. A video capture device or digitizer does this, acting as a go-between for a video camera or television and a computer. Once in the computer, video can be formatted and shared on the Internet or turned into multimedia presentations.

Interactive white board: An interactive white board allows users to communicate information to groups of people. It serves as both a display and an input device, connecting to a computer wirelessly or with cables so a group can see what's happening on the computer screen. The contents of the computer screen are digitally projected onto the white board. The presenter uses fingers, a pen or another device to interact with the white board, which controls the computer and, thereby, the images that are presented.

Optical character recognition devices: Abbreviated as OCR, optical character recognition devices use a light source to read special characters and convert them into electrical signals to be sent to the central processing unit of a computer. The characters-letters, numbers, and special symbols-can be read by both humans and machines. OCRs are often found on sales tags on store merchandise.

Barcode readers and scanners: A BCR (barcode reader) or scanner, also known as a POS (point of sale) scanner is a computer input device capable of reading a barcode using a laser. It can also load the details of the product or log information about that product into a database. An example of a barcode reader is a supermarket barcode scanner that reads and logs the price of a product.

Biometric input devices: in computing, biometrics is the identification of a person by the measurement of their biological features. Biometric input devices use the unique measurements and characteristics of a person's body to interact with a computing device. For example, users identifying themselves to a computer or building by their fingerprint or voice is considered biometrics identification.

Digital cameras: These are used to capture digital images and input them directly into a computing device.

Joystick: This is a pointing device which is used to move the cursor position on a monitor screen. It is a stick having a spherical ball at its both lower and upper ends. The lower spherical ball moves in a socket. The joystick can be moved in all four directions.

Light Pen: A pointing device similar to a pen. It is used to select a displayed menu item or draw pictures on the monitor screen. It consists of a photocell and an optical system placed in a small tube. When the tip of a light pen is moved over the monitor screen and the pen button is pressed, its photocell sensing element detects the screen location and sends the corresponding signal to the CPU.

Track ball: Mostly used in notebook or laptop computer, instead of a mouse. This is a ball which is half inserted and by moving fingers on the ball, the pointer can be moved.

Digitiser: Converts analog information into digital form. Digitiser can convert a signal from the television or camera into a series of numbers that could be stored in a computer. They can be used by the computer to create a picture of whatever the camera had been pointed at. Digitiser is also known as tablet or graphics tablet.

Magnetic Ink Card Reader (MICR): The MICR is generally used in banks as there is large number of cheques to be processed every day. The bank's code number and cheque number are printed on the cheques with a special type of ink that contains particles of magnetic material that are machine readable. The reading process is called Magnetic Ink Character Recognition (MICR).

Optical Character Reader (OCR): This is an input device used to read a printed text. OCR scans the text optically, character by character, converts them into a machine readable code, and stores the text on the system memory.

(c)

- (i) **Meaning of the term computer input devices security.**
This is the protection of computer input devices from harm, theft, and unauthorized use with the intention of keeping them working properly.
- (ii) **Steps to be followed when cleaning a keyboard.**
Unplug the keyboard from the USB or PS/2 port. If the keyboard is plugged into the PS/2 port, you will need to shut down the computer before unplugging it.

Turn the keyboard upside down and gently shake it to remove dirt and dust. Use a can of compressed air to clean between the keys.

Moisten a cotton cloth or paper towel with rubbing alcohol, and use it to clean the tops of the keys. Do not pour alcohol (or any other liquid) directly onto the keys.

Solution 6

(a) Definition of;

(i) Office automation.

A combination of computer hardware, software, and network connection, made available in an organisation to simplify and automate a variety of office operations, such as inventory management, facility management, accounting, email, and word processing.

Or,

Office automation systems are computer based information systems that collect, process, store and transmit electronic messages, documents and other forms of communications among individuals, work groups and organisations.

(ii) Information system.

This is an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products.

(iii) Information systems architecture.

Information system architecture is a formal definition of the business processes and rules, systems structure, technical framework, and product technologies for a business or organizational information system.

(iv) Operations support systems.

These are systems that support data input by the end user at the operational level of an organisation, which is processed to generate information like reports, which are utilized by internal and or external users.

(v) Management support systems.

These are systems that facilitate efficient decision making process for managers. They provide them with precise information in a specific format to undertake an organisational decision.

(b) Benefits of office automation.

Improved accuracy: Humans make errors but properly implemented automated systems do not. Human errors can be costly to an organisation. For instance, adding too many digits when paying an employee or vendor. Serious mistakes can lead to security and compliance issues, fines and penalties. An office

automation system limits human intervention in the transfer and manipulation of data, which minimizes the occurrence of errors.

Reduced costs: By automating complex business processes, organizations don't need to invest as much into hiring for those tasks. As a result, operational costs are lower, while productivity and profit margins are significantly higher.

Reduced time and resources: Through automation, organisations can accomplish more with less. By eliminating tedious and time-consuming processes, employees can spend their time on more high value tasks. For example, returning to the popular paperless benefit, with office automation software employees do not need to spend as much time collecting important documentation, entering that information, or filing away voluminous paper copies. The system does it for them.

Data storage and management: Office automation systems simplify data storage while giving organizations the ability to monitor and control data through an electronic document management system. Common features include things like task management and reminder systems, as well as easy access to information by key stakeholders.

Data exchange: Exchange of stored or manipulated data and information swiftly with office automated systems. Sending files or exchanging data or information between one or more than one member of an organization is possible with an electronic transfer application. Through a network connection, all data and information, including text documents, presentations, spread sheets, images, and videos can be sent in real-time within a few seconds. Illustrating the collaborative nature of an office automation system, this allows organisational employees for instance to collaborate in real-time and enhance their productivity.

Accuracy: This is greatly improved as programs and applications assist staff in getting 100% accuracy in day-to-day business processes. Implementing advanced business automation software also helps to reduce the probability of errors.

Saving time and resources: By is done by simplifying and automating complex tasks. Network communications mean that businesses are now no longer restricted by geographical limitations and there is less need for expensive travel. Electronic and digital forms handling equipment means that less staff is required for such tasks and more time is saved. Digital storage eliminates the need for hard copies, which not only saves money and office space, but it helps the planet too.

- (c) Contents of information systems architecture.
- The nature of data stored in an information system
 - How does the information system functions.
 - Where the components of the information system are located.
 - When activities and events occur in the system.
 - The purpose for the existence of the information system.

Solution 7

- (a) Characteristics of requirement gathering and analysis phase in SDLC.
- Establishing the objectives of the new system
 - Conducting an analysis of its costs and the benefits to be derived from it
 - Outlining the process of systems implementation.
 - Detailed systems analysis must also establish who the system users are, what information they should get and in what form, and how this information will be obtained from the incoming data and from the databases.
- (b) Techniques a systems analyst uses to gather information during the requirement gathering and analysis phase of SDLC from different stakeholder groups in order to determine the specific requirements for the new system.

Asking the users: The system analyst skilfully talks to the users of the proposed system with the aim of getting their opinions and view about it. He can also interview them to get tailored precise responses about the new system.

Deriving from an existing system: The requirements for a proposed system may be derived from an existing information system. A system accessible to the analyst which is similar to the proposed one that is already installed elsewhere can be adapted.

Deriving from the analysis of the business area: Informational analysis of the business unit to be served by a system may be carried out. A method that will also help establish the informational needs of an individual manager is decision analysis. This can be achieved by identifying the key decisions that a manager makes, defining the steps of the process whereby the manager makes these decisions, defining the information needed for the decision process and establishing what components of this information will be delivered by the information system and what data will be needed to do so.

Experimenting with the system under development: This is referred to as prototyping. An initial system version that embodies some of the requirements is built and the users are required to use it in a trial mode to find out if the expected features are functional as expected. The prototype may be may evolve into the system to be delivered.

- (c) Features of the following that the systems analyst must consider while purchasing hardware for the new system for the satisfaction of the end users.

(i) Mice.

Weight: Some people prefer a light mouse to reduce fatigue when using the mouse for extended time periods. Others prefer heavier mice feel more solid. Some mice come with customizable weight: One can add or remove small extra weights to the mouse, so that the mouse weight feels right for them

Hand grip style: Most mice are shaped by taking into consideration how the user holds the mouse. The three most common grips are palm grip, claw grip, and fingertip grip.

Precision: This describes how precisely a mouse cursor tracks one's hand movement. Non-perfect mice sensors may have jitter, acceleration or angle snapping. The purpose of a computer mouse is to track one's hand movement in real life and translate it to cursor movement on a screen. If the mouse cannot track one's movement as accurately as they want, then it has failed its purpose, regardless of how comfortable it may be or what other features it has.

Button layout: This explains where the buttons are on the mouse. Depending on the needs of the end users of the new system, the systems analyst may to consider purchasing mice with a 3-buttons. Some end users may be dissatisfied with anything less than 7 buttons. Therefore the systems analyst will purchase mice with the adequate number of buttons accordingly.

DPI/CPI: Dots per inch/Counts per inch. It refers to the number of "steps" your mouse can detect, per inch of movement. Thus it is a measure of mouse sensitivity, not precision or accuracy. CPI is the technically accurate term, but DPI is the better known term.

Size: The size of the mouse is an important aspect of comfort, and depends mostly on the user's hand size. End users of the new system with large hands may prefer larger mice since their hands may feel cramped when holding a small mouse. Those with small hands may find large mice difficult to hold properly and thus difficult to control.

Extra features: There are many "extra" features a mouse can have that are unrelated to either comfort or precision. These include: Programmable buttons, customizable LEDs, two-mode scrolling, on-the-fly DPI adjust, wireless-ness, durability, cable braiding/flexibility, etc.

(ii) Computer monitors

Type of monitor: There are many types of monitors out there, ranging from gaming monitors to business monitors. Therefore the systems analyst has to consider carefully the features that suit your needs of the end users of the new system before purchasing.

Resolution: Resolution describes the number of pixels a monitor can display. The higher the resolution, the better the picture, because more information can be displayed.

Features: Monitors may look alike but the additional features some models come with can raise them above the competition. It is worthwhile, for example, for the systems analyst to compare gloss and matte screens: each offers a different viewing experience, but it mainly comes down to personal preference. Monitors with a swivel base make life easier if one is to rotate their screen towards colleagues to show them something. Some monitors have adjustable height, which solve neck aches and pains.

Size: Some end users of the new system may prefer large screens while others may not. The systems analyst must have that in mind. Monitors generally range from 15inches up to 30inches, the size of the monitor being measured diagonally across.

Solution Exam 13 September 2022

(a) The macro environment affecting operations of MUL

The political and legal environment characterised by strikes, demonstrations that cause insecurity, the liberalization policy that brought in foreign investors, the laws and policies, subsidies and tax holidays.

The economic environment that is affected by the inflation rate, exchange rate, interest rate employment rate affect the operations of MUL.

The social environment characterised by different cultural and demographic aspects of society. The age distribution, values, beliefs and attitudes, the population itself, career attributes incomes; occupation and level of education become important aspects for management to consider.

The technological environment is also important. Monalisa has to be well conversant with changes in technology and so research, innovation, automation and the obsolescence rate must be taken care of.

(b) Benefits MUL will derive from the technological advancement

Technological advancement enhances research on the market share and hence devises means to improve the situation. Enhanced by use of social media platforms on phones and computers.

Easy monitoring of operations by use of cameras, which has enhanced safety and security of businesses.

MUL enjoys benefits of easy access to information about competitors, and cheaper sources of items.

Improved data base management, making it easy to manage stock.

Enjoys easy and safe cash transfers in its operations e.g. use of EFT, hence minimising on theft.

Promotion made easy through use of televisions, phones, to advertise the business, obtain cheap sources of goods.

Better service delivery since technological advancement improves services

Enables online transactions to take place

It is time saving since no physical movement is involved.

Solution 2

(a) Patterns of communication embraced by management of BUL

The wheel network was adopted. Here information flows from the proprietor to all teams and groups; hence helping to save time.

Also adopted the chain network where team leaders communicate with each other in a given sequence.

There was also the circle where members of the same team communicate sharing experience, expertise, and beliefs.

All chain network was also used in the teams where every member communicates with every other team member.

(b) Importance of communication to BUL and other business enterprises

Communication helped management to secure information for decision making, diagnose the various problems faced by him and to decide on the actions to be taken to solve them.

Helped management to impart into subordinates the aims and objectives of the enterprise, hence encouraged to accomplish tasks in the shortest time possible.

Helped employees develop interest in the work. This has led to quick accomplishment of tasks.

Communication allowed easy responses from both management and employees. Ideas, feelings, suggestions are transmitted for the benefit of the organisation.

Communication has enhanced coordination of all ideas right from employees to management.

The communication at BUL has resulted in time saving. Sitting in Kampala, the proprietor is able to communicate the policy guidelines, and other decisions to his staff.

Image of BUL has been enhanced both internally and externally. Interaction with the clients, employees, government has been done through communication.

It builds the employer- employee relationships which is healthy for the wellbeing of the organisation

Facilitates control since feedback is got from time to time

Solution 3

- (a) Measures adopted by YL to lure customers into accepting to buy their products.

Image of BUL has been enhanced both internally and externally by YL to penetrate the market.

YL used advertising whereby the press, televisions, mails and radios and outdoor advertisements were done. That enabled products of YL to be easily acceptable.

Personal selling was used by YL whereby the enterprise hired youths to convince customers to taste free samples and purchase products of YL.

Sales promotion was considered where by special discounts and free samples have been given to the existing customers and potential customers.

Publicity was also evident. There was free tasting of their products, which greatly improved on the acceptability of YL's products on market.

Branding which makes its products distinct from its competitors

YL also supported the organisation of the National Manufacturers Association (NMA) by contributing finances towards the organisation of the trade fair grounds.

- (b) Reasons why enterprises like YL need to advertise their products

To inform customers about specific features of their products, so as to avoid confusing the products with those of the companies.

To inform customers about the benefits of its products and extra care. Here, details of the expected benefits are given to win interest of new customers.

To indicate distinctive features of its products in comparison to those of competing products.

The need to establish credibility of its products where by new customers need to be convinced that the new product is actually better than what they have been using.

The need to encourage potential customers to buy the product. Here YL went an extra mile to give free tasting of the new products.

The need to maintain loyalty of the existing customers necessitates advertising. Existing customers need to be assured of the expected quality so as to continue buying. Or if any changes have occurred, they need to be convinced that the quality is as expected.

Inform customers of new products

Match the pressure from competitors

Solution 4

(a) Stages in the formal recruitment process

A detailed human resource plan to help define the resources that the organisation needs to meet its objectives and the sources of labour (internal or external) available.

Carry out a job analysis to define as precise as possible, the job requirements and the type of person required. The information needed includes; purpose of the job, content of the job, accountabilities, performance criteria, responsibilities, organisational factors, developmental factors and environmental factors.

Job requisition is essential since recruitment begins with the identification of vacancies from the requirements of the human resource plan, or by a requisition from the department that has a vacancy.

Recruitment advertisement then follows with the aim of attracting the attention and interest of potentially suitable candidates, to give a favourable impression of the job and organisation and equip interested candidates to make an appropriate application.

The application forms whereby the application forms are collected or sent to candidates.

Then there is need to assess each application according to the set criteria in the job advertisement and specification. Critical factors may include qualification and experience.

Sorting of applicants into; 'possibles', unsuitable, and marginal. Then possibles will be put to close scrutiny and a shortlist for interview drawn up.

Then the interview follows where candidates are invited for interview.

Then selection testing is done. This may include tests like; aptitude, personality, proficiency and medical.

Review uninterviewed 'possibles' and marginal and put potential future candidate on a hold or in reserve.

Send standard letters to unsuccessful candidates, and reserves will be sent a holding letter

Placement i.e. the successful candidate joins the team, the real work begins.

(b) Limitations of online recruitment and selection of employees

It favours only those candidates who are able to access the needed technology and services like smart phones, computers, zoom and internet connections. This has left many potential candidates in the dark.

It is expensive since the organisation needs to invest in the technology and the necessary services like internet plus expert manpower that may demand high charges for the work done.

It is also affected by power blackouts, government policies like the tax that had been levied on the users of social media and the politics in the country.

Prone to loss of data through viruses and hacking of information.

Most people are unskilled in using online platforms.

Limited access to internet connections i.e. some areas may not have any internet connections at all.

Solution 5

(a) Meaning of the terms;

(i) Softcopy output

These were the type of educational materials designed by the MoES that were digital document files or electronic documents which were not printed on paper. Examples included E-books, PDFs, videos, audios.

(ii) Hardcopy output

These are educational materials that were printed on paper. The hardcopies are sometimes referred to as permanent copies or physical copies. Examples include books, handouts & magazines.

(iii) Impact printers

These are printers whose print heads (hammers) get in contact with the print media (paper). They can print on papers, clothes, transparencies, plastic materials. Examples include Dot matrix, daisy wheel, Epson, Ball printer.

(iv) Non-impact printers

These are the types of printers that KYY used to produce the hard copies. These are printers that form characters and images without direct physical contact between the printing mechanism and the paper. They use light beams to print on paper.

(b) Factors that KYY considered while selecting the required output devices.

Quality of the output; KYY had to choose output devices that produced high quality outputs as was expected by MoES.

Speed and volume of the output; since the MoES required the output in a very short time and the quantities were many. KYY had to choose an output device that that produced bulky output in a short period of time so as to meet the deadline.

Costs; without compromising quality, KYY had to ensure that the company can afford both the initial costs and maintenance cost of the desired output device. The cost of each print is also a factor to consider.

Environmental considerations; KYY will need to consider this seriously especially if they are to be placed in office. Many output devices for instance printers produce noise, which can stress and other complaints. Care should be taken especially when testing such specifications.

- (c) Given the timeline and the quantity of work that was required to be printed by KYY.

(i) The type of non-impact printer KYY used.
Laser Jet printer

(ii) Reasons why KYY preferred the type of printer identified in c (i) above.

They are fast; Laser jet printers are very fast, this helped KYY meet the one month deadline since the ministry required big volumes of prints in a short time.

High quality output; the MoES required high quality output. Laser jet printers have the capacity to print high quality even on ordinary paper.

Low cost: Over time, toner costs for a laser printer total far less per page than refilling and replacing inkjet printer cartridges. By choosing laser jet, KYY is saving on future expenditures.

- (d) Ways how the management of KYY can ensure proper technical care and maintenance of the output devices mentioned in the scenario.

Avoid using an old, pulp or damaged paper in the printer; KYY employees need to note that because this kind of paper damages the paper feed and therefore KYY may need to replace it or fix it which is very expensive.

Take care of the paper feed. KYY employees can take care of the paper feed by not overloading it. They should also avoid any paper to sit down in the paper feed for a long period of time. It is one of the reasons why paper jam happens which leads to damaging the paper feed.

Clean the printer with a soft-bristled brush; remove all leftover paper debris and dust. This way the KYY employees will prevent the printer problems in the future.

Choose the right cartridge; KYY should choose a cartridge with quality ink or toner. Poor quality cartridge yields poor print results and could also damage the

printer's internal sensitive parts. Choosing right cartridge will yield high quality prints and maintain the printer in a good working condition

Clean the printer head; Unclean printer head creates many problems, it can create marks on the print out with white lines or images that have missing ink. Thus, KYY employees need to clean your printer head properly.

Solution 6

(a) Meaning of the terms;

(i) Data security

Data security refers to the process of protecting data from unauthorized access and data corruption throughout its lifecycle

(ii) Anti-virus software

Antivirus software is a program or set of programs that is used by business owners to prevent, search for, detect, and remove software viruses, and other malicious software.

