



**STRATHMORE INSTITUTE**  
**DIPLOMA IN INTERNATIONAL RELATIONS/ DIPLOMA IN**  
**ENTREPRENEURSHIP/DIPLOMA IN BUSINESS MANAGEMENT**  
**END OF SEMESTER EXAMINATION**

**DIR 1104/ DE 1104/DBM 1105**  
**FUNDAMENTALS OF INFORMATION TECHNOLOGY**

**DATE: 19<sup>th</sup> April 2022**

**TIME: 2 Hours**

**Instructions**

1. This examination consists of FIVE questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.
3. Do not write on the question paper.

**SECTION A: (30 marks)**

**QUESTION ONE**

- (a) Multiple Choice Questions: Select the correct answer (A/B/C/D) and write it in your answer booklet.
- |   |  |
|---|--|
| i) Which of the following is not a basic computer operation?<br>A. Input<br>B. Throughput<br>C. Processing<br>D. Storage  | iv) The type of software that sits on top of the operating system and utilizes the computer's capabilities to perform a user task is called:<br>A. System software.<br>B. Utility software.<br>C. Application software.<br>D. Internal software. |
| ii) Which generation of computer developed using integrated circuits?<br>A. First generation<br>B. Second generation<br>C. Third generation<br>D. Fourth generation | v) Which of the following is <b>not</b> an example of an input device?<br>A. Microphones<br>B. Speakers<br>C. Scanners<br>D. Digital cameras   |
| iii) The computer function in which raw data is converted into meaningful information is known as:<br>A. Input.<br>B. Processing.<br>C. Output.<br>D. Storage.      | vi) The <i>CPU</i> is often referred to as the _____ of the computer.<br>A. Heart<br>B. Brain<br>C. Core<br>D. Soul  |

- vii) NIC is an abbreviation for which of the following terms?  
 A. Network interface card  
 B. Network integration card  
 C. Network information card  
 D. Network interface capability
- viii) The device that combines the capabilities of a handheld computer with mobile phone capabilities and Web access is known as a \_\_\_\_\_  
 A. Mobile computer  
 B. Multiphone  
 C. Smartphone  
 D. Minicomputer
- ix) An individual's ability to restrict or eliminate the collection, use, and sale of confidential personal information is known as  
 A. Cybertrust  
 B. Basic rights  
 C. Privacy  
 D. Confidentiality
- x) The ability to convey a message without disclosing your name or identity is known as:  
 A. Privacy  
 B. Confidentiality  
 C. Anonymity  
 D. Cyber blocking
- xi) This type of software collects your personal information, monitors your Web surfing habits, and distributes this information to a third party.  
 A. Advertisement software  
 B. Pop-upware  
 C. Spyware  
 D. Malware
- xii) In a denial-of-service attack, the commandeered computers form a botnet, and the individual computers are called:  
 A. Attackers  
 B. Zombies  
 C. Slaves  
 D. Worms
- xiii) Using a technique known as \_\_\_\_\_, a message is sent to a computer system using an IP address disguised as one from a trusted source.  
 A. Electronic data collection  
 B. IP spoofing  
 C. Hacking  
 D. Illegal access
- xiv) Which of the following is **not** a network communications device?  
 A. Switch  
 B. Router  
 C. NIC  
 D. LAN
- xv) Which of the following network devices has the capability to determine the best path to transmit data and determine alternative pathways?  
 A. Router  
 B. Switch  
 C. Pathfinder  
 D. Director
- xvi) Which of the following is **not** a disadvantage of networks?  
 A. Lack of privacy  
 B. Loss of autonomy  
 C. Sharing important information  
 D. Security issues
- xvii) A local area network (LAN) in which all the computers are equals is called a(n) \_\_\_\_\_ network.  
 A. Equal resource  
 B. Peer-to-peer  
 C. Client/server  
 D. Equal sharing
- xviii) The term network topology refers to the:  
 A. Type of network operating system used on the file server.  
 B. Type of Internet connections available to users of the network.  
 C. Physical layout of a local area network.  
 D. Contention-management strategy used to resolve collisions.
- xix) Which of the following checks to see that the hardware is operating appropriately?  
 A. RAM  
 B. BIOS  
 C. ROM  
 D. POST

- xx) In a(n) \_\_\_\_\_ topology, the network nodes are connected to a central hub or switch.  
 A. Star  
 B. Hierarchical  
 C. Layered  
 D. Ring
- xxi) The process of loading the OS to memory is which of the following?  
 A. Configuration  
 B. Booting  
 C. Authentication  
 D. Installing
- xxii) Starting a computer that is not already turned on is called a:  
 A. Warm boot.  
 B. Fast load.  
 C. Cold boot.  
 D. Cold load.
- xxiii) The \_\_\_\_\_ is the central part of the Operating System (OS) that consists of actions the OS uses most frequently, such as starting applications.  
 A. Kernel  
 B. Core module  
 C. Critical data set  
 D. BIOS
- xxiv) Decision makers who are concerned with tactical (short-term) operational problems and decision making are  
 A. Middle managers  
 B. Executive managers  
 C. Supervisors  
 D. Mobile managers  
 E. None of the above
- xxv) Which of the following is TRUE about RAM?  
 A. It is located on the motherboard.  
 B. It holds all programs in use.  
 C. It holds documents in progress.  
 D. All of the above.

- (b) Giving two examples of each, describe the two major components of a computer system. **(