(iii) System security

System security refers to the processes and methodologies involved with keeping information confidential, available, and assuring its integrity.

(iv) Data breaches

A data breach is the intentional or unintentional release of secure or private/confidential information to an untrusted environment

(b) Explain the importance of the **three** core elements of security to any business as described in the passage above.

Confidentiality ensures privacy to the sensitive information of any business while it is in transit over a network. Confidentiality ensures the wrong people cannot gain access to sensitive information while ensuring the right people can access it.

Integrity ensures that the data of any business is not tampered with, modified, or altered in an unauthorized way to achieve malicious goals. That means data which is sent must be received intact and unaltered by an authorized party.

Availability is a security element which ensures the constant availability of resources and services of any business to only authorized parties in a timely manner.

(c) How the technique employed by each stakeholder can ensure system security.

Government use data protection regulations. The data protection regulations set guidelines for secure collection and processing of personal data

Software developers use Secure Systems Development Lifecycle. The Secure Systems Development Lifecycle (SSDL); the Secure Systems Development Life Cycle are set of procedures that are executed in a sequence which help system developers create software and application in a way that reduces security risk.

Business Owners use firewalls. Fire walls; provides network security to the business by filtering incoming and outgoing network traffic based on a set of user-defined rules. The firewall reduces or eliminates the occurrence of unwanted network communications while allowing all legitimate communication to flow freely.

- (d) Characteristics exhibited by virus software to avoid being detected by antivirus installed by business owners.

Polymorphism; the viruses create modified versions of itself to avoid detected by the anti-virus of the business owner yet retain the same basic routines after every infection.

Fast infection, that the virus infects any file of the business accessed by an infected program. If a virus infects antivirus program of any business, each time an infected antivirus program examines a file, it can actually infect that file immediately after certifying that the file is virus-free

Retaliate; the viruses either modify the antivirus program of the business so that it can't detect the virus, or they infect the antivirus program so that the antivirus program actually helps spread the virus.

Slow infection means that the virus only infects newly created files or files modified by a legitimate program. By doing this, viruses attempt to further mask their presence from antivirus programs of any business.

Solution 7

- (a) The importance of the three requirements mentioned in the scenario that are necessary while setting up a computer network.

Data transmission media; these are the channels that will be used by OKML to carry data and information from one place to another. Data communication media are either physical, which include; twisted pair, coaxial cable and fibre optic cables or wireless media which include; infrared rays, radio waves, microwaves, and satellites.

Network software; these are programs that are will be used by OKML to set up, manage and or monitor computer networks. Examples include servers' software and network operating systems.

Network hardware; these are the devices which will be required by OKML for communication and interaction between devices on their computer network. Examples include; Network interface cards, Router, Bridge, network interface cards.

- (b) Reasons why Mr. Okello would like to change the existing network model.

Doesn't support advanced security measures; there is little or no security besides the permissions. The peer to model doesn't support advanced security solutions and providing overall security in the peer to peer network as each system is independent and contains its own data

Network performance; since each computer is accessed by other computers on the OKML network, this slows down the performance for the user

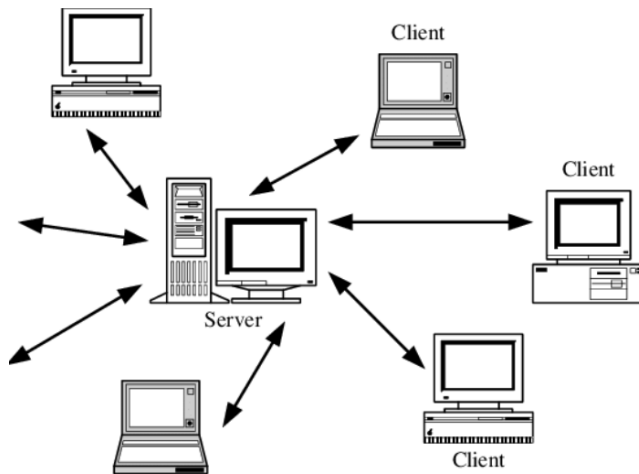
Files not centrally stored; Files and resources of OKML are not centrally organised into a specific 'shared area'. They are stored on individual computers and might be difficult to locate since most of the employees do not maintain a logical filing system.

There is no way to back up files or folders centrally. The only way to OKML backs up files in the current peer to peer network is by storing them on separate devices. That means that the company has independent duplicate files that each user can modify independently of each other. The lack of a centralized system creates issues with collaboration because of this disadvantage since the information is more terminal-based without a server

Virus introduction risks rise with a peer to peer network. With the current peer to peer network is at OKML, it is the responsibility of each unique user to prevent viruses, malware, and other problems from being introduced to the system. One person making a mistake can adversely impact an entire team's productivity levels indefinitely.

- (c) Proposed appropriate type of network which the consultant firm should design and lay for OKML is client server model.
- (d) Illustration of how the client server model works.

Client Server Model



The client-server networks are computer networks that use a dedicated computer called a server to store data, manage/provide resources and control user access. The server acts as a central point on the network upon which the other computers connect to. A computer that connects to the server is called a client.

A server host runs one or more server programs, which share their resources with clients. A client usually does not share any of its resources, but it requests content or service from a server. Clients, therefore, initiate communication sessions with servers, which await incoming requests.

Solution Exam 14 December 2022

Solution 1

(a) The needs of the stakeholders

Bank of Uganda regulates financial institutions to ensure sound monetary situation in the country.

Financial institutions mobilise deposits and advance loans to customers in order to make profits.

Depositors are customers who save money in these institutions in order to get interest.

Borrowers are customers who borrow money from these institutions to help them invest in their business

Government puts in regulatory framework through laws, regulations and policies to guide the financial operations in the country.

(b) Reasons for carrying out stakeholder analysis

Understand various stakeholders and to what extent they can affect the project.

Help get information about the project supporters, opponents and their level of importance to the project.

Deliver high products

Stay ahead of the competition

To identify their needs and address them

Build trust among the different stakeholders

Solution 2

(a) The increasing need for coordination in today's organisation

Increase in size and complexity of operations since personal contact is not possible and formal methods of coordination becomes essential.

Specialisation makes different departments focus on their own functions with little regard to other functions, thus it becomes necessary to synchronise the activities of different units to create unity in the midst of diversity.

Clash of interests since coordination helps to avoid conflict between individual and organisational goals, making individuals see how their jobs contribute to the common goals of the organisation.

People have different capacity, talent and speed so coordination helps to reconcile differences in approach, timing and effort to secure unity of action.

Interdependence of units whereby various units depend upon one another for their successful functioning, the output of one serves as an input of another.

It avoids potential sources of conflict and can cope with other disruptive elements.

(b) The techniques for effective coordination

Sound planning where you set specific objectives, harmonised policies and unified procedures to ensure uniformity of action.

Clearly defined lines of authority and responsibility to reduce conflicts and hold people responsible.

Effective communication to help resolve differences and create mutual understanding.

Effective leadership and supervision to guide activities in the right direction and inspire people to pull together for the accomplishment of common objectives.

Chain of command by securing coordination between interdependent units by putting them under one boss.

Creating liaison department where frequent contacts between units are necessary.

A centralised pool of staff experts is used to serve as the clearing house of information and specialised advice to all the departments of the enterprise.

Voluntary coordination where every unit appreciates the working of related units and modifies its own functioning to suit them.

Solution 3

(a) The control systems put in place by OBC

Tracking device to monitor movements of buses

Abrupt inspection on the roadside

Strict compliance with the use of bus tickets

Assigning seat numbers to all passengers

Refusal to carry excess/ standing passengers

Reprimands of violators of control measures

Liaising with traffic officers to report offending staff on the road

Use of suggestion boxes to give feedback by passengers

(b) The importance of organisational control to OBC

Facilitates decision making as to what and how deviations are to be rectified.

Provides the basis for future action by spotting and correcting mistakes.

Promotes efficiency of operations by measuring progress, detecting deviations and adjust operations.

Enhances employees' morale as management identifies changes and take action to cope with the threats and opportunities created by change.

Promotes coordination between different units of the organisation by providing them unity of direction.

Employees are cautious while performing their duties knowing that they are being observed and their performance will be evaluated against the standards.

Facilitates delegation as it enables managers to check on subordinates' progress and take corrective control

Solution 4

- (a) The roles leadership of Ministry of Healthy and leadership of interns ignored in handling the strike

It shapes vision i.e. must have a picture of where they are heading and why that destiny matters to the organisation, their teams and themselves.

It ignored inspiring others to work amidst the hardships resulting from COVID-19 pandemic

They ignored the role of motivating the interns

The reward role, in this case those who volunteered to work needed to be rewarded

They did not persuade team mates

There were no innovations

Leaders are change agents but none of the two groups performed that role

There was no team playing role

There was no proper listening

There was no good mediation/ arbitration

- (b) Factors that affect a leader's effectiveness

Leader's personality, past experience and expectations

The expectations and behaviour of superiors

Subordinates' characteristics, expectations and behaviour

Task requirement

Organisational culture and policies

Solution 5

- (a) Any two ports mentioned in the scenario stating an example of a hardware device each connects.

PS/02: The PS/2 port is a 6-pin mini-DIN connector used for connecting keyboards and mice to a PC compatible computer system.

Serial port: A serial port is an interface that allows a PC to transmit or receive data one bit at a time. It is one of the oldest types of interfaces and at one time was commonly used to connect printers and external modems to a PC.

Parallel port: A parallel port is the type of interface which allows sending of multiple bits of data at the same time. It is an old port which was used to connect printers.

Ethernet: Ethernet port is an opening on computer network equipment that Ethernet cables plug into. The purpose is to connect wired network hardware.

USB port: It is a plug and play interface that allows a computer to communicate with peripheral and other devices. USB-connected devices cover a broad range; anything from keyboards and mice, to music players and flash drives. It can also be used to charge devices like phones, tablets.

- (b) Function of the each of the three components of CPU mentioned in the scenario.

Arithmetic logic unit: This is the core of a central processing. The unit does basic operations like addition, multiplication and division.

Control unit: The control unit (CU) is a component of a computer's central processing unit (CPU) that directs operation of the processor. It tells the computer's memory, arithmetic/logic unit and input and output devices how to respond to a program's instructions

Registers: Registers are a type of computer memory used to quickly accept, store, and transfer data and instructions that are being used immediately by the CPU.

- (c) Reasons why a UPS is an integral part of a computer system

Prevent damage to equipment; the UPS ensures that besides just maintaining a steady flow of power to the unit, the components of the computer system will also be protected from damage by power surges that could ruin the electrical components of the device.

Prevent connectivity issues; Uninterruptible power supplies are commonly used in protecting switches and routers from damage and giving them a power backup. This prevents the entire network from being off in-case of a power surge or outage.

Provides adequate time for data back up; when the main power outages, the UPS provides an opportunity to immediately back up the data and also secure the operating system to perform shutdown procedures.

Saves money; UPS assists in saving money that would have been spent on recreating or recovering lost data. This is especially important when the organisation is dealing with very sensitive or hard to get data.

- (d) Reasons why the advancement in technology of the USB has led to serial ports being replaced by USB ports.

Compatibility: in the last few years devices produce use more USB ports compared to serial ports. Many device developers are changing to USB ports to allow compatibility with the new devices on market.

Speed: the USB ports transfer data faster than the Serial ports therefore manufactures of computers prefer the USB ports because of their improved speed specification.

Durability; the USB ports are more robust than serial ports. Serial ports are not robust, the tiny little pins are very easy to bend or break. USB ports do not get damaged easily and that is why USB ports are being preferred.

Ease of use; since USB ports are plug and play, as soon as they are connected, the user does not have to manually install drivers for the device, they are easily detected and ready to use. This makes them very easy to use.

Error notification; USB protocol notifies transmitter to retransmit the data in case of errors. The USB driver makes sure that error-free communication takes place.

Solution 6

(a)

- (i) Utility software: A program that performs a specific task related to the management of computer functions, resources, or files, as password protection, memory management, virus protection, and file compression.
- (ii) Programming language: A programming language is a formal language comprising a set of instructions that produce various kinds of output. The system developers of Kyam will use programming languages to develop solutions.
- (iii) Application software: Application software is a type of computer program that performs a specific personal, educational, and business function. Each program is designed to assist the user with a particular process, which may be related to productivity, creativity, and/or communication.

(b) Types of programming languages mentioned in the scenario

Machine language; consists of the numeric codes for the operations that a particular computer can execute directly. The instructions are expressed in the binary code of computer; such as 0's and 1's and they are directly understood by the computer.

Assembly language; these are closely related to a computer's internal codes. Convenient alphabetic abbreviations and symbolic coded instructions such as LOAD Y, ADD Z called mnemonics and other symbols are used to represent operation codes, storage locations and data elements.

High level programming; these languages allow programmers to write instructions in a language that is easier to understand. They allow the programmer to focus on what needs to be done, rather than on how the computer actually works. Example is python. They are referred to as high level because they are closer to human language.

(c) Reasons why the system developers of Kyam SACCO preferred to use the type of programming language mentioned in the scenario

Easy to use and understand: High level language uses English like words and they are closer to natural language which makes easy to learn and understand. Programmers of Kyam SACCO may not need not to understand detailed computer architecture for writing programs using high level language.

Machine independent: Programs written in high level language are portable. The solutions developed by Kyam SACCO programmers using high level language will have be executed on any type of computer with little or no modification at all.

Debugging is easy: High level language makes easier to write and debug a program and gives the programmer time to think about overall logic rather than thinking about program code. Because of the use of compilers and interpreters, errors in the solutions developed by Kyam programmers can be detected and located easily.

Easy to maintain program: The programmers of Kyam can easily modify and maintain program written in high level language is easy compared low level language. This indicates that coming up with new versions of the programs is easy

Less errors; while using the high level languages, Kyam will find it easy to find and debug errors. In most cases the programming languages will go ahead and indicate the exact line where the error is. This will make it easy for the programmers to identify the actual position of error and then correct it.

- (d) How the utility software in the scenario can of great importance to Kyam SACCO.

Disk defragmenter: These can be used by Kyam SACCO to organise files and unused space on a computer's hard disk so data can be accessed more quickly and this will subsequently make the computers run faster.

Antivirus: This software can be used by the computers of Kyam SACCO to prevent, detect and remove viruses from computers memory and storage.

Disk scanner: This software is used to detect and correct both physical and logical problems on either a hard disk or removable disk and then search and remove the unwanted files.

File compression utility: This software will be used by Kyam SACCO to reduce or compress big files. For example when sending files from one employee to another, if the files are bigger than the maximum size of the emailing program, this software can be used to reduce the size of the file.

Solution 7

(a)

- (i) Internet: The internet is a resource share as a result of networking computers. It refers to electronic communications network that connects computer networks and organisational computer facilities around the world.
- (ii) Computer Network: A computer network is a group of computers that use a set of common communication protocols over digital interconnections for the purpose of sharing resources located on or provided by the network nodes.

(b)

- (i) The type of network Mr. Kayana will set up for CSL.

Metropolitan Area Network or Wireless Metropolitan Area Network

- (ii) The major condition which would necessitate Mr. Kayana to set any three types of networks.

Local Area Network (LAN): Mr. Kayana would set up a LAN, if the CSL offices were located in one building. This is because LAN's single defining characteristic is that it connects devices that are in a single, limited area.

Wide Area Network (WAN): Mr. Kayana would set up a WAN if CSL had offices in different cities or for example in each district of the country

A personal area network (PAN) : Mr. Kayana would set up a PAN if he wanted to connect electronic devices centered on an individual person's workspace.

A PAN provides data transmission among devices such as computers,

smartphones, tablets and personal digital assistants. Therefore the PANs could be used for communication among the personal devices themselves.

- (iii) The use of any two network communication devices that Mr. Kayana is likely to buy while setting up the network.

Routers; this is a communications device that will connect the multiple computers or other routers of CSL together and transmits data to its correct destination on the network.

Network card; this can be an adapter card, PC Card, Express Card module, USB network adapter, or flash card. It will enable the computers or devices of CSL that do not have networking capability to access a network.

Fibre optic fibre; this is the type of communication device that uses light signals to transmit data from one point to another on the network. These will be used by CSL. network to transmit signals.

Modem; it modulates one or more carrier wave signals to encode digital information for transmission, and demodulates signals to decode the transmitted information. The goal is to produce a signal that can be transmitted easily and decoded reliably to reproduce the original digital data

- (c) The benefits that CSL. will enjoy from the proposed network in (b) (i)

High speed connection; since the MAN uses fibre optic cables. The files and databases of CSL will be transferred at a faster speed saving time for the company.

Retrieving remote information; through the computer network, employees of CSL can retrieve remote information on a variety of topics. This information can help them improve the business.

Interpersonal communication; the computer network will enhance communication among the different offices of CSL. Employees at the different offices will for example be able to exchange email and conduct e-meetings.

Provides easy data backup; backup will be performed from various offices of CSL. on easily and quickly. This will prevent the organisation from losing their data, saving time and resources of the company.

Solution to Exam 15 May 2023

(a)

(i) Primary objectives of non-governmental organisations (NGOs)

These depend on the different reasons for which the NGO exists. They may include;

- Need to defend and promote a special cause
- To improve on the state of the natural environment
- To encourage observance of the human rights.
- To improve the welfare of the disadvantaged
- To represent a corporate agenda.

(ii) Primary objectives of cooperatives

- They are there to protect the interests of members by eliminating middlemen.
- They secure funds/loans for members at low interest rates.
- Help secure market for products of members
- They negotiate prices for the products
- They promote self-help for its members

(iii) Primary objectives of public sector

- To provide basic goods and services to the citizens.
- To promote economic development.
- To promote the interests of the weaker sections of the society.
- To balance concentration of wealth and economic power.
- To promote fair distribution of income

(b) Causes of conflict of objectives in businesses

Sales growth vs. profitability: To achieve higher sales through cutting prices, the business will reduce short-term profits causing profitability to decrease.

Short-term earnings vs. long-term investments: Businesses may decide to retain a big portion of their profits to invest heavily in inventing new products, opening more shops, improving equipment or training workers. Higher retained profits will result in fewer earnings in the short-term for the owners.

Corporate benefits vs. individual gains: To achieve an individual sales target, a salesperson may convince a customer to buy inappropriate product which will result in loss of brand reputation for the business.

Employees vs. owners: Employees may demand better payments and improvement in working conditions which may subsequently reduce profits for shareholders (owners).

Customers vs. owners: Customers may want better quality at low prices yet the owners want high prices.

Solution 2

(a) Stages in the decision making process

Need to clearly recognise, identify diagnose and define the problem if the right solution is to be found. This involves the definition of the desired results and for DL it was targeting to be the best performing institute in Uganda.

Gather and analyse the data both historical and current that involves enumeration of the limiting or strategic factors relevant to decision. These are the obstacles to achieving the results.

Interpretation of the data where all evidence is weighed and sense is made of all gathered data. This was done as a team.

Alternative solutions were then developed where viable or possible alternatives were identified and weighed. This requires imagination, experience and judgement. That was made possible by the available experienced and skilled staff.

The alternatives were evaluated or reviewed in terms of the costs, time, feasibility and contribution to objective.

Selection of the best alternative is then done and the alternative that can make net maximum contribution to the goal is selected.

The decision is then implemented or executed and this involves development of detailed plans, communication of the decision, gaining acceptance of the decision, getting support and cooperation of concerned members and developing controls to see that the decision is properly carried out.

Evaluation of the decision is the final stage in decision making. Here an appraisal of both the decision and the process is made. If the results are unsatisfactory, the process is reviewed and the decision may be modified.

(b) Benefits of decision making

It saves time and money since it focuses employee energy on the goals of the business.

It boosts productivity and service delivery since employees were motivated by their involvement in decision making. They knew where DL was heading to so they worked well knowing their work would not be in vain. In addition, no time would be lost since there is no doubt.

There was better use of resources since each departments, class teachers as well as learners made decisions basing on their needs; such minimised waste of resources.

Decision making helped in establishing achievable goals while keeping in mind the vision of DL.

Decision making helped in conflict prevention when decisions are clear and fair and having been reached at by the different teams.

Decision making helped DL to recruit employees after analysing the background information of employment needs.

Decision making helped implementation of the new curriculum that required a lot of resources and manpower training.

Solution 3

- (a) The main features of quantitative approaches to management techniques
Emphasises rational decision making that the main job of a manager is to make decisions and solve problems. That the quality of decisions made determines organisational efficiency hence currently management information system and other techniques should be used for rational decision making.

There is use of mathematical models by utilising mathematical symbols and relationships. It reduces a managerial decision to a mathematical form so that decision making process can be simulated and evaluated before the actual decision is made.

There is use of computers as the driving force in the development of the management science approach. The computer can handle, in minutes, extremely complex problems with an immense volume of data and also calculate numerous variations in the solution.

The main focus of the management science approach is on scientific decision making models which are evaluated for effectiveness against the set criteria like cost reduction, return on investment schedules and deadlines.

- (b) Application of management theories in a changing environment
They help organisations to focus on vital issues like goals and objectives.

They help organisations to study productivity and efficiency.

Organisations are able to design structures basing on these theories.

They help organisations to ensure that day-to-day operations function smoothly.

They help businesses to streamline top priorities for the business organisation.

Help business to promote standardisation and specialisation for example by breaking work into smaller steps by the scientific management theory by F. Taylor.

By enabling organisations and management to apply managerial functions; planning, organising, commanding, coordinating, and controlling.

Solution 4

- (a) 3Ps in service marketing
People who provide the service to customers so the determine the quality of service provided to customers, therefore employees are very vital.

Process whereby for service –based business, there is a process behind the scenes to make that service possible. The processes contribute to the whole experience you offer and a greater way to differentiate yourself from competitors.

Physical environment; which is the appearance and the overall vibe of the area where a service is received.

(b) Characteristics of services

Services are **inseparable** in that they are produced and consumed simultaneously and cannot be separated from the provider for example a taxi driver cannot be separated from the taxi services.

Heterogeneity such that services are variable since they depend on service provider and where and when they are provided. They vary with experienced hand, customer, time and firm.

Perishability; services are deeds, performance, activities whose consumption takes place simultaneously. They tend to perish in absence of consumption. They cannot be stored. The value of a service exists at the point when it is required.

Services are **intangible** that is, they cannot be tasted, smelt, heard or seen. Services are not known to customers until when they are received or used.

(c) The elements of marketing mix adopted by KRL

These are marketing tools that a company uses to satisfy their target customers and achieving the organisational goals. They are the 4Ps;

Product this is what the company has to offer to its targeted customers. It can be tangible or intangible (service). Here product decisions would include; what to offer, brand name, packaging, quality, appearance, functionality accessories, after sales service and warranty.

Price that includes the price strategy of the company for its products. It involves how much customers should pay for the product. Price decisions include; pricing strategy, list price, payment period, discounts financing, and credit terms.

Place that includes the place where the products is placed and all the activities performed by the company to ensure that the product is available to the targeted customers. Placement decisions include; placement, distribution channels, logistics, inventory, order processing, market coverage, and selection of channel members.

Promotion that includes all communication and selling activities to pursue future prospects to buy the product. Promotion decisions include; advertising, media types, message, budgets, sales promotion, personal selling, public relations and direct marketing.

Solution 5

(a) Explanation of:

(i) Learning Management Systems

Learning Management Systems are information systems that help in creation, management, organising, and delivering online learning materials to learners.

(ii) Parts of LMS

An admin interface where a training manager performs the core, back-office tasks to organise their company's learning programs. This is where they create, manage and deliver courses, add learners, analyze reports, automate notifications, etcetera.

A user interface that runs inside a browser and it is what learners see when they enrol or are assigned to a course.

(iii) Ways in which LMS are helpful to organisations

Save time. Compared with traditional training (face-to-face sessions), LMS optimises training process. With traditional training, learners have to take time out of their day, miss work or travel, but implementing an LMS is a game-changer. Learners simply log in to LMS platform and complete courses wherever they are. Whether it's on the bus to work, during a coffee break, or setting aside half an hour at their desk, there are significant time savings for them.

Reduce costs. Traditional learning not only wastes time but it wastes money too. Instructors, training days, travel costs, training materials, location hiring and so on and so forth. An LMS reduces all these costs. By creating economies of scale an organisation reduces costs even further. Training is all online meaning that the learners can train at any time.

Centralised training: With LMS, course content and training materials are all in one handy place. Learners can effortlessly access courses. Trainers can efficiently deliver consistent, effective training to everyone across an organisation.

Reuse existing training materials. Training materials are uploaded to an organisation's LMS platform. Uploading pre-existing training materials helps in fast tracking training efforts. Using files like PowerPoint or PDF, and uploading or embedding video content, courses can be built quickly and at no extra cost. The organisation gets to a point where they do need any technical expertise.

Return on investment of training. An LMS can tell the learner's progression or engagement rates. This helps to demonstrate the return on investment of learning programs to an organisation offering the training.

Efficient training management: One of the big challenges for many businesses needing to deliver training is organising it. From notifying learners to enrolments, to tracking completions – it's a lot to manage.

With a learning management system, laborious tasks become automated. Learners are added automatically and enrolled in appropriate courses; exams can be rolled out easily, issue of certificates, and access to reports, leaving management free to get on with more other tasks.

Tracking learner progress: With this LMS, it's easy to know if learners are engaging with their training and track their progress through their courses. The LMS shows the status update on every learner enrolled in a specific course or courses. One can see the learner's profile information, if they have started a course, when they started, if they have completed the course, and if they passed, failed as well as their score.

LMS makes communication between students, teachers and employers simpler, messages can easily be shared between the mentioned parties without involving costly inputs.

Using LMS learners are given equal and consistent opportunities despite learning at different locations; i.e. management therefore equitably gives opportunities to learners improving their chance to acquire taught skills.

(b) Examples of companies and organisations that use the LMS

- national government agencies
- local governments
- Independent instructors and coaches
- consulting firms
- businesses of all sizes
- businesses from a wide range of industries like hospitals
- traditional educational institutions like universities and schools
- online/eLearning-based institutions

(c) Description of the three types of Learning Management Systems.

Cloud LMS: A cloud LMS is one that's made available for you by a third party, usually under a subscription model. Cloud LMS platforms are typically scalable, meaning that one can pick a pricing plan that meets their needs for the mean time, and upgrade to a more advanced plan as an organisation grows. This solution doesn't require an organisation to install specific hardware or software to access and use it. Users of an organisation's LMS simply log into a web portal and have access to the courses and learning materials uploaded there.

Self-hosted LMS: A self-hosted LMS platform or locally-deployed is basically a web application, usually sold as a licensed product. It is installed and maintained on an organisation's own server, which makes this LMS option more secure. The organisation is responsible for things like backing up their data and updating the server software. This setup provides extra flexibility for integrating with the organisation's local infrastructure as well as the option to alter its code to fit any special needs that may arise.

Private cloud LMS. These are halfway between the locally-deployed and cloud options. They are get a secure and private LMS environment that doesn't

share resources or code with other businesses, giving organisations the best possible performance and security. Installation, monitoring, and updates are taken care of for organisations, while they retain direct access to their LMS to customize or integrate it with their other infrastructure.

Solution 6

(a) Meaning of the terms:

- (i) Data: These are facts collected by SUST from the public through online forms.
- (ii) Information: This is decoded data by SUST online system which is used for decision making like evaluating the eligibility of the intending students so as to offer admission to those who meet the criteria set by the university.
- (iii) Real-time processing: This is where ZENNI grades exams and tests as they are being completed by students and ensures that students receive immediate feedback on their performance.
- (iv) Batch processing: This is the method ZENNI uses to periodically complete high-volume, repetitive data jobs of SUST like generating grades for all students who have taken exams during a specific examination diet which allows for efficient processing and reporting of grades, making it easier for instructors and administrators to track student performance and progress.

(b) Categories of data from the scenario captured from the online forms of SUST about intending students and give two possible examples of each category.

Personal details: examples include name, date of birth, address, contact information.

Educational background: examples include high school name, graduation year, grades, and transcripts.

Career aspirations: examples include intended major, future goals and plans.

Work experience: if any, relevant job history and skills.

Test scores: Examples include Scholastic Assessment Test (SAT), Graduate Management Assessment Test (GMAT), or any other relevant standardized pre-entry test scores.

Reference letters: examples include letters of recommendation from teachers, coaches, or other relevant individuals.

Financial information: examples include information about the student's financial status, including their ability to pay for tuition and housing.

Additional information: any other relevant information that the university may require.

(c) Benefits of the information generated by the SUST online system and ZENNI from the scenario.

Information generated by SUST online system is used to evaluate the eligibility of the intending students and to offer admission to those who meet the criteria set by the university.

The information is also used to match the students with available scholarships, grants, and other financial aid programs.

Information from ZENNI is used to grade students who have taken the exams during a specific examination diet.

The grading of students who have taken the exams during a specific examination diet allows for efficient processing and reporting of grades, making it easier for instructors and administrators to track student performance and progress.

- (d) The possible guidelines that the management of SUST may be observing to ensure confidentiality of the collected data through online forms so that it is only used for academic and administrative purposes.

Encrypt sensitive files. Encryption is a process that renders data unreadable to anyone except those who have the appropriate password or key. By encrypting sensitive files the management of SUST protects them from being read or used by those who are not entitled to do either.

Manage data access. Controlling confidentiality is about controlling who has access to data. The management of SUST ensures this by limiting unnecessary exposure of collected data. The authorized users to access the collected data authenticate their access with strong passwords and, where practical, two-factor authentication. The management of SUST periodically reviews access lists and promptly revoke access when it is no longer necessary.

Physical security of devices and paper documents. The management of SUST protects both digital storage devices and paper documents from misuse or theft by storing them in locked areas. They never leave the digital storage devices or sensitive documents unattended to in public locations.

Securely dispose of data, devices, and paper records. When data is no longer necessary for University-related purposes, the management of SUST disposes it off appropriately. Devices that are used for University-related purposes or that were otherwise used to store sensitive information are destroyed or securely erased to ensure that their previous contents cannot be recovered and misused. Paper documents containing sensitive information are shredded rather than dumped into trash or recycling bins.

Manage data utilisation. The management of SUST reduces confidentiality risk by using sensitive data only as approved and as necessary.

Implement confidentiality policy. A confidentiality policy includes instructions on how employees should handle confidential data to ensure its protection. By providing employees with a clear set of guidelines, you eliminate second-guessing, minimise the risk of data breaches due to human error, and ensure regulatory compliance.

Implement a data retention policy. The more data you have, the more difficult it is to protect it. To ensure data confidentiality and general data protection

regulation (GDPR) compliance, companies should delete all data that has outlived its original processing purpose. A data retention policy makes it easier for employees to understand what data they need to store and for how long and how to safely dispose of data when it's no longer necessary.

Develop and implement a cyber-security program. Nowadays, developing and implementing a cyber-security program is essential to ensuring the confidentiality of your digital data. A cyber-security program provides a comprehensive overview of your company's electronic data and the risks it faces. Most importantly, it includes all the measures you should take to ensure data confidentiality, availability, and integrity.

Sign non-disclosure agreements. Sometimes companies need to share confidential data with their employees, investors, or other stakeholders. For example, employees often need access to customer lists to carry out their jobs. To ensure that the people who receive access to the data will not disclose it, the company should ask them to sign a non-disclosure agreement.

SUST management should establish strict firewall policies, regularly review firewall configurations, and conduct periodic security audits to identify and address any potential weaknesses or misconfigurations.

SUST management should regularly monitor and enforce password policies, review and audit access logs, and promptly address any suspicious activities or breaches.

Solution 7

(a) Explanation of the terms:

(i) E-government

E-government is about applying ICTs to all aspects of government's business to improve effectiveness and efficiency in the achievement of set policy and program outcomes.

E-government implies the implementation of information and communication technology like internet, to improve government activities and process, with the aim of increasing efficiency, transparency, and citizen involvement.

E-government may be defined as the integration of information and communication technology, in public administration, i.e. to various government processes, operations, and structures with the purpose of enhancing transparency, efficiency, accountability and citizen participation.

(ii) E-governance

E-governance means governing or administering a country/state or organisation, with the help of information and communication.

Electronic governance refers to the utilisation of information and communication technology (ICT) for providing government services, disseminating information, communication activities, and incorporation of miscellaneous standalone systems and services between different models, processes and interaction within the overall structure.

E-governance is a tool that makes available various government services to citizens in a convenient way, such as better provision of government services, improved interaction with different groups, citizen empowerment through access to information and efficient government management.

(iii) Information communication governance frameworks

Information communication governance framework is the aligning of ICT functions to the municipal goals, minimise the risk ICT introduces and ensuring that there is value in the investment made in ICT.

Information communication governance framework are the outlines or structures of who, what, when, where, why and how of organisational information.

(b) The four e-governance models

G2G (Government to government): The exchange of information between government agencies or departments, i.e. within the confines of government is called as G2G interaction.

G2C (Government to citizen): The interaction between government and the citizens of the country. It involves establishing an interface, to enable the general public to access information and services, whenever and wherever they want. They can also give their feedback with respect to policies and rules.

G2B (Government to business): The dissemination of information between government and businesses is G2B interaction. It focuses on reducing red-tapism, establishing transparency and accountability in the business environment.

G2E (Government to employees): This is the interaction between government and employees to increase employee morale and satisfaction. It is made easier and faster with the help of information and communication technology.

(c) Benefits that would result from the government adopting e-government practices.

Inclusive governance: E-governance helps in building trust between governments and citizens, an essential factor in good governance by using internet-based strategies to involve citizens in the policy process, illustrating government transparency and accountability.

Easy and quick implementation: E-governance facilitates sharing of information and ideas between all government agencies and departments to build one mega data base. Getting the government decisions and policies across to the citizens is easy as well, since e-government gives every citizen access to information.

High operational efficiency: To the citizens, there is efficiency of the services being provided. The effectiveness of government is measured by the quality of its interactions with citizens. The processing of paperwork in a traditional government system used to be a difficult task which consumed a lot of resources; time spent on paperwork did not create much value for citizens. By the establishment of a centralised point of communication through e-government, governments can achieve high operational efficiency.

High level of trust on government: Governments have won the trust of the majority of the citizens with e-governance. They now can survive or maintain or keep control of power because of the trust from citizens. As a result, e-governance has improved services through better understanding of citizens' requirements, thus aiming for seamless online services. This has been achieved through improving transparency, accuracy and facilitating information transforming between government and citizens.

Reduces costs of running a government: E-government is very cost effective. For example if government wants to seek a public opinion on an issue, with e-government system it can take a survey and the public opinion is got very fast at extremely low cost.

Solution to Exam 16 August 2023

Solution 1

(a) The levels of management in organisations

Top level management: This consists of the board of directors and chief executives. It is the ultimate source of authority and it is accountable for the overall management to the shareholders of the company.

Intermediate level management or upper middle management: This comprises departmental or divisional heads like works manager, marketing manager, personnel manager, finance manager and others. Each is responsible for the efficient and coordinated functioning of their own department(s) in accordance with the objectives laid down by management.

Middle level management: Consists of deputy heads of departments and sectional officers such as plant managers, area sales managers or branch managers.

Supervisory or operational level management: This is the lowest level of management. It consists of foremen and frontline supervisors, sales officers, accounts officers and others. It involves management of rank and file and is directly concerned with the mechanics of the job. They serve as a link between management and workers.

(b) Roles and responsibilities of managers according to Mintzberg

Managers act as figureheads by performing social or legal obligations like greeting visitors, signing legal documents, taking important customers to lunch, etc.

Managers are leaders responsible for activities of his subordinates; must motivate them to perform better.

Managers play the role of a liaison officer by maintaining a network of outside contacts in order to assess the external environment.

They are monitors since they are constantly monitoring their environment, collecting and studying information regarding their organisation and the outside environment affecting their organisation.

They are disseminators of information since they transmit the information regarding changes in policies or other matters to their subordinates, peers and to other members of the organisation.

They are spokesmen for their units and have to represent their units in sending information to people or making some demands on behalf of his unit.

Managers are entrepreneurs since they are constantly looking for new ideas for product improvement or product addition.

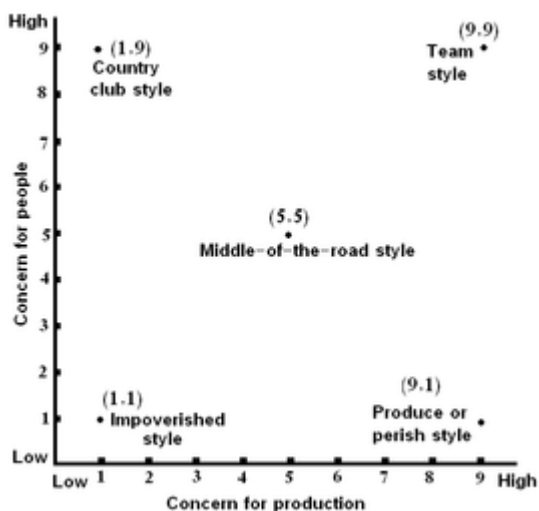
They are conflict handlers when they arbitrate in solving differences among the subordinates or employees' conflicts with management.

Managers are resource allocators; they make budgetary allocations to different activities of the organisation.

They are negotiators for example they negotiate contracts with the unions, prices with prime customers, vendors, and others.

Solution 2

- (a) Leadership traits identified at JML
- A sense of cooperativeness because of teamwork
 - Enthusiasm by the director, Mr. Luyima.
 - Energy possessed by the young and trained employees
 - Intelligence since Mr. Luyima is educated and has first class degree.
 - Self-confidence of the employees because of thorough training.
 - Sociability that has enabled an excellent customer care.
 - Integrity since Mr. Luyima believes in offering the best products and services to his clients.
- (b) Types of power possessed by managers at JML
- Legitimate power possessed by assistant managers
 - Reward power to the best and hard working
 - Referent power because of the charisma of some managers
 - Expert power because of the training by Mr. Luyima.
 - Connections power since Mr. Luyima is a well-known entrepreneur who offers excellent services to his large clientele.
 - Coercive power which managers use to ensure that the objectives, rules and regulations of the organisations are adhered to.
- (c) The managerial grid as according to Blake and Mouton;



1.1 impoverished, where the manager is lazy, shows no interest in work and has no concern for customers.

1.9 called country club, the manager is attentive to staff needs and has developed satisfying relationship. But there is little attention to achieving results.

9.1 called task management where there is total concentration to achieving results and peoples' needs are virtually ignored.

5.5 middle of the road or dampened pendulum. There is adequate performance through balancing the necessity to get out work while maintaining the morale of people at a satisfactory level.

9.9 team where work accomplishments is done through leading committed people who identify themselves with the organisational aims.

Solution 3

- (a) Objectives of a successful reward system to an enterprise like LUL
- Reflect the nature of jobs in the organisation and skills or experience required so the reward system should be consistent with seniority of the position in the organisation structure.
 - Motivate the employees to increase commitment and effort
 - Foster and encourage innovative behaviour
 - Encourage people to fill job vacancies and not leave
 - Increase the predictability of employee behaviour so that employees can be depended upon to carry out their duties consistently and to a reasonable standard.
 - Increase willingness to accept change and flexibility.
- (b) Application of Victor Vroom's expectancy theory in businesses like LUL.
- Commitment of LUL to reward high performing employees and teams.
 - Encouraging employees to put in more effort that will lead to high performance.
 - LUL has put trust in the employee abilities to handle duties.
 - LUL sets challenging but achievable targets.
 - There is clear correlation between performance and reward.
 - The tasks are aligned to the person's skill set.

Solution 4

- (a) Values that promote good ethical behaviour in organisations
- Integrity: The value of integrity often informs ethical decision-making.
- Fairness: Ethical behaviour and ethical decisions in business should also include fairness.
- Leadership: Leaders should guide subordinates on good ethical behaviour.
- Honesty: Organisations should uphold the value of honesty in all its dealings.

Accountability: All aspects should be transparently handled to create no doubt in everyone's mind.

Teamwork: When ethical behaviour is upheld in a group manner, then every member would adhere to it.

Charity/kindness: Good ethical behaviour should be enforced without force or arrogance.

Loyalty: This makes people stick to good ethical behaviour since it demonstrates loyalty to the organisation.

(b)

(i) Causes of ethical conflicts

- Lack of integrity by some members
- Conflict of interest and cherished values
- Misleading advertisements
- Organisational relationship problems
- Unethical Leadership. That does not have empathy on workers
- Toxic workplace culture. Which contradicts good ethical behaviour
- Discrimination and harassment. At the work place
- Unrealistic and conflicting goals. that makes people to compromise
- Questionable use of company technology. Which conflicts with good ethical behaviour

(ii) Safeguards against ethical conflicts

- Ethical training and professional development
- Ethical codes and suitable ethical relationship for senior management.
- Whistleblowing
- Corporate governance especially those related to auditing standards.
- Professional standards such as financial reporting.
- External review by a legal-empowered third party
- Implement a sound system of internal controls
- Application of appropriate policies and procedures for monitoring quality of work done.

Solution 5

(a) The importance of the three types of information systems mentioned in the scenario.

Decision support systems: A decision support system (DSS) is a computer-based system that is designed to support decision-making activities. A DSS uses data, models, and analytical tools to help decision-makers analyse complex problems, evaluate alternatives, and make informed decisions.

Management information systems: A management information system is an information system used for decision-making, and for the coordination, control, analysis, and visualization of information in an organisation.

Executive support systems: An executive support system (ESS) is a computer-based system that provides support for strategic decision-making at the highest level of an organisation. ESS is designed to provide senior executives with timely, relevant and accurate information to help them make informed decisions.

- (b) Recommend to the business proprietor the type of information systems that can meet their needs as outlined in the scenario, and provide a rationale for the suggestion.

Transaction processing system - Rationale

A transaction processing system (TPS) is a computer-based system that will processes transactions, such as orders, payments, and reservations, in an organisation. The following are some of the key rationales for using a TPS

- (c) Advantages that the business proprietor will gain from embracing the recommended information system in (b) above.

Improved efficiency: A TPS can help the business owner to automate and streamline its transactional processes, reducing the time and resources required to complete tasks such as order processing, payment processing, and inventory management. This can lead to a more efficient and cost-effective operation.

Enhanced accuracy: A TPS is designed to reduce errors in transaction processing, such as input errors or double entries, which can reduce the risk of errors and fraud. This can help the business owner to maintain more accurate records and improve its financial performance.

Better customer service: A TPS can help the business proprietor to provide faster and more efficient service to its customers, such as faster order processing or quicker response times to customer inquiries. This can lead to higher levels of customer satisfaction and loyalty.

Increased scalability: A TPS can be scaled up or down to accommodate changes in the volume of transactions, allowing the business proprietor to handle increases in demand without significant changes to its systems or processes.

Improved decision-making: A TPS can provide real-time or near-real-time information about the status of transactions, allowing the business proprietor to make more informed decisions about its operations, such as inventory management or sales forecasting.

Integration with other systems: A TPS can be integrated with other systems, such as accounting or inventory management systems, to provide a more

comprehensive view of the organisation's operations and streamline data management

- (d) Potential limitations that the business proprietor may encounter due to the utilisation of the CBIS.

Cost: Implementing and maintaining a CBIS can be expensive. There are costs associated with purchasing the hardware, software, and network infrastructure required to run the system, as well as on-going costs for maintenance, upgrades, and security.

Training and expertise: A CBIS require specialised knowledge and expertise to set up and maintain. Employees may need to undergo training to use the system effectively, and the business proprietor may need to hire IT professionals to manage the system.

Cyber security risks: Utilising a CBIS can expose a business to a range of cyber security risks, such as data breaches, viruses, malware, and phishing attacks. These risks can compromise the confidentiality, integrity, and availability of the business's information and systems, and can result in significant financial losses, reputational damage, and legal liabilities.

Dependence on technology: Utilising a CBIS can make a business dependent on technology, and can leave the business vulnerable to disruptions caused by hardware failures, software bugs, power outages, or internet outages. These disruptions can cause significant downtime, loss of productivity, and loss of revenue.

Solution 6

- (a) Meaning of the following terms:
 - (i) **E-marketplaces:** An e-marketplace is a digital platform that facilitates the buying and selling of goods and services between multiple buyers and sellers. It is an online marketplace that connects buyers and sellers from different locations and enables them to transact without the need for physical interaction.
 - (ii) **E-commerce:** E-commerce, or electronic commerce, refers to the buying and selling of goods and services over the internet. It involves the use of electronic means, such as websites, mobile apps, and online marketplaces, to conduct commercial transactions between buyers and sellers.
- (b) The major modes of e-commerce models that Mapendo plans to use to reach out to his customers.

Business to Consumer: In a B2C e-commerce model: This is where Mapendo use his own e-commerce website to sell products or services directly to individual consumers.

Business to Business: In a B2B e-commerce model: This is where Mapendo representing his businesses sells products or services to other businesses through e-marketplaces like Alibaba or ThomasNet.

- (c) Components of the type of market place described in the scenario that Mr. Mapendo may have to put into consideration that will enable his customers to have a seamless experience

The type of market place described in the scenario is an e-marketplace; therefore the question requires components of an e-marketplace as described below:

User interface: The user interface includes the website that users interact with to browse products, search for sellers, and complete transactions.

Product catalogue: The product catalogue contains information about the products or services offered by sellers on the platform. It includes product descriptions, prices, images, and other relevant details.

Search engine: The search engine allows users to search for products or services using keywords, filters, and other search criteria.

Payment gateway: The payment gateway is the platform's payment processing system, which allows buyers to pay for products and services and sellers to receive payment.

Order management system: The order management system tracks orders from placement to delivery, managing inventory, shipping, and order status updates.

Feedback and rating system: The feedback and rating system allows buyers and sellers to rate and review each other, helping to build trust and reputation on the platform.

Customer support: The platform's customer support team provides assistance to buyers and sellers, helping to resolve disputes and other issues.

Analytics and reporting: Analytics and reporting tools provide insights into platform performance, including user behaviour, product performance, and other key metrics.

- (d) Measures that Mapendo can put in place to ensure the security of the financial information of his customers.

Secure data storage: Mapendo should store all customer financial information in a secure location, such as a password-protected database or a secure cloud server, with strict access controls to ensure that only authorised personnel can access it.

Encryption: Mapendo should use encryption to protect customer financial information during transmission. This involves using encryption algorithms to

convert the data into a coded language that can only be deciphered with a decryption key.

Regular system updates: Mapendo should regularly update its systems and software to ensure that they are running the latest security patches and updates. This will help to prevent known security vulnerabilities from being exploited.

Strong password policies: Mapendo should enforce strong password policies for all its employees and customers to prevent unauthorised access to financial information. This includes requiring complex passwords with a minimum length and regular password changes.

Two-factor authentication: Mapendo can implement two-factor authentication, which requires users to provide two forms of authentication before accessing financial information. This could include a password and a security token.

Regular security audits: Mapendo should conduct regular security audits to identify vulnerabilities and ensure that security measures are working effectively. This will help to prevent potential breaches and improve overall security posture.

Employee training: Mapendo should provide comprehensive training to all employees who have access to financial information. This training should cover the importance of data security, how to recognize security threats (e.g., phishing emails, social engineering), and the proper procedures for handling sensitive financial data.

Regular awareness programs: Conduct regular security awareness programs to keep employees informed about the latest security threats and best practices. This could include workshops, email reminders, or even simulated phishing exercises to test employee readiness.

Firewalls and Intrusion Detection Systems (IDS): Deploy firewalls to monitor and filter incoming and outgoing network traffic, allowing only authorised traffic to pass.

Implement intrusion detection systems to identify and respond to suspicious activities or potential security breaches in real-time.

Solution 7

- (a) How Alex could benefit from any of the deliverables produced during any four of the stages of the SDLC mentioned in the given scenario.

Planning stage: During the planning stage, the deliverables produced include project plans, feasibility studies, and requirements documents. Alex can benefit from the project plan by gaining a clear understanding of the scope of the project, the resources required, and the timeline. The feasibility study will help him determine if the project is worth pursuing, while the requirements

document will provide him with a clear understanding of the project's functional and non-functional requirements.

Analysis stage: During the analysis stage, the deliverables produced include use cases, functional specifications, and system requirements. These deliverables will provide Alex with a clear understanding of how the system will work, what features it will have, and how it will meet his business requirements. This information will help him to make informed decisions about the project and ensure that the system will meet his needs.

Design stage: During the design stage, the deliverables produced include system architecture, design specifications, and user interface designs. These deliverables will provide Alex with a clear understanding of how the system will be built, how the different components will interact, and how the user interface will look and function. This information will help him to ensure that the system is designed to meet his business needs and that the user experience will be optimal.

Development stage: During this stage, the deliverables produced include code, unit tests, and user documentation. These deliverables will provide Alex with a working system that he can test and evaluate. He can benefit from the code by reviewing it to ensure that it meets his quality standards, while the unit tests will help to ensure that the system functions correctly. The user documentation will help Alex to understand how to use the system and how to train his staff to use it.

Testing stage: During the testing stage, the deliverables produced include test plans, test cases, and test results. These deliverables will help Alex to ensure that the system meets his requirements and functions as intended. He can use the test plans to verify that all the functional and non-functional requirements have been met, while the test results will provide him with valuable feedback about the system's performance and any issues that need to be addressed.

Implementation stage: During the implementation stage, the deliverables produced include installation procedures, training materials, and user manuals. These deliverables will help Alex to install the system and train his staff to use it effectively. He can benefit from the installation procedures by ensuring that the system is installed correctly, while the training materials and user manuals will help his staff to learn how to use the system effectively.

- (b) How Alex will use three types of CASE tools mentioned in the scenario during the development of the new information system.

Alex intends to use upper case tools, such as data modelling and entity relationship diagramming software, during the initial stages of the software development process to analyse and design the system. These tools will aid in identifying system requirements and creating a detailed plan for the architecture and design of the software before any coding begins.

During the later stages of development, Alex plans to utilise lower case tools, such as source code editors, testing frameworks, and debugging software, to write, test, and maintain the code of the new information system. These tools will assist Alex in coding, testing, and debugging the software as he implements the system's design.

Finally, Alex intends to use integrated case tools throughout the entire software development process to provide end-to-end support. These tools will enable him to manage the project, maintain version control, collaborate with others, and generate reports. By using integrated case tools, Alex will have a centralised platform to coordinate all activities related to the development of the new information system.

- (c) The role of stakeholders who are likely to be included by Alex in the development process of the new information systems for Kyamunyu.

End-users: End-users are the people who will be using the new information system on a daily basis. Their input is essential in the development process to ensure that the system meets their needs and is easy to use. Alex will need to engage with the end-users to understand their requirements and incorporate their feedback into the development process.

Management: They will help to define the objectives and requirements of the new systems, ensure that the project is aligned with the organisation's goals and priorities, and allocate resources as needed. They may also provide feedback on the development process and help to make decisions about the system's implementation and deployment.

Regulatory bodies: Depending on the industry and nature of the new information systems, regulatory bodies may need to be included in the development process. They can provide guidance on compliance requirements and help to ensure that the systems are designed and implemented in a way that meets legal and ethical standards.

Systems analysts analyse how well software, hardware and the wider IT system fit the business needs of their employer or of a client. They will help Alex generate requirements for new systems and may also help implement them and monitor their effectiveness.

The developers: They are responsible for coding and testing the system to make sure it meets the requirements set by the system analysts.

Project managers: They are responsible for managing the project, ensuring that it is on track, and keeping stakeholders informed.

The project sponsors: They are responsible for providing the resources needed to develop the system and ensuring that the project is meeting its goals.

Solution to Exam 17 November 2023

(a) The prevailing social environmental factors in Uganda

Large population (over 40 million): Increased demand for goods and services creates a larger market for businesses, stimulating economic growth. Increased labour pool: Provides businesses with access to a diverse workforce, reducing labor costs.

Educated population: Skilled workforce: Businesses can benefit from a highly trained and adaptable workforce, improving productivity and innovation. Consumers are more informed about their choices, demanding higher quality products and services.

Youthful population: Dynamic and tech-savvy consumers: Businesses need to adapt their products and marketing strategies to reach this segment. This creates a vibrant startup ecosystem, fostering innovation and economic growth.

Diverse culture: Businesses can leverage cultural elements for marketing and branding, promoting inclusivity and community engagement. This is crucial for building trust and relationships with customers and employees.

Gender imbalance (more females than males): Increased female workforce participation: Businesses need to adapt their policies and practices to cater to the needs of female employees.

(b) The factors that allow the government to create conducive economic conditions for businesses to thrive.

Nature of the economy: Open vs. closed: Open economies promote competition and innovation, leading to business growth. Market-oriented vs. centrally planned: Market economies give businesses more freedom and flexibility, fostering growth.

Privatisation: Shifting ownership from state to private sector increases efficiency and profitability, benefiting businesses. Improves access to capital and reduces government interference in markets.

Structure of the economy: Diversification vs. reliance on single industry: Diversification reduces risk and promotes resilience in the face of external shocks. Balance between large and small businesses: Encourages competition and innovation, leading to lower prices and better quality for consumers.

Developed infrastructure: Efficient transportation, communication, and energy networks facilitate business operations and reduce costs. Improved infrastructure attracts foreign investment and creates a more attractive business environment.

Organisation of financial markets: Deep and liquid financial markets provide businesses with access to capital for investment and expansion. Efficient markets allocate resources effectively and promote economic growth.

Impact of government regulations: Clear and consistent regulations: Reduce uncertainty and promote business compliance, fostering investment. Minimal red tape: Streamlines business operations and reduces costs associated with regulatory burdens.

Nature of factor endowments with its exploitation: Effective utilisation of natural resources and skilled labour: Fuels economic growth and creates a competitive advantage for businesses. Investments in education and training create a skilled workforce, attracting and retaining businesses.

Controlled inflation: Stable prices create a predictable environment for businesses to plan and invest. Low inflation protects the value of savings and encourages investment.

Low interest rates: Make borrowing cheaper, stimulating business investment and expansion. Boost consumer spending and aggregate demand, creating a favourable environment for businesses.

Political stability: Reduces uncertainty and risk, creating a more conducive environment for long-term investments. Stable political climate encourages foreign investment and promotes economic growth.

Solution 2

(a) The social systems approach

It considers change as a social process where the rules, norms, and beliefs of people shift due to social influence and group dynamics. In this perspective, how people behave in an organisation is shaped by their social environments.

The systems approach implies that decisions and actions in one organisational area will affect other areas. For example, if the purchasing department does not acquire the right quantity and quality of inputs, the production department will not be able to do its job.

Output is the result of the transformation of inputs through processing.

Process represents the operations that occur to transform the inputs to the desired outputs.

Inputs represent the basic materials or resources that will be transformed to the output.

Feedback is the element of control, to assess whether output is according to plan.

(b) Principles of decision making according to decision theory

Decision theory is a set of quantitative methods for reaching optimal decisions.

A solvable decision problem must be capable of being tightly formulated in terms of initial conditions and choices or courses of action, with their consequences.

Actions should be proportionate to the outcomes.

There should be proper consultation and professional advice taken from officers.

All decisions should reflect respect for human rights.

We should assume that our decisions will be made openly.

(c) Importance of a systems approach to management

It promotes the organisations ability to do business through influencing its environment since the manager knows that the environment and the organisation influence each other.

It enabled the manager to know that an organisation's system can be increasingly disorganised, decay and eventually die. So he can be in position to prevent or delay its collapse by introducing orderliness in an organisational structure.

It enables the manager to appreciate that effective utilisation of all parts that make up a system culminates in synergy in terms of the whole hence producing more results than the total results produced by its independent parts.

A manager can easily ensure that all parts of the organisation are strong. This is because a system provides a framework for assessing how well the various parts of the organisation interact to achieve a common objective.

It ensures that the organisation remains in dynamic equilibrium whereby the manager ensures that the inputs are always available.

The manager is able to analyse a faulty or weak section or department of the system independently which is cheaper than having to analyse the whole system.

It enables the manager to appreciate the role of feedback. It can enable him to know whether an organisation's output has achieved the intended purpose so that he can maintain the same production process.

Solution 3

(a) Organisational control is any process by which managers direct attention, motivate, and encourage organisational members to act in desired ways to meet the firm's objectives.

It can also be defined as a dynamic process requiring deliberate and purposeful actions in order to ensure compliance with the plans and policies developed to achieve organisational objectives.

(b) Essential requirements of a good control system

Suitability; it should be tailored to suit the nature and requirements of the activity controlled. The system of control should be geared to the objective of the organisation and must be consistent with the company's total operating system.

Promptness; such that the control system should detect and report deviations as soon as, if not before, they occur. Timely corrective action is possible only through prompt reporting of the deviations and their causes.

Objectivity; this is where standards and measurements of performance should as far as possible be objective, verifiable and specific. They should be based on facts and participation so that control is acceptable and workable.

Forward looking; a good control system should take into account the possibility of the recurrence of deviations. It should enable the manager to plan for the future.

Flexibility; the system of control should be flexible enough to be adjusted according to changes in needs and circumstances.

Simplicity; the control system should be simple to administer. A control system can work effectively when it is understood by all.

Economy, controls must be worth their cost. The cost of installation and maintenance of the control system should be justified by their benefits.

Suggestive; a good control system should suggest the necessary remedial action. It should not only detect failures but also disclose where they are occurring, who is responsible for them and what should be done about them.

Organisational structure as a means of control: The control system should adhere to the basic structure of the organisation. It should reflect the efficiency and effectiveness of the organisation.

(c) The steps involved in the control process

Establishing standards and methods or ways against which the organisational activities can be compared. They are levels of activities established by management for evaluating performance. They may include; time standards, cost standards, income standards, market share standards quality standards, productivity standards, and others.

Measuring actual performance. This is a continuous activity that involves collection of relevant data that represents the actual performance of the activity so that a comparison can be made between what is accomplished and what was intended to be accomplished. Determining if the performance matches with the standard.

Comparing the measured performance with performance standards; this will reveal whether anything went wrong in the process or operation, if there is any deviation, positive or negative and what must be done as a restorative process for correcting such a deviation.

Taking corrective action; once deviations have been detected and presented to management for consideration, corrective actions are needed to remedy the situation. These actions should be taken into consideration the acceptable tolerance levels of the outside environmental constraints, for example the organisational culture or guidelines, labour unions, political and economic considerations and the internal constraints of cost and personnel.

Feedback is next, that is after the corrective action has been done, then information on whether they have been fully achieved, partly achieved or not

achieved is fed back into the system and it becomes part of the new standards, targets, objectives and performance criteria to be set.

Solution 4

(a) The different sources of funds available to businesses

Equity shares: Ownership shares in a company, raising funds through initial public offering (IPO) or selling shares to existing investors.

Debentures: Long-term debt instruments issued by companies, offering fixed interest rates and repayment periods.

Retained profits: Profits kept by a company for future growth and investments, reducing reliance on external funding.

Savings: Accumulated funds set aside by a company to cover future expenses and unexpected events.

Loans from financial institutions: Borrowed funds from banks and other financial institutions, requiring interest payments and repayment schedules.

Trade credit: Short-term credit offered by suppliers, allowing businesses to pay for goods or services after a set period.

Overdraft: Temporary borrowing facility exceeding the current account balance, incurring charges and interest payments.

Customer advances: Prepayments received from customers for goods or services not yet delivered.

Sale of assets: Disposal of non-core or underutilised assets to generate immediate cash flow.

Donations/grants: Financial contributions received from individuals or organisations, often for specific projects or purposes.

(b) The benefits of ethics to business organisations

Avoiding lawsuits: Ethical conduct minimises the risk of legal action for unfair labour practices, environmental damage, or misleading marketing. This prevents costly court battles, fines, and settlements, protecting the business's financial health.

Building a strong public image: Ethical practices demonstrate the company's commitment to fairness, transparency, and social responsibility. This builds trust and positive associations with customers, investors, and the community as a whole. A strong public image translates to increased brand recognition, attracting new customers and partners, further enhancing the company's competitive edge.

Increasing sales and customer loyalty: Ethical behaviour fosters customer trust and confidence. Customers are more likely to purchase from and recommend businesses they believe in, leading to increased sales and long-term customer relationships. Ethical practices, like fair pricing, product quality, and responsible sourcing, creates a sense of value and loyalty in customers, ensuring their continued patronage.

Reducing labour turnover and increasing employee morale: Ethical workplaces prioritise fair treatment, employee wellbeing, and open communication. This creates a positive work environment where employees feel valued and respected, leading to reduced stress, higher job satisfaction, and lower turnover rates. Reduced turnover saves the company significant costs associated with recruitment and training new employees.

Improved access to finance: Financial institutions favour businesses with strong ethical standards, viewing them as less risky and more responsible. This translates to easier access to loans and credit facilities, crucial for growth and expansion. Ethical practices also demonstrate the company's commitment to long-term sustainability, further attracting investors seeking responsible investment opportunities.

Limiting government interference: Ethical businesses are less likely to attract regulatory scrutiny and government intervention. By proactively addressing ethical concerns and adhering to regulations, businesses can operate more freely without unnecessary restrictions. This allows the company to focus its resources on core business activities and avoid the distraction and costs associated with compliance issues.

Increased profitability: Ultimately, ethical practices contribute to a more efficient and profitable business operation. Reduced legal risks, improved employee performance, strong customer loyalty, and access to finance all contribute to the bottom line. Investing in ethics becomes a strategic decision that pays off in the long run, ensuring sustainable growth and financial stability for the business.

Attracting and retaining top talent: Ethical workplaces are magnets for talented individuals seeking a meaningful work environment. These individuals are often high-performing and driven, bringing valuable skills and expertise to the company. Retaining top talent reduces recruitment costs and ensures the business has the resources it needs to stay ahead of the competition.

- (c) How business organisations promote ethical awareness among its members
Embedding ethical practices into organisational culture.

Management leading by example: Senior management demonstrates ethical behavior, setting the tone for the entire organisation. Employees observe and learn from leadership, making ethical conduct the norm.

Effective communication: Regularly communicate ethical expectations, policies, and procedures to all employees. Encourage open dialogue and feedback on ethics-related issues.

Whistleblowing process: Establish a safe and confidential channel for employees to report unethical conduct without fear of reprisal. Investigate and address reported concerns promptly and fairly.

Rewards and recognition: Recognise and reward employees who consistently demonstrate ethical behaviour. Publicly celebrate ethical decision-making and actions.

Policies and auditing: Develop and implement clear, comprehensive ethical policies and codes of conduct. Conduct regular audits to ensure adherence to ethical standards.

Training and development: Provide regular training on ethical issues, decision-making frameworks, and company policies. Foster ethical awareness and build employee capacity to identify and address ethical dilemmas.

Punishments and sanctions: Clearly outline consequences for unethical behavior, including disciplinary action. Enforce ethical standards consistently and fairly to deter misconduct.

Solution 5

(a) Explanation of the terms:

(i) Artificial intelligence.

This is a machine's capacity to imitate intelligent human behaviours, such as reasoning and problem-solving.

AI is a simulation of human-made intelligence in machines programmed to think like humans.

(ii) Healthcare AI.

These are computer software programs designed to interpret data, learn from that data, and inform clinical and operational decision-making.

(iii) Full automation of nursing.

This is where real-time alerts and results at the point of care are enabled so that there is very limited control or no control at all by clinicians to make timely decisions and help patients.

(b) Challenges that come with implementation of AI in health care and explain them.

Privacy protection challenges: These are privacy violations in AI applications in health care. They may include data persistence – data existing longer than the human subjects that created it, driven by low data storage costs, data repurposing – data being used beyond their originally imagined purpose and data spill overs – data collected on people who are not the target of data collection.

Lack of quality medical data: There is no standardised medical data across different health care units. This is because there are no high-quality datasets for the clinical and technical validation of AI models. Fragmentation of medical data across several Electronic Health Records and software platforms, collecting patient information and images to test AI algorithms becomes challenging. Medical data from one organisation may not be compatible with other platforms due to interoperability problems.

Clinically irrelevant performance metrics: The measures used to gauge an AI model's success are not necessarily transferable to clinical settings. There is a discrepancy between the clinical efficacy demonstrated in the real world and the technical precision of AI tests referred to as the AI chasm. Investigations on how AI algorithms enhance patient care are not fully done.

Methodological research flaws: There are not enough established methodologies, prospective research, or peer-reviewed studies of AI in healthcare. The majority of studies have been retrospective and based on historical patient medical records. Physicians have not studied current patients over time for reliable prospective research, where doctors monitor the health of their patients by combining physical examinations with telehealth visits and remote monitoring technologies.

(c) Outline any two types of the data managed by AI in health care.

- patient records
- administrative claims
- medical imaging
- data from mobile devices

(d) Benefits of AI in health care.

Diagnosis: AI can examine enormous amounts of data from electronic health records, radiography, CT scans, and magnetic resonance images. By comparing data across patients, finding patterns, and detecting associations. Additionally, implementation of AI in healthcare has improved diagnostic effectiveness. Large caseloads and a lack of medical history may increase the possibility of human error in healthcare settings. In comparison to clinicians, AI systems can detect and diagnose diseases quicker and with minimal risk of error.

Symptom prediction: After diagnosis, AI systems can help with early symptom predictions.

Easy information sharing: The ability of AI algorithms to analyze vast amounts of information quickly is the key to fulfilling the potential of this technology in precision medicine. For instance, currently, relatively a big population has diabetes. The condition has to be treated and managed urgently, and AI can assist healthcare professionals in understanding the disease through data via a real-time glucose monitoring system.

Drug discovery: AI uses neural networks to assess the bioactivity and properties of drug candidates. Researchers can identify the best drug targets to test for various diseases with the help of AI systems. It has proved indispensable in clinical trials in the selection of the right candidates and, as a result, the healthcare industry has witnessed an increased speed and lesser investment in drug discovery.

Virtual health assistance: Virtual health assistants are responsible for performing a variety of tasks, such as answering routine patients' calls and emails, managing medical information, protecting sensitive patient data, scheduling doctor appointments, and reminding patients of follow-up visits. It is one of the most helpful AI applications in healthcare that provides patients with a tailored experience in managing their health as well as addressing their queries.

Treatment of rare diseases: An AI-based clinical-stage biotech platform strives to map diseases to accelerate the discovery and development of cutting-edge

breakthrough drugs and vaccines, revolutionizing the way healthcare is provided. It uses research and development, along with interrogative biology, that allows medical practitioners to produce robust products for patients fighting rare diseases.

Targeted treatment: With the help of AI, health care facilities are able to deliver appropriate treatment to the required patients at the right time, resulting in targeted treatment of patients with useful insights.

Safer surgeries: AI's ability to perform less invasive surgical procedures that might otherwise require open surgery provides a wide range of benefits to patients, such as reduced blood loss, decreased infection risk, and less pain after surgery. Moreover, due to AI's capacity to offer more precision while operating on delicate organs and tissues, patients need smaller incisions and also experience reduced scarring and faster recovery times.

Reducing overall healthcare costs: AI can be employed to make diagnosis processes more efficient, which in turn, reduces the total cost of healthcare procedures. For example, consider a case when AI can scan through millions of diagnostic images to look for disease symptoms. It eliminates the need for expensive manual labour. Moreover, patients can receive faster and more effective care, which reduces the need for hospital admissions and long waiting periods.

Solution 6

(a)

(i) Meaning of system unit.

A system unit is the enclosure for all the other main interior components of a computer unlike the keyboard, mouse, and monitor which are external.

A system unit is the case which holds all the other computer components apart from the keyboard, mouse, and monitor, together and protect the sensitive electronic parts from the outside elements.

(ii) Why the keyboard, mouse, and monitor are not regarded as system unit components.

The keyboard, the mouse, and the monitor not regarded as system unit components because they are external to it and thus considered as peripheral devices.

(iii) System unit components

Processor - sometimes referred to as the CPU, short for central processing unit. The processor is the component that does the work of making decisions.

Heat sink and fan- these are cooling devices combined together that sit on top of the processor. As a computer runs, it generates a lot of heat. Therefore these cooling devices keep the computer from overheating.

Power supply unit: This is the part of the computer system unit that provides electricity to all parts of a computer in order to operate.

The CMOS clock and battery: This is an electronic circuit that saves some system information, such as the time, the system date, and a few essential system settings so that even when the computer is turned off and the power supply stops providing electricity to the motherboard, when the computer is turned on again, the system is still on the right time and date.

The BIOS: The BIOS is stored in ROM and it uses data contained within the CMOS to find out what the system's hardware configuration is.

The mother board. A motherboard (sometimes alternatively known as the main board, system board, planar board or logic board) is a printed circuit board (PCB) found in all computers which holds many of the crucial components of the system, such as the central processing unit (CPU) and memory, and provides connectors for other peripherals.

Storage drive connectors: Storage devices are connected via cables to the motherboard. There are special connectors for floppy drives, optical drives and hard drives. The Storage drives all connect to the motherboard via cables and are mounted inside the computer.

Power connectors: Power from the power supply is delivered to both drives via cables that plug into the power port on the drives.

Expansion slots are compartments into which expansion cards can be inserted. These are cards which give the computer new features or increased performance.

- (iv) Ways by which a computer system unit of a laptop can be kept in good working condition.

Unplug to avoid overcharging. Optimising battery power is a key priority for any laptop owner. For that matter, once the battery reaches 100% charge; it should be unplugged to avoid overheating which can lead to bad battery fate like regenerative capability deterioration. Regenerative capability deterioration is when a laptop can't hold a charge as well as it could in its earlier days. Do not plug the laptop into power until battery is actually low.

Run regular antivirus scans. Some malware can affect the boot sector of the laptop. Having a savvy antivirus on one's laptop protects it against the damage viruses bring.

Carry out regular servicing of the system unit. Regular servicing of a laptop's system unit is paramount. Internal components accumulate dust and debris brought in by the airflow maintained by fans to keep the laptop from overheating. A soft brush may remove loose dirt; the remainder is dislodged with compressed air and removed with a low-pressure vacuum. The case is wiped down with a cleaning agent. A pressurized blower or gas duster can remove dust that cannot be reached with a brush. Tilting the laptop upside down and gently tapping it to have any loose debris come

out can also be done. Removal of dust and debris accumulated in the system unit can help to avoid short circuits and overheating.

Protect with padding especially when on the move. Safeguarding a laptop with padding can protect it against accidents which can come as a result of drops, bumps, and slips. If a laptop is not exposed, the vulnerabilities to all elements of travel are reduced.

Proper ventilation: Ensure that the laptop's ventilation system is not blocked. Adequate airflow is crucial to prevent overheating, which can lead to performance issues and hardware damage. Avoid using the laptop on soft surfaces like beds or couches that can obstruct the air vents.

Regular Cleaning: Apart from dust, periodically clean the laptop's exterior and keyboard to remove dirt, oils, and debris that can accumulate over time. Use compressed air to blow out dust from the keyboard and ports, and use a gentle cleaning solution to wipe down the screen and body.

- (b) Practical examples of where and how computer software is applicable in any industrial businesses today.

Graphics: Computer software can be used in graphics design and charts and animated graphics.

Visual walk-throughs: Walkthroughs are step-by-step software solutions that guide users through a series of actions to help them complete a process. They are used to train people on specific workflows, tasks, new software, and apps.

Education: Computer software can be used as a teaching and testing aid. It enables students to learn by doing with the help of computer-based instructions.

Retailing: Computer software is used in retailing of goods like in super markets where bar codes captured for pricing and inventory management. It can also be used to facilitate online buying and selling of goods. Examples here include Jumia, Kikubo online, Jiji, etc.

Energy: in the industry of energy, computer software is used through remote sensing to locate minerals in the ground, monitor power networks and carry out remote meter reading.

Law enforcement: In law enforcement, computer software is used to capture fingerprints for evidence on crimes, computer modelling of DNA and tracking files on crimes and criminals.

Transportation: In the transportation industry, computer software is used to find cars and motorcycles for hire. Examples here include Uber, Taxify, Safeboda, etc. Computer software is also used to manage running rapid transit systems, loading containerships, monitoring air traffic and so on and so forth.

Finance: In finance, computer software is used in record keeping, banking, carrying out online payments, etc.

Government: In the government, computer software is used for weather forecasting, managing parks, immigration processing, managing payment of taxes.

Homes: In homes, computer software can be used as an educational tool, it can be used for record keeping, letter writing, budgeting, drawing and editing pictures and connecting with others like through the use of WhatsApp, Twitter, Telegram, and other social media platforms.

Health and medicine: In the health sector, computer software can be used to monitor patients; it can be used for electronic imaging and diagnosing illnesses.

Sciences: In science, computer software is used in research through use of simulation software.

Connectivity: Computer software is also used in communication through computer networks. As a result, workers of many organisations telecommute.

Solution 7

(a) Definition of the terms:

(i) Data.

This is the content shared on Wijji social media platform on a daily basis including videos.

(ii) Big data

The term big data refers to extremely large sets of digital data shared on Wijji social media platform which is approximately 700 terabytes of data per day and over 430 hours of video every minute that may be analysed to reveal patterns, trends and associations relating to their user behaviour and interactions.

Big data is the massive structured, semi-structured or unstructured data to store and process it for data analysis purpose of Wijji social media platform.

(iii) Cloud computing

Cloud Computing is the delivery of computing services such as servers, storage, databases, networking, software, analytics etc., over the internet (the cloud) with the aim of providing flexible resources, faster innovation and economies of scale for Wijji.

(b) Forms of big data shared on Wijji social media platform and examples of each.

Structured big data: This is easy to store and analyse but accounts for a small percentage of collected data. It includes addresses, demographic information, numerical ratings by users, etc.

Unstructured big data: This is difficult to search for and analyze and it accounts for a larger percentage and can be easier processed by artificial intelligence. Examples include photos, videos, audio, social media content and open-ended surveys.

Semi-structured big data: This is a mixture of structured and unstructured Big Data with parts that can easily be organized or sorted and those that are hard to organise and sort. For example e-mail messages; the unstructured data is

the text within the email while the structured data includes the name of the recipient, time sent and the email address of the sender.

- (c) The role of each of the services provided by cloud computing on Wijji's big data.

IAAS means infrastructure as a service. With this; the cloud service provider offers Wijji the entire infrastructure along with the maintenance related tasks for their big data. IAAS is a cost-effective solution and utilising this cloud service, big data services enable people to access unlimited storage and compute power. It is a very cost-effective solution for Wijji where the cloud provider bears all the expenses of managing underlying hardware.

PAAS means platform as a service. In this service, the cloud provider offers resources like object storage, runtime, queuing, databases, etc. However, the responsibility of configuration and implementation related tasks depend on Wijji. PAAS vendors incorporate big data technologies into their offered service. Hence, they eliminate the need for dealing with the complexities of managing single software and hardware elements which is a real concern while dealing with terabytes of data shared on Wijji.

SAAS stands for software as a service. This service is the most facilitated one which provides all the necessary settings and infrastructure provides IAAS for the platform and infrastructure are in place. Analysing social media data for Wijji is an essential parameter for business analysis. In this context, SAAS vendors provide an excellent platform for conducting the analysis for Wijji.

- (d) Any four aspects of big data received and managed by Wijji

Volume: This is the enormous, colossal amount of data that inundates the social media platform of Wijji.

Variety: This refers to nature of data that is structured, semi-structured and unstructured data received and shared on Wijji social media platform.

Velocity: This refers to the high speed of data accumulation on Wijji social media platform.

Value: This is the usefulness of data received and managed by Wijji.

Veracity: This refers to inconsistencies and uncertainty in data received and managed by Wijji. This data can sometimes get messy and quality and accuracy are difficult to control.

Variability: This refers to how fast available data of Wijji changes. In other words, how often it changes the meaning or shape or structure.

- (e) Benefits experienced by Wijji as a result of carrying out data analytics in the cloud.

Improved analysis: With the use of cloud technology, big data analysis has become more improved causing better results. Hence, Wijji prefers to perform big data analysis in the cloud. The cloud helps Wijji to integrate data from numerous sources.

Simplified infrastructure: Big data analysis is a tremendous strenuous job on infrastructure as the data comes in large volumes with varying speeds, and

types which traditional infrastructures usually cannot keep up with. Cloud computing provides a flexible infrastructure, which Wijji can scale according to the needs at the time; this makes it easy for it to manage workloads.

Lowering the cost: Both big data and cloud technology delivers value to Wijji by reducing the cost of ownership. Cloud enables Wijji for big data processing without large-scale big data resources. Hence, both big data and cloud technology are driving the cost down for enterprise purposes and bringing value to Wijji.

Security and privacy: Data security and privacy are two major concerns when dealing with enterprise data like Wijji's. The cloud service provider and Wijji signed a service level agreement (SLA) to gain the trust between them. This has enabled the security of Wijji's big data in cloud computing covering like protecting big data from advanced threats and malicious hackers.

Virtualisation: Virtualisation technology is the ideal platform for Wijji's big data. Virtualisation relies on software to simulate hardware functionality and create a virtual computer system. This enables IT organisations to run more than one virtual system – and multiple operating systems and applications – on a single server. The resulting benefits include economies of scale and greater efficiency.

Solution to Exam 18 May 2024

- (a) The secondary objectives of a business organisation are:

Market position in terms of total market share of each market, growth of sales, customers or potential customers, what markets the company should be in.

Product development which involves bringing in new products, developing a product range, providing products of a certain quality at a certain price, investment in research and development.

Technology which focusses on improving productivity, reducing the cost per unit of output and exploiting appropriate technology.

Employees and management focus on paying employees decently, providing job satisfaction and career development, staff welfare, training in certain skills and reducing labour turnover.

Organisation where much authority is delegated to employees and lower and middle management participate in decision making and planning.

Social responsibility whereby the company protects the environment and supports local communities.

- (b) The importance of business objectives to business organisations

Objectives give substance to the overall goals of the organisations; they clarify how the organisation intends to achieve its goals.

Objectives give managers and other employees a focal point for their efforts.

A review of objectives helps to find out whether it is still relevant or new ones should be added according to changing circumstances.

Objectives define the manner in which it is to be pursued by developing policy guidelines for the guidance of management and other employees.

Objectives set out specific and quantifiable targets to be pursued.

Solution 2

- (a) The stages in which ACL went through in forming a strong team

Forming stage where a team is dependent on a leader to guide and direct activities since members are neither sure nor clear on what their roles and responsibilities should be.

Storming stage where members start establishing roles and responsibilities for themselves although the team as a whole still needs to be led.

Norming stage is when individual members become clear on what their roles and responsibilities are. Rules, values, acceptable behaviours and work styles get established as reliance on the leader gets decreased.

Performing stage is when the team is focusing on achieving all the goals and objectives in a cohesive manner with little interference or participation from the leader.

Adjourning stage is when the team has accomplished the objectives for which it was formed so the team prepares to disband itself.

- (b) The techniques that were used by Mr. Opedo Julius in building an effective team at ACL.

Examining how effectively they are currently working together.

Analysing the fitness of the team with the overall organisation and how its members can help to achieve its overall objectives.

Re-examining and redistributing the tasks that have been assigned to individual members.

Examining and assessing the interpersonal relationships that exist between members and how open the line as well as the flow of communication is in the team.

Ensuring that all members participate, provide feedback and voice their opinions.

Focussing discussion to remain on track on the issues at hand.

Gaining consensus of all members of the team on any decisions reached.

Organising social events for team members during which team members can familiarise.

Organising outdoor activities for teams to enable them socialise and build confidence and trust amongst themselves.

Providing monetary rewards for early completion of or exceeding set goals. Such can increase the morale of the employees.

Solution 3

- (a) The need for coordination in business organisations

Division of labour creates the need for coordination of such activities to link the work of others.

Number of employees; since all are unique and work for their own as well as for the needs of the organisation. Through coordination, individual needs can be integrated with organisational needs.

Interdependence of units such that the greater the interdependence between the units, the greater is the need of coordination.

Differentiation in the functions; functions performed in the organisation are mainly divided into various departments and it is necessary to link these functions so as to achieve the overall objectives of the organisation.

Resolution of conflict; the conflicts that arise between the employees or superiors and subordinates can easily be resolved through coordination. Bu

more important, if coordination is maintained in an organisation, there are fewer chances of conflicts arising among the members of the organisation.

Difference in outlook; since every person in the organisation has his\her way of doing the job or solving, its important to coordinate their work and to direct them towards the goals of the organisation.

Greater efficiency and economy in operations is realised by avoiding the overlapping and duplication of the work. Coordination brings synergy in the group and team effort.

Better interpersonal relations; coordination improves morale among the employees and promotes the feeling of job satisfaction.

Basis of co-operation; coordination is the source, base and the means to achieve cooperation.

(b) The factors that shape organisational culture

The industry the organisation belongs to affects its culture since different professionals influence their organisations differently, for example, the organisation run engineers cherishes different ideas and values from one run by accountants.

The type of environment it operates in that different environments affect organisations differently, for example, an organisation operating a competitive environment, adopts a different culture from the one operating in a less competitive environment.

The size and nature of the organisation for example large publicly traded organisations typically have a formal work culture involving factors such as strict dress code, timings, routine, whereas smaller privately held organisations have a much more informal work culture.

The type of customers it has, for example, organisations that have only corporate clients, have very task oriented, good focused and a competitive culture whereas a small owner operated grocery store would have a more people oriented and relaxed culture.

The values cherished by an organisation shape its culture. The values may include the ethical behaviour, concern for employee welfare, a belief that the customer is always right, a commitment to quality and the importance of equality and interdependence.

A sense of ownership; the movement towards the employee stock ownership in companies creates an ownership culture and inspires workers to think and act like owners.

The diversity of its workforce; organisation culture assumes some degree of homogeneity. But organisations differ in terms of how much deviation can be tolerated.

The strength of the culture or how much influence it exerts emerges partially as a by-product of the other dimensions. A strong culture, guides employees

in everyday actions. It determines, for example, whether an employee will inconvenience him\herself to satisfy a customer.

The character and working style of top management, that is, the policies, procedures and work practices set by top management will form the foundation from which the culture of the organisation.

Resource allocation and rewards also exert a lot of influence on culture the investment of resources sends a message to people about what is valued in the firm.

The degree of change such that the culture of a fast-paced, dynamic organisation differs from that of a slow-paced, and stable one.

Solution 4

(a) Differences between rewards and incentives

A reward is monetary and non-monetary token given in recognition of some contributions or success.

An incentive is the offer or promise of a reward for contribution or success, designed to motivate the individual to behave in such a way as to earn it.

(b) The various rewards used to motivate employees

Pay in terms of wages and salaries that attract and help in employee retention and improved morale.

Bonuses for those who exceed targets are offered additional benefits.

Car for official use including fuelling and servicing for the employees in the organisation.

Medical insurance for employee and members of family makes employees feel they are valued by the organisation.

Pension scheme either contributory or non-contributory, that keep employees going strong hoping for to secure capital for future investment.

Transport allowance to facilitate travel to and from work.

Canteen facilities by providing drinks and meals. This assures the employees of the value the organisation attaches to their welfare and well-being.

Working clothes like uniforms provided free of charge by the company.

Holiday entitlements where employees are paid to go for holidays. This makes the employees to always want to associate with the organisation and builds a good image of the organisation.

Assistance with childcare in form of day care, education and health that enables the employees to focus effort on the goals of the organisation.

Subsidised loans and mortgages for family improvement, that makes employees to be bound the organisation in as long as they have not completely repaid the loans and mortgages.

Share option schemes by allowing employees to buy shares from the company. This makes them focus on the ways to improve the operations of the organisation to attain maximum dividends.

- (c) The hierarchy of human needs as proposed by Abraham Maslow:
Physiological needs such as food, water, shelter, moderate temperatures, rest and sleep.

Safety needs so as to be safe from both physical and emotional injury.

Social needs are the needs for love, belonging and affiliation with people. This can be satisfied through promoting teamwork and allowing people discuss their problems with each other.

Esteem needs reflect people's desire to be seen as a person of worth. Managers can help employees satisfy this by praising the quality of their work.

Self-actualisation needs relate to the desire to reach one's potential especially needs for self-fulfilment and personal development.

Solution 5

- (a) The e-governance stages any country must go through in order to have an e-government structure in place.

Emerging presence –This stage is classified by a simple information-providing Web site of a passive nature, sometimes described as "brochure ware," indicating the same level of functions as a paper brochure. A single or a few independent government web sites provide formal but limited and static information.

Interaction stage or enhanced presence: At this stage, governments' web sites provide dynamic, specialised and regularly updated information. They offer simple interactions between government and citizen (G2C), government to business (G2B), or government agency to government agency (G2G). Interaction stage Web sites provide e-mail contact and interactive forms that generate informational responses.

Transaction stage or Interactive presence: The transaction stage enables transactions such as paying for license renewals online, paying taxes or fees, or submitting bids for procurement contracts. Government web sites act as portals to connect users and service providers and the interaction takes place at a more sophisticated level.

Transformation or transactional presence: The highest stage, most closely aligned with the concept of governance, involves a reinvention of how government functions are conceived and organised. Users have the capability to conduct complete and secure transactions, such as renewing visas, obtaining passports and updating birth and death records through a single government web site.

Seamless or fully integrated presence –At this stage, governments utilise a single and universal web site to provide a one-stop portal in which users can immediately and conveniently access all kinds of available services.

Note: The phases should be in a chronological order

(b) Roles -NITA-U has played to enhance e-governance in Uganda

Initiating and leading the development of the national e-government strategies and implementation plans.

Identifying and advising government on all matters of e-government development, utilisation and deployment.

Providing first-level technical support and advice for critical government IT systems including managing the utilisation of the resources and infrastructure for centralised data centre facilities for large systems through the provision of the specialized technical skills.

Enforcing and regulating standards for e-government planning, acquisition, implementation, delivery, support, organisation, sustenance, risk management, data protection, security, and contingency planning.

Regulating the electronic signature infrastructure and related matters as used in electronic transactions in the country.

Recruiting, training, posting and managing all e-government staff in the various government ministries, departments and agencies.

Providing IT capacity building and awareness facilities.

(c) Problems or challenges or threats to implementing e-governance in Uganda
Limited ICT infrastructure especially in the remote rural areas.

Poor non-user-friendly design of websites for e-government due to limited computer literacy levels.

Low education levels have also increased the rate of unwillingness to use e-government because the content is mainly presented in English other than common local languages.

Inadequate human resource base trained to handle e-government projects to produce efficient public service delivery.

Ceased donor funding strongly affects the sustainability of the developed projects in the aftermath of project sponsorship from the donors.

Lack of a formal e-government strategy designed to improve the nation's economy and society which would lead to providing high-quality, customer-centric, and performance-driven service.

Ignorance on the importance of e-government to citizens due to limited sensitisation, promotions and awareness campaigns.

Cyber-crime and cyber terrorism. Acts that destroy government infrastructure such as hacking, identity theft, online fraud, phishing, ransomware attacks; as well as use of digital technologies to commit acts of terrorism, such as

disrupting critical infrastructure, stealing sensitive information, spreading fear and propaganda, and conducting cyberattacks on government agencies or institutions.

Undefined cross-border jurisdiction for cyber litigation.

Reliance on imported hardware and software.

Reliance on foreign funding.

Unharmonized ICT policies and strategies.

Adverse cultural beliefs and languages.

Inadequate funding by the government of Uganda.

Inadequate public private partnerships (PPPs) frameworks.

Solution 6

- (a) Definition of:
 - (i) Information security risk management.
This is the process of managing risks associated with the use of information technology in financial institutions.
 - (ii) ICT and security risk management.
This is all about identifying and preparing for adverse situations that usually result from inadequate internal processes and external events such as cyber-attacks in financial institutions.
- (b) Why it is important for financial institutions to have an information security risk management structure in place.
Financial institutions can never eliminate all information security risks at all but they can always pursue to identify and achieve an acceptable risk level for their organisation.
- (c) The three risk assessment steps for financial institutions mentioned in the scenario.

Identification. This involves identifying ICT assets of a financial institution, identifying the vulnerabilities that are putting the confidentiality, integrity, and availability of the ICT assets at risk, identifying potential threats that are likely to cause compromise of assets or information and identifying controls already have in place to protect available assets.

Assessment. This is the process of combining the information you've gathered about assets, vulnerabilities, and controls to define a risk.

Treatment. Once a risk has been assessed and analysed, the financial institution will need to select treatment options which include remediation, mitigation, transference, risk acceptance and risk avoidance.
 -
- (d) The possible risks factors threaten all the phases of the SDLC for financial institutions.

Continually changing requirements ICT systems for financial institutions. Since requirements cannot be fully described at the start of the project, it might

change continually over the SDLC. If this factor was not successfully mitigated, time and budget may overrun, testing may not cope with this continually changes since test plans are designed early according to the initial requirements.

Time contention. Time is the major risk factor that threatens all SDLC phases, mainly the implementation and testing phases. Time contention may force the developers to discard some functionalities which might be core ones, neglect some nonfunctional requirements and other design quality issues and do the testing poorly in order to go in progress and deliver on time.

Project funding loss. Project funding might be interrupted at any phase in the SDLC due to lack of commitment from the funding agencies. Once the funding is lost, the ICT system development project for a financial institution cannot be completed and it directly goes to fail.

Team turnover. In most financial institutions, experienced team members are looking for better job vacancies and leave their work if any was found. This factor threatens any project in any of its phases.

Data loss. ICT system development project documents for a financial institution can be lost for different reasons; natural disasters, viruses and intruders, developers run away with codes, etc.

Miscommunication. Many troubles may appear if there was miscommunication between a financial institution's customers, managers and ICT system developers. The developers may not understand the user actual needs, and the customers may under or overestimate their expectations.

Solution 7

- (a) Definition of the terms:
 - (i) Manual accounting system
A manual accounting system is the one in which records maintenance in MML was done by hand, without using a computer system or any automatic system and transactions are written in journals, from which the information is manually retrieved into a set of financial statements.
 - (ii) Computerised accounting system
A computerised accounting system for MML is an accounting information system that processes the financial transactions and events to produce reports as per user requirements.
- (b) The aspects in which the manual accounting could have become unreliable as MML expanded.

Inconsistency in data entry, errors resulting from mis-keying information. It was always easy to accidentally switch details and end up with inconsistency in data entry or in hand written orders. This had the effect of not only causing problems with customer service but also making information unable to be used for reporting.

Large ongoing staff training costs. With manual accounting system, the level of service in MML was dependent on individuals and this puts a requirement on management to run training continuously for staff to keep them motivated and to ensure they are following the correct procedures.

Reduction in sharing information and customer services. The other aspect how MML's manual accounting system became unreliable was on Customer service. Customer queries became difficult to respond to as information was stored in different places and even required that MML finds the right person before being able to respond.

Lack of security. It always took more effort for MML's staff and physical space to keep track of paper documents, to find information and to keep details secure.

Duplication of data entry. Whenever mistakes were made or changes or corrections were needed, a manual transaction had to be completely redone rather than just updated. With MML's manual accounting system, information often had to be written down and copied or entered more than once hence of duplication of data entry.

Time consuming and costly to produce reports. This was affecting decision making, budgeting and other key operations of MML.

- (c) Ways in which a computerised accounting system has positively influenced the accounting processes in MML.

Paper ledgers, manual spreadsheets and hand-written financial statements have all been translated into computer systems that can quickly present individual transactions into financial reports.

Automated tracking and recording financial transactions. This is the process of keeping checks on MML's income and spending, ideally on a daily basis achieved by recording receipts, invoices, and business expenses into some form of the computerised accounting ledger.

The computerised accounting system has enabled the accountants of MML to create individual reports quickly and easily for management decision making. This is because there is an increment in the timeliness of accounting information. By improving the timeliness of financial information, accountants of MML can prepare reports and operations analysis that gives management an accurate picture of current operations.

Human errors and the risk of making mistakes by the accountants of MML have greatly reduced. They are now avoidable due to automation of most of MML's business repetitive tasks.

Repetitive training costs have been reduced by automation of most accounting tasks of MML. This has resulted into time saving and increased productivity.

Security of financial transactions. With the computerized accounting system, financial transactions and information about the same are safer. The financial information of MML can be saved and stored off site so here is no threat of

intrusions and stealing of data. With password protected areas and certain accounts for different parts of the business it's easy to control who has access to the systems for extra safety.

Smooth and quick customer care. Customers of MML can get quick and immediate response given that most activities are automated.

Solutions to Exam 19 August 2024

(a) (i) **Business opportunities resulting from technological advancement;**

- Easy communication by use of emails, instant messaging, video conferencing and social media leading to better customer service, decision making and faster project completion.
- Business pace and output have been enhanced through marketing, promotions and sales.
- There has been increased efficiency and productivity because automation of tasks and processes has freed Ms. Cindy to focus on more important work.
- It has led to reduced costs and the business has saved money on reduced travel costs.
- It has improved competitiveness since it is easy to keep up with the latest technology trends. This involved investing in the software and training.
- Improved security resulting from use of CCTV cameras and other appliances like smartphones to support the business system.

(ii) **Threats resulting from technological advancement;**

- Cyber criminals that use the internet to spread personal information or spread viruses.
- The bad bots or e-commerce scalping in the world of online shopping, for example when one is in need of a product, then cyber thieves take advantage of this and write a bot to take that entire product from the retailers inventory to only sell it to customers expensively.
- There is mobile app hijacking where cyber thieves use mobile devices and put a lot of apps from favourite retailers to confuse customers

(b) **Response of B&M to technology advancement;**

- Reduced on the number of employees.
- No longer needs to rent business premises but instead works from home.
- Continued investing in new technology like smart phones, tablets, cameras.
- Invested in insurance of her merchandise and the whole business.
- Invested in training in IT to improve her business operations
- She has ensured her business is connected to social media by investing in a standby generator.

Solution 2

(a) **Characteristics of a bureaucratic organisations like MML**

- A clear hierarchy that defines who has authority and how much.
- There is division of labour and specialisation due to expertise.
- There are efficient and uniform requirements.
- There is impersonal environment, the organisation rarely changes in respect to the environmental pressures.
- Professional nature of employment where officials are fulltime employees; promotion is according to seniority and achievement

- There is a strict chain of command and legal authority.
- It is achievement-based or goal-oriented
- There is job security especially if the worker abides by the rules and regulations that govern their positions.
- Creativity may thrive in bureaucratic organisations since positions are held by people who have a higher level of education hence more self-direction, open-minded. Etc.

b) (i) Advantages of bureaucratic organisations like MML

- Helps the organisation to run smoothly and efficiently
- Eases management process, make it less chaotic since performance can be easily predicted.
- The roles are clearly defined
- It helps improve efficiency and reduce barriers that would reduce production.
- Promotes accountability since the company can easily evaluate how they carry out their roles against established standards.
- No favouritism since they define jobs and required competencies clearly.
- There is high discipline since workers must strictly comply with regulations and carry out their activities according to the procedures.
- There is regularity since everyone is moving in the same direction towards the company goals by minimising deviations.

(ii) Disadvantages

- There is low level of creativity and innovation since employees work according to the rules and procedures existing.
- There is lack of autonomy to organise their work since everything is regulated by the company.
- It is hard for such company like MML to adapt to change in the environment because of the low innovation and creativity.
- If the new ideas are from upper management, it will take long to be effected and this is made worse by slow decision-making and implementation.
- One-way communication. The bureaucracy promotes one-way communication and command. Thus, those in lower positions find it difficult to express their ideas and perspectives.
- Rigid interpersonal relationships. Strict rules may limit employees' social sense. And their relationships with other co-workers tend to be formal.
- Slow decision. Decisions are concentrated on top management. So, when problems arise at lower levels, decisions and solutions do not come immediately. As a result, decisions are not executed immediately. And the problem may become even more acute.
- Programmed decisions. Decision-making is based on certain rules and procedures. As a result, it often leads to programmed decisions without identifying new solutions.
- Low job satisfaction. Rigid work environments and low flexibility in work make employees bored and unmotivated. In addition, they are regulated and closely monitored without having a greater influence on their work area. In other cases, superiors may treat them as they please and assign them more tasks for authority reasons.

- More documents. Companies may need more paperwork for each activity, even for simple jobs. For example, upper management needs it for evaluation, supervision, and control.
- Nepotism. Upper managers are more likely to use their authority for personal gain. For example, they want to maintain control or occupy a strategic position quickly. Finally, they are likely to place their trusted people in strategic positions rather than established performance and criteria.

Solution 3

a) Planning models considered by BL;

- SWOT stands for Strengths, Weaknesses, Opportunities and Threats. SWOT Analysis is a tool that can help you to analyze what your company does best now, and to devise a successful strategy for the future. SWOT that involves how to take advantage and controlling the weaknesses while carefully handling threats.
- An alignment model is a tool that helps determine the degree to which the organization is aligning its longer-term plans with its resources and capabilities, and with opportunities, vulnerabilities, and risks that have to be managed
- Basic model means all units of a given type of covered product (or class thereof) manufactured by one manufacturer, having the same primary energy source, and which have essentially identical electrical, physical, and functional (or hydraulic) characteristics that affect energy consumption, energy efficiency, water
- Issue-based model is essentially an extension of the basic model. The issue-based model is more dynamic and popular with established companies to develop more comprehensive plans. Begin with a SWOT analysis to assess current strengths, weaknesses, opportunities, and threats.
- Scenario modeling examines a range of potential futures, instead of attempting to predict just one future. While you don't have structured data on future performance, like you do with the past, you can use inputs and scenarios to see possible trends that you may encounter in the next few years or decades.
- The term self-organization refers to the process by which individuals organize their communal behavior to create global order by interactions amongst themselves rather than through external intervention or instruction.
- The PESTLE planning model that involves a careful study of the macro environment, political, economic, social technological legal and the environment itself.
- Porter's five force framework; supplier power, buyer power, competitive rivalry, threat of substitution and threat of new entrants

b) Challenges faced during planning;

- Reluctance of managers to be committed to a set of targets.
- Fear of blame or criticism for failing to achieve planned targets.
- Lack of knowledge or interest about the purpose and goals of the organisation.
- Lack of confidence in himself as a manager to perform his job effectively and efficiently.
- Lack of information
- Reluctance of managers to make consultations.

Solution 4

a) Stages in the recruitment process;

- Analysing the job by preparing a job description, job specification and job analysis. There is need to identify the hiring needs.
- Talent search
- Screening and shortlisting
- Interviewing the shortlisted candidates/ applicants will now move through the interview process prior to receiving an offer.
- Evaluation and offer of employment. This is the last stage but should not take it for granted that the candidate will accept your offer.
- Introduction and induction of new employees, this is done after the candidate has accepted the job offer.

b) Benefits of recruitment

- The engaged employees are more motivated enthusiastic, and committed to their work.
- It leads to improved performances since the selection process sheds more light on the candidates' competencies and skills that determine job performance.
- There is improved retention rate of employees.
- There is reduced costs
- There is enhanced job satisfaction'
- There is reduced costs
- There is enhanced job satisfaction

Solution 5

(a) Meaning of the terminologies as used in the scenario.

(i) Cloud computing

Cloud computing refers to the delivery of different services through the Internet, including data storage, servers, databases, networking, and software. Rather than owning their computing infrastructure or data centers, companies can rent access to anything from applications to storage from a cloud service provider.

(ii) Wireless communication media

Wireless communication media, also known as wireless media, refers to the methods and technologies that enable the transmission of data over distances without the use of wires or cables.

(b) Wireless transmission media that are mentioned in the scenario.

- Infrared rays: Used for short-range communication like TV remotes and require direct line of sight between devices. Infrared is cost-effective and secure due to its limited range.
- Microwaves: Electromagnetic waves used for long-distance data transmission, including cellular and satellite communications. They require line-of-sight and can carry large volumes of data.
- Satellites: Facilitate global communication by relaying signals across long distances, enabling services like TV broadcasts, internet, and mobile connectivity. Satellites operate in various Earth orbits and are essential for wide-reaching communication networks.

(c) Services of cloud computing mentioned in the passage can be leveraged by businesses to gain a competitive advantage.

(i) Infrastructure as a Service (IaaS)

How it can be leveraged:

Cost efficiency: IaaS allows businesses to avoid the upfront cost and complexity of owning and maintaining their own physical servers and data center infrastructure. By paying only for what they use, businesses can scale their infrastructure up or down based on demand, leading to significant cost savings.

Flexibility and scalability: With IaaS, companies can quickly scale their infrastructure up or down with demand, allowing them to handle peak loads efficiently without investing in hardware that might be underutilized.

Focus on core business: IaaS frees up businesses to focus on their core activities rather than on IT infrastructure management, speeding up deployment of new products and services.

Disaster recovery and business continuity: Utilising cloud infrastructure can improve disaster recovery and business continuity planning by reducing downtime and providing geographical distribution capabilities.

(ii) Platform as a Service (PaaS)

How it can be leveraged:

Streamlined development process: PaaS provides a platform with tools to test, develop, and host applications in the same environment, reducing the time and complexity of managing the underlying infrastructure.

Innovation and speed to market: By simplifying the development process, PaaS enables businesses to innovate faster, bringing new applications and services to market more quickly than competitors.

Scalability and integration: PaaS solutions offer scalable environments that can integrate with existing systems and data, facilitating the growth of businesses as their needs evolve.

Cost reduction: Reducing the need for internal resources to manage hardware and software environments, PaaS can significantly lower overall development costs.

(iii) Software as a Service (SaaS)

How it can be leveraged:

Accessibility and collaboration: SaaS applications are accessible from anywhere with an internet connection, facilitating collaboration among teams across different locations.

Lower cost of entry: SaaS eliminates the need for businesses to install, manage, and run applications on individual computers, significantly reducing software costs and maintenance overhead.

Automatic updates and patch management: With SaaS, providers manage all updates and patches, ensuring businesses always have access to the latest features without additional workload on their IT staff.

Subscription model: The subscription model of SaaS allows businesses to pay for software on a monthly or annual basis, which can be scaled according to the number of users or features required, making it easier to manage expenses and adjust as the business grows.

- (d) Disadvantages of cloud computing that any enterprise in the 21st century should be aware of.
- Dependence on internet connectivity: Cloud computing is inherently dependent on having a stable and fast internet connection. If an organisation's internet service is unreliable or slow, it can severely impact access to cloud-based applications and services, leading to potential downtimes and productivity losses.
 - Security and privacy concerns: While cloud service providers implement robust security measures, storing sensitive data off-premises raises concerns about data security and privacy. The risk of data breaches and unauthorized access is a significant concern, especially given the multi-tenant nature of cloud environments where resources are shared among multiple clients.
 - Limited control and flexibility: When enterprises opt for cloud computing, they cede a certain level of control over their IT infrastructure to the cloud service provider. This can limit the organisation's ability to implement custom configurations, perform in-depth audits, or directly manage their data and applications, potentially impacting specific operational or compliance requirements.
 - Cost concerns: Although cloud computing can be cost-effective, especially for small to medium-sized enterprises, it can also introduce unexpected costs for larger organisations or those with fluctuating demands. The pay-as-you-go model can lead to unpredictable expenses, and data egress fees or premium services may increase costs significantly.
 - Vendor lock-in: Transitioning to cloud services often means committing to a specific cloud provider's infrastructure, tools, and services. This dependency can make it challenging and costly for organisations to switch providers in the future due to technical incompatibilities, data transfer costs, and the need to retrain staff on new platforms.
 - Compliance and legal issues: Organisations operating in heavily regulated industries may face challenges in meeting compliance requirements with cloud services. Data residency and sovereignty issues arise when data is stored in data centers located in different jurisdictions, potentially subjecting the data to foreign laws and regulations that may conflict with an organisation's obligations.

Solution 6

- (a) The significance of the terms mentioned in the scenario.

Risk management: This is crucial for identifying, analysing, and mitigating risks to ensure the envisaged system is secure, reliable, and effective in managing educational data. It helps in minimising potential threats to the system's functionality and the privacy of students' data.

Risk assessment: A key part of risk management, it involves evaluating the potential risks that could impact the system, allowing the NCDC to prioritise and address the most significant threats first. This ensures the safeguarding of sensitive data against unauthorised access, data loss, or system failures.

Systems development life cycle (SDLC): This structured process guides the development, deployment, and maintenance of the learners' data capturing system. It ensures that the system meets the educational needs efficiently and effectively, while being adaptable to future requirements and minimising development errors.

Risk management plan: A detailed document that outlines how risks will be managed throughout the system's lifecycle. It is vital for maintaining the integrity, availability, and confidentiality of the system, ensuring that all team members understand their roles in risk management and that there are plans in place for responding to potential risks.

- (b) Given that TexTech intends to incorporate risk management at every stage of the SDLC. Stages of the SDLC mentioned in the scenario and the relevant risk management deliverable for **each**.

Stage	Deliverables
Planning	<p>Risk identification and assessment document; identifies potential risks in a project or business process, evaluates their likelihood and potential impact, and prioritises them for management and mitigation.</p> <p>Risk Management Plan: Establishes the approach for risk management activities throughout the project, including methodologies, tools, and roles and responsibilities.</p> <p>Risk mitigation plan; outlines strategies and actions to reduce, control, or eliminate identified risks to a project or business process, aiming to minimise their impact on objectives.</p>
Analysis	<p>Requirements Risk Analysis: Evaluates risks associated with user requirements, such as feasibility, clarity, and completeness.</p> <p>Requirements Traceability Matrix: Ensures all requirements are traceable and managed throughout the SDLC, identifying risks related to changing or misunderstood requirements.</p>
Design	<p>Design Risk Assessment: Identifies risks related to the architecture and design choices, such as scalability, security, and integration with existing systems.</p>

	Risk Mitigation Strategies: Documents specific strategies to address identified design risks, including alternative designs, prototyping, and security measures.
Development and Testing	Development Risk Log: Keeps a dynamic list of risks identified during development, including technical challenges, code quality issues, and resource constraints.
	Code Review Reports: Identifies risks related to code quality, security vulnerabilities, and compliance with design specifications.
	Test Plan Risk Assessment: Identifies risks that may affect the testing phase, such as inadequate test coverage, resource availability, and tool effectiveness.
	Risk-Based Testing Strategy: Prioritises testing efforts based on the risk of failure and its impact, focusing on high-risk areas to ensure critical issues are addressed.
Implementation	Deployment plan with risk mitigation procedures, Change management plan with risk assessment for each change,
Maintenance	Maintenance plan with identified risks and mitigation strategies, Incident response plan, Regular risk assessments and updates to mitigation plans

- (c) Potential risks associated with the student data management system that TexTech intends to develop.

Data breaches: Hackers or malicious actors could exploit vulnerabilities in the system to access, steal, or manipulate student data. This could expose sensitive information like grades, disciplinary records, or even personally identifiable information.

Unauthorised access: Even with adequate security measures, there's still a risk of authorised personnel misusing or accidentally leaking data. This could be due to insufficient access controls, lack of user training, or malicious intent.

Data loss: System failures, natural disasters, or other unforeseen events could lead to data loss, impacting student records and hindering assessment processes.

Data management and usage:

Privacy violations: The system might collect more data than necessary, raising concerns about student privacy and potential misuse of information. Transparency and clear communication about data collection and usage are crucial.

Accessibility and equity: If the system is not accessible to all students due to technological limitations or lack of training, it could exacerbate existing inequalities and hinder inclusive education.

Surveillance and control: The system could be perceived as a surveillance tool, raising ethical concerns about student privacy and autonomy. It's important to strike a balance between monitoring performance and maintaining a positive learning environment.

Commercialisation of data: If the system gathers valuable student data, there's a risk of data being used for commercial purposes without proper consent or safeguards.

- (d) Importances of the plan mentioned in the Scenario to TexTech during the process of development of the envisaged system.

Proactive identification and mitigation of risks: A structured risk management plan will guide TexTech to systematically identify, assess, and prioritise potential risks before they materialize. This allows proactive planning and implementation of mitigation strategies, avoiding costly and impactful issues later.

Protecting sensitive data and student privacy: The plan will ensure consistent adherence to data security and privacy regulations. It outlines measures to safeguard student data against unauthorized access, breaches, and misuse, safeguarding student privacy and building trust with parents and educators.

Informed decision-making and cost savings: The plan will provide a comprehensive overview of potential risks and their impact, enabling TexTech to make informed decisions throughout the development process. This can optimize resource allocation, prevent costly rework due to unforeseen issues, and ensure system longevity.

Improved transparency and accountability: By documenting risks and mitigation strategies, the plan will foster transparency and accountability within TexTech and towards stakeholders like the NCDC. This promotes open communication, trust, and collaborative risk management.

Demonstrate commitment to responsible data management: By showcasing a comprehensive risk management strategy, TexTech positions itself as a trustworthy and responsible data steward, enhancing its reputation and stakeholder confidence.

Solution 7

- (a) Meaning of the following terms:

- (i) Information security

The practice of protecting information from unauthorised access, use, disclosure, disruption, modification, or destruction.

- (ii) Information privacy

The right of individuals to control their personal information and how it is collected, used, shared, and stored.

- (b) Digital marketing strategies to promote organisations' products.

- Content marketing: organisations can develop a content strategy that includes diverse formats such as in-depth blog articles, how-to guides, and engaging videos. This content is aimed at solving their audience's problems and answer their questions, positioning their brand as a thought leader.
- SEO (Search Engine Optimisation): organisations can implement on-page SEO by optimising headlines, descriptions, and content with relevant keywords. Enhance your site's structure and speed for better user experience, and build quality backlinks to improve their site's authority and rank higher in search results.
- Social media marketing: organisations can craft platform-specific content to engage their targeted audience. And then Utilise analytics to understand the best times to post and the types of content that resonate with their followers.

- Email marketing: Organisations can segment their email list to send more personalised and relevant messages. They for instance use eye-catching subject lines and tests their emails to improve open and conversion rates.
 - PPC (Pay-Per-Click) advertising: organisations can conduct keyword research to target their ads effectively. In addition, they can use retargeting strategies to reach users who have shown interest in your products.
 - Influencer marketing: Organisations can choose influencers whose audience aligns with their target market. Collaborate on content that feels authentic to the influencer's style while showcasing their products.
 - Affiliate marketing: Organisations can choose affiliates that share their brand values and have engaged audiences. Then go ahead and provide them with all the necessary tools and information to effectively promote your products. Track the performance of affiliate campaigns to identify the most effective partners.
 - Video marketing: organisations can create videos that demonstrate the use and benefits of their products. For example, they can consider storytelling to connect emotionally with their viewers. Then optimise your video content for search engines and share across social media platforms and your website for maximum exposure.
- (c) Non-technical methods organisations can utilise to enhance protection of their customers' data.
- Development of data protection policies: Organisations can create comprehensive data protection and privacy policies that outline how customer data is to be handled, shared, and securely stored. These policies provide a framework for all other data protection efforts.
 - Employee training and awareness programs: Organisations can conduct regular training sessions for their employees to emphasise the importance of data privacy and security best practices. This includes educating staff on the potential risks and consequences of data breaches and their role in safeguarding customer information.
 - Access control policies: Implementing strict access control policies ensures that only authorised personnel have access to sensitive customer data. Organisations should adopt the principle of least privilege, limiting access to what is necessary for an individual's job functions.
 - Third-party vendor management: Organisations can carefully assess and manage third-party vendors who have access to customer data. This includes ensuring that these vendors comply with stringent data protection standards, enforced through contracts and regular audits.
 - Enhancing physical security measures: Physical security is also crucial for protecting customer data. Organisations should secure their premises with locks, security personnel, surveillance systems, and other measures to prevent unauthorised physical access to areas where customer data is stored or accessible.
 - Data minimization and retention policies: Organisations should practice data minimization, collecting only the data necessary for specific purposes and not retaining it longer than needed.

- Incident response planning: Having a robust incident response plan enables organisations to react swiftly and effectively to data breaches. This plan should detail the steps for addressing a breach, including how to notify affected customers and regulatory bodies.
- Transparency and customer communication: Organisations should be transparent with their customers about the usage, storage, and protection of their data. Clear communication about privacy policies and practices is essential, along with providing avenues for customers to manage their data.
- Legal compliance and ethics: Ensuring that data protection practices align with applicable laws, regulations, and ethical standards is critical. Organisations need to stay informed about legal requirements and adapt their policies and procedures accordingly.
- Regular audits and compliance assessments: Conducting regular audits and assessments of data protection practices helps organisations identify and address vulnerabilities. This also ensures ongoing compliance with internal policies and external regulatory requirements.

Solutions to Exam 20 December 2024

Solution 1

(a) The social objectives of a business organisation

- Quality: Businesses should give customers high-quality goods and services; thus, business is obliged to give good value to consumers.
- Fair deal to labour: Business is obliged to give fair pay to workers for fair work.
- Fair return to investors: Investors are entitled to fair returns, which should be good enough to attract others to invest money in that business.
- Fair deal to suppliers: If suppliers supply on credit, they should receive fair prices and timely payment to enable them to continue in business as well as supply it.
- Fair deal to government: To enable businesses to undertake their responsibilities, the government must be able to finance them and this is done through taxation.
- Environmental sustainability: Businesses set objectives to reduce their environmental footprint, conserve resources, and minimise pollution. This might include goals related to reducing carbon emissions, water usage, or waste generation.
- Community engagement: Many companies aim to be actively involved in their local communities. They may set objectives to support local charities, engage in community development projects, or provide volunteer opportunities for employees.
- Ethical sourcing: Businesses can set objectives related to ethical sourcing of materials and products. This includes ensuring fair labour practices, responsible sourcing of raw materials, and promoting supply chain transparency.
- Business must pay taxes to enable government undertake its responsibilities.
- Fair deal to society: Society supports business by buying goods/services provided by business and business supports society by providing goods and services which satisfy societal needs, so both have mutual obligations to one another.
- Environmental Sustainability: Businesses set objectives to reduce their environmental footprint, conserve resources, and minimise pollution. This might include goals related to reducing carbon emissions, water usage, or waste generation.
- Community engagement: Many companies aim to be actively involved in their local communities. They may set objectives to support local charities, engage in community development projects, or provide volunteer opportunities for employees.
- Ethical sourcing: Businesses can set objectives related to ethical sourcing of materials and products. This includes ensuring fair labour practices, responsible sourcing of raw materials, and promoting supply chain transparency.

- Reputation; businesses should have an element that will portray a good image about that organisation.

(b) The benefits of business objectives to organisations

- Objectives give substance to the overall goals of the organisations; they clarify how the organisation intends to achieve its goals.
- Objectives give managers and other employees a focal point for their efforts.
- A review of objectives helps to find out whether it is still relevant or whether new ones should be added according to changing circumstances.
- Objectives define how it is to be pursued by developing policy guidelines for the guidance of management and other employees.
- Direction and focus: Objectives provide a clear sense of direction and purpose for the organisation. They define what the company aims to achieve in the short and long term, helping to align all employees and resources toward common goals. This focus is essential for making informed decisions and prioritizing activities.
- Measurement of success: Objectives serve as benchmarks for measuring the success and performance of a business. By setting specific, measurable, achievable, relevant, and time-bound (SMART) objectives, organisations can track progress and evaluate whether they are meeting their targets.
- Motivation and engagement: Well-defined objectives can motivate and engage employees by giving them a sense of purpose and accomplishment. When employees understand how their individual efforts contribute to the broader objectives of the company, they are more likely to be motivated and committed to their work.
- Resource allocation: Objectives help in allocating resources efficiently. They guide decisions about where to invest capital, human resources, and time. When resources are directed toward achieving specific goals, wastage is reduced, and investments become more strategic.
- Risk management: Objectives assist in identifying and managing risks. By clearly outlining what the organisation is trying to achieve, potential obstacles and risks can be identified early. This allows for proactive risk mitigation strategies to be put in place.
- Performance evaluation: Business objectives are instrumental in assessing the performance of various departments, teams, and individuals. This evaluation helps in identifying areas of improvement, making necessary adjustments, and recognising outstanding achievements.
- Competitive advantage: Clear and well-communicated objectives can set a business apart from competitors. When customers, investors, and partners understand what a company is striving to achieve, it can enhance the organisation's credibility and attractiveness.
- Strategic planning: Objectives are a fundamental component of strategic planning. They provide the basis for developing strategies and

action plans to attain those objectives. Without clear objectives, it's challenging to formulate an effective business strategy.

- Stakeholder communication: Businesses often have multiple stakeholders, including customers, employees, investors, suppliers, and the community. Objectives serve as a means to communicate the organisation's intentions and commitments to these stakeholders, fostering trust and transparency.
- Adaptation and agility: In a dynamic business environment, objectives can be adjusted as circumstances change. Having clear objectives allows for quick adaptation to market shifts, new opportunities, and unexpected challenges while maintaining a clear sense of purpose.
- Objectives set out specific and quantifiable targets to be pursued.

Solution 2

(a) The different levels of management at OUL

- Top or strategic level management made up of a relatively small group of executives who manage the overall organisation, taking on the title of managing director, chief executive officer, president, etc
- Middle or tactical level management, the largest group of managers with titles like Head of department, plant manager, operations manager, etc.
- Lower/ Line or operational level management with titles like supervisor, office manager, and coordinator.

(b) The roles played by each of the management levels

- Top or strategic level management formulate goals, strategies, and policies. They meet with government officials, executives of other organisations, and the public.
- Middle or tactical-level management implements the plans and policies formulated by the top management as well as supervising and co-ordinating the activities of lower-level managers.
- Lower/ Line or operational level management supervises and coordinates the activities of operating employees. They spend most of their time supervising the work of their subordinates.

(c) Essential skills of managers

- A technical skill is necessary to accomplish specific kinds of work and is important for first-line managers. They must know how to perform tasks assigned to those they supervise.
- Interpersonal skill is the ability to communicate with, understand, and motivate both individuals and groups. A manager must be able to work with suppliers, customers, investors, and those outside the organisation.
- Conceptual skills where the manager needs the mental capacity to understand the overall workings of the organisation and its environment, grasp how all the parts of the organisation fit together, and to view the organisation in a holistic manner. This allows him to

think strategically and make decisions that serve the overall organisation.

- Diagnostics skills enable managers to visualise the most appropriate response to the situation, they do this by analysing a problem and developing a solution.
- Communication skills to effectively convey ideas and information to others and vice versa. This allows the manager to transmit ideas to subordinates so that they know what is expected, coordinate work with peers, and keep higher-level managers informed about what is going on.
- Decision-making skill is the ability to correctly recognise and define problems and opportunities; then select an appropriate course of action to solve problems and exploit opportunities.
- Networking/ political skill is a supplement to job competence and other basic skills.

Solution 3

(a) The methods of communication used at TCL

- Written communication involving pen and paper:
 - ✓ Electronic mail is a widely used method for written communication. Both formal and informal messages, documentation, and sharing files and attachments.
 - ✓ Letters and Memos: Although less common in the digital age, traditional letters and memos are still used for formal communications, such as legal notices and official announcements.
 - ✓ Reports and Manuals: Detailed information, research findings, and procedural instructions are often communicated through reports, manuals, and other written documents.
- Oral communication of face-to-face, phone, voice chat, and video conferencing. Face to face allows for immediate feedback and is ideal for important discussions, negotiations, and brainstorming sessions. Telephone conversations are useful for quick questions, clarifications, and discussions when face-to-face meetings are not possible.
- Non-verbal communication that uses wordless messages (gestures, body language, facial expressions, gestures, and posture convey non-verbal cues during face-to-face interactions).
- Visual communication by using signs, drawings graphic designs, and illustrations. Visual communication is used in various contexts, including business, education, marketing, design, and multimedia, to effectively convey complex or abstract concepts.

(b) The communication processes at TCL

- The sender transmits a message in the form of information, ideas, and attitudes to an individual intended to receive it
- Encoding which is the language of a message; it can be verbal (spoken), written, or non-verbal (in pictures, diagrams, numbers, or body language).

- Decoding which is the ability to translate or interpret the language into an understanding meaning.
- Medium is the channel of communication such as conversation, letter, notice board, email, SMS, Whatsapp, etc.
- Noise is the distraction and interference in the environment where communication is taking place. It may be physical (passing vehicle), technical (network problem), social such as differences in personalities of the people involved and psychological such as anger, fatigue, and frustration.
- Receiver is the recipient who interprets (decodes) it
- Feedback to test the receiver's understanding and gauge the reaction.

(c) The barriers that could have interfered with communication in TCL

- Poor communication skills like inability to listen, lack of clarity, and ineffective non-verbal communication like lack of eye contact.
- Information overload that is a result of excessive information or increased anxiety.
- Inappropriate language or Language differences, e.g. Chinese and English When individuals within an organisation speak different languages or dialects, or if jargon and technical terms are not understood universally, it can lead to misinterpretation and confusion.
- Low motivation and interest that results in:
 - ✓ Lack of Engagement that can manifest as a lack of active participation, making it challenging to sustain meaningful conversations or collaborations.
 - ✓ Reduced initiative, such that individuals become passive and hesitant to initiate communication.
 - ✓ Poor active listening that is, lack of attention and focus, causing individuals to miss important details, cues, or nuances in conversations.
 - ✓ Limited contribution when, individuals with low motivation contribute less to discussions, projects, or brainstorming sessions.
- Technological barriers where technical Issues, Malfunctions, or glitches in communication tools and technologies, such as email, video conferencing, or messaging apps, can disrupt communication.

Solution 4

(a) The support services in a service industry

- Infrastructure that allows the company to maintain daily operations, examples are accounting, legal, administrative, and general management.
- Customer service: This is one of the most critical support services in the service industry. Customer service representatives are responsible for addressing customer inquiries, resolving complaints, and providing assistance throughout the customer's journey. Effective customer service can significantly impact customer loyalty and retention.
- Technical support: In industries that involve technology or complex products, technical support teams assist with product setup,

troubleshooting, and maintenance. This support ensures that customers can use the product or service effectively.

- **Billing and payment services:** These services handle billing inquiries, payment processing, and account management. Accurate and efficient billing services contribute to customer satisfaction and revenue collection.
- **Logistics and supply chain management:** Support services related to logistics and supply chain management to ensure the timely delivery of products and services. This includes inventory management, order fulfillment, and distribution.
- **Human resources:** HR support services handle various aspects of employee management, including recruitment, training, payroll processing, and benefits administration. A well-managed workforce is essential for delivering quality services.
- **IT and information services:** In today's digital age, IT support services are critical. They manage technology infrastructure, software development, data security, and information management, ensuring that digital systems run smoothly.
- **Facility management:** Facility management services are responsible for maintaining physical facilities and ensuring they are clean, safe, and well-maintained. This includes managing buildings, utilities, and equipment.
- **Legal and compliance services:** These services help the organisation adhere to legal and regulatory requirements. They may involve compliance monitoring, legal advice, and risk management.
- **Marketing and advertising support:** Support services related to marketing and advertising can include market research, advertising campaigns, and Public Relations efforts. These services help attract and retain customers.
- **Training and development:** Training and development services ensure that employees have the skills and knowledge required to deliver high-quality services. This includes onboarding, ongoing training, and skill enhancement programs.
- **Quality assurance and testing:** In industries where accuracy and quality are critical, quality assurance and testing services are essential. They involve evaluating and ensuring that products or services meet established quality standards.
- **Safety and security services:** Ensuring the safety and security of both customers and employees is paramount. Support services in this category include security personnel, surveillance systems, and emergency response procedures.
- **Environmental and sustainability services:** In industries with environmental concerns, these services focus on sustainability efforts, waste management, and compliance with environmental regulations.
- **Financial services:** Financial support services include budgeting, financial analysis, and financial planning. They help ensure the organisation's financial health and stability.

- Complaints and feedback handling: Managing customer complaints and feedback is essential for continuous improvement. Support services in this area involve processes for collecting, analysing, and acting upon customer input.

(b) The key areas of operations management

- Planning the number of workers required the materials to be used, and the number and type of machinery to be used.
- Production of the commodity taking into account the nature of the final product, market size, resource availability, and the available technology.
- Purchasing with due consideration to alternative suppliers, delivery time, price, quality, quantity, and storage facilities.
- Storage since efficient production needs a continuous supply of stock
- Distribution because the production of goods is only one part of the business, so safe and efficient distribution to customers is essential.
- Environmental and sustainability management; which involves implementing practices and policies to reduce the environmental impact of operations and ensuring adherence to environmental regulations and sustainability standards.
- Technology and information management that involves implementing and managing information systems and technology to support operations and data analysis.

(c) Factors that influence plant layout

- Type of production process, production can be through any of these processes; extraction, refining, converting, and assembly processes.
- Sequence of operations, which could be continuous, batch, or mixed production sequences.
- Quantity and quality of production. Small quantity requires few and small machines and vice versa while high quality requires special storage and handling facilities.
- Employees' safety where the layout should allow for the isolation of hazardous machines and materials and allow employees free access to and from machines with ease.
- Stores and service areas where bulk production is involved.
- The concept of just-in time which requires little storage.
- Cost considerations, both capital and operational, and the budget available for facility design and construction may influence layout choices. But also, the layout should aim to minimise operating costs, such as labour, energy, and maintenance expenses.
- Space constraints and expansion plans; the size and shape of the available space can limit layout options. Vertical space may also be considered for multi-story facilities. Provisions for future expansion or modification of the plant layout should be taken into account.
- Employee and labour considerations; the availability and skill level of the workforce may influence layout decisions, including automation

considerations, amenities such as break areas, restrooms, and cafeterias can impact worker satisfaction and productivity.

Solution 5

- (a) The meaning of the term Internet of Things (IoT)
The Internet of Things (IoT) describes physical objects (or groups of such objects) with sensors, processing ability, software, and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks.
- (b) Technologies that the manager can use to achieve the goal described in the passage.
- **Sensors and actuators:** These devices are the basic building blocks of IoT, and they allow physical objects to gather data and interact with the environment. Sensors can measure temperature, humidity, light, and motion, while actuators can control physical devices like motors, valves, and switches.
 - **Wireless communications:** Wireless communication technologies such as Wi-Fi, Bluetooth, Zigbee, and cellular networks allow IoT devices to communicate with each other and with the internet without the need for physical connections.
 - **Cloud computing:** Cloud computing provides a scalable, flexible infrastructure for storing, processing, and analysing the large amounts of data generated by IoT devices.
 - **Big data and analytics:** IoT devices generate massive amounts of data, and big data technologies are needed to store, process, and analyse this data to derive valuable insights and make informed decisions.
 - **Artificial intelligence and machine learning:** AI and machine learning technologies can help to make sense of the data generated by IoT devices, and can be used to automate decision-making and control processes.
 - **Blockchain:** Blockchain is a secure, decentralized technology that can be used to store and verify data generated by IoT devices, ensuring the accuracy and integrity of data, and enabling secure communication between IoT devices.
- (c) Ways in which IoT can improve the quality of city dwellers;
- **Smart homes:** IoT devices can be used to automate and control various aspects of a home, such as lighting, heating, cooling, and security, providing a more comfortable and convenient living environment.
 - **Improved healthcare:** IoT devices can help monitor and track various aspects of a person's health, such as heart rate, blood

pressure, and sleep patterns, enabling healthcare providers to identify health issues and intervene early, improving health outcomes and quality of life.

- Energy efficiency: IoT devices can be used to monitor and control energy usage in homes and buildings, helping to reduce energy consumption and lower energy bills, as well as reducing the carbon footprint and improving the environment.
- Better transportation: IoT technologies can be used to optimize and improve transportation systems, such as traffic management, public transportation scheduling, and vehicle maintenance, reducing travel time and improving safety on the roads.
- Improved public services: IoT devices can be used to monitor and improve various public services, such as waste management, water and air quality, and emergency response times, ensuring that citizens receive the best possible services and support.
- Enhanced safety and security: IoT devices can be used to enhance safety and security in homes, communities, and public spaces, providing peace of mind and a safer environment for citizens.

(d) Challenges likely to be faced while implementing IoT technology in the city

- Security and privacy: The connectivity and data sharing inherent in IoT systems can make them vulnerable to cyber-attacks, hacking, and data breaches, compromising the privacy and security of citizens.
- Interoperability: IoT devices and systems from different manufacturers may use different protocols and standards, making it difficult to ensure that they can communicate with each other and work together effectively.
- Complexity: IoT systems can be complex and difficult to manage, requiring specialised skills and expertise to implement and maintain them.
- Cost: The cost of implementing IoT technology can be significant, including the cost of purchasing and installing the devices, as well as the cost of maintaining and updating the systems over time.
- Network Capacity: The large amounts of data generated by IoT devices can put a strain on existing network infrastructure, requiring significant upgrades to ensure that the network can support the demands of IoT technology
- Lack of Awareness
Many stakeholders lack knowledge about IoT's potential benefits, leading to resistance, underfunding, and poor integration into urban infrastructure.

Illiteracy

Low general and digital literacy levels hinder citizens' ability to use IoT-enabled devices and services, creating a digital divide and reducing system effectiveness.

Solution 6

(a) The meaning of the terminologies:

(i) Information system

An information system is a system that consists of people, technology, and processes that work together to create, process, store, and disseminate information.

(ii) Prototyping

Prototyping is the process of creating a preliminary or working model of a proposed information system to provide stakeholders, such as users and decision-makers, with a tangible representation of the system, which they can examine and evaluate to provide feedback and make informed decisions about the design and development of the system.

(iii) Organisational change

This refers to the process of transforming the use of information systems within an organisation to improve its effectiveness and efficiency. This can involve changes to the organisation's information system infrastructure, processes, and practices, as well as changes in the way that employees interact with technology.

(iv) Rapid application development (RAD)

This is a software development methodology that emphasises rapid prototyping and rapid delivery of a working software product. The goal of RAD is to produce a high-quality product in a shorter amount of time, with less documentation and fewer constraints, compared to traditional software development methods.

(b) Reasons why the hospital chose the alternative approach mentioned over the traditional systems development life cycle

- The desired information system was complex with rapidly changing requirements: Agile is well-suited for projects where requirements are subject to frequent change or are not fully understood at the outset. Its iterative and incremental approach allows for changes to be made quickly and efficiently, without disrupting the overall project timeline.
- The information system desired by the hospital has a high degree of uncertainty: Agile development will provide a flexible approach that allows teams to respond to new information and changing requirements as they emerge.

- The project has a tight deadline: Agile's focus on delivering working software quickly makes it well-suited for the hospital's information system whose deadline is tight and not flexible.
 - Requires highly collaborative and well-coordinated effort from all stakeholders. The scenario suggests that collaborative and well-coordinated efforts are required from all stakeholders. This is in line with Agile's emphasis on cross-functional teams and close collaboration between developers, customers, and stakeholders
 - Projects with a high degree of customer involvement: Agile's customer-focused approach is well-suited for projects where close collaboration with customers is critical to success.
- (c) Techniques the hospital management can use to ensure that the stakeholders do not resist change to the new information system. Ensuring that stakeholders do not resist change to a new information system can be challenging, especially in a hospital setting where there are often many stakeholders with different perspectives and priorities. However, there are several techniques that hospital management can use to mitigate stakeholder resistance to change:
- Involve stakeholders early: Inviting stakeholders to participate in the planning and design phases can help to ensure that their concerns and needs are taken into account. This also gives them a sense of ownership in the project and can increase their level of buy-in.
 - Communicate regularly: Keeping stakeholders informed about the progress of the project and the decisions being made can help to build trust and reduce the likelihood of resistance.
 - Provide training and support: Providing adequate training and support to stakeholders on how to use the new system can help to reduce the fear of change and increase adoption.
 - Address concerns: Encourage stakeholders to voice their concerns and actively listen to their feedback. Address their concerns and provide solutions where possible.
 - Be transparent: Be open and transparent about the reasons for the change and the benefits that the new system will bring.
 - Address resistance head-on: Address resistance head-on and be proactive in addressing any concerns or objections that stakeholders may have. This can help to reduce the likelihood of resistance and increase the likelihood of adoption.
 - Seek feedback: Regularly seek feedback from stakeholders and make adjustments where necessary. This can help to increase their level of satisfaction with the new system and reduce the likelihood of resistance.

Solution 7

(a) The meaning of the terminologies:

(i) Systems development life cycle

The systems development life cycle (SDLC) is a process that ABC technologies will use to develop and manage software from conception to deployment. It includes requirements gathering, design, development, testing, deployment, and maintenance.

(ii) Risk management

Risk management is the process that ABC Technologies will follow to identify, assess, and control risks faced by their organisation, or projects they are undertaking.

(iii) Risk management framework

A risk management framework is a systematic approach that ABC technologies will use to identify, assess, and prioritise potential risks and implement strategies to mitigate or manage those risks.

(b) Importance of the initiatives the company has taken to ensure the effective implementation of risk management.

The company has appointed a risk management coordinator, developed standard operating procedures for risk management, and implemented a risk management software tool.

The importance of a risk management coordinator:

- A risk management coordinator will ensure the effective implementation of ABC Technologies' risk management program.
- This person is responsible for coordinating risk management activities and communicating risk information to relevant stakeholders.
- They help ensure that risks are identified, evaluated, and managed systematically and consistently, which helps to minimize the impact of adverse events on the organization.
- A risk management coordinator can provide valuable insights into the effectiveness of the organization's risk management practices, helping to identify areas for improvement.

Standard operating procedures for risk management:

- SOPs will provide a clear and consistent process for identifying, assessing, and managing risks, which helps to minimize the impact of adverse events on ABC Technologies.
- SOPs also provide guidance to ABC Technologies' employees and stakeholders on how to handle risk-related situations, reducing the risk of human error.

- SOPs are tools that help ABC maintain the effectiveness of their risk management program over time and should be reviewed and updated regularly to ensure that they remain relevant and effective.

Risk management software tool:

- The tools will provide a centralized repository for risk information, allowing ABC technologies to track and manage risks more efficiently.
- They can also automate many of the manual processes involved in risk management, such as risk assessment and reporting, freeing up valuable time and resources.
- Risk management software tools can provide real-time risk information, helping ABC technologies to respond to risks quickly and effectively.
- They can provide valuable insights into the organization's risk profile, helping to identify areas for improvement in the risk management program.

(c) Significance of any **four** components that ABC is likely to include in their framework discussed in the scenario

- Risk identification: This component is critical as it forms the foundation of the risk management framework by identifying potential risks and threats to the organisation's objectives. For ABC Technologies, this may involve identifying risks related to the development and implementation of new technology, market changes, and competition.
- Risk assessment: This component is important for ABC Technologies as it enables the organisation to evaluate the likelihood and impact of identified risks and determine the priority of each risk. This information can then be used to develop appropriate risk management strategies and allocate resources effectively.
- Risk control: This component involves the implementation of strategies to mitigate or manage the identified risks. For ABC Technologies, this may involve implementing technical and operational controls to reduce the risk of data breaches, for example.
- Risk monitoring and review: This component is critical for ensuring that the risk management framework remains effective over time. ABC Technologies may need to regularly monitor and assess the effectiveness of its risk management strategies and make any necessary adjustments in response to changes in the operating environment or to improve the framework.
- Communication and reporting: This component is important for ABC Technologies as it ensures that relevant stakeholders are informed

about the organisation's risk management processes and any risks that have been identified and managed. This can help to build trust and confidence among stakeholders and ensure that risks are effectively managed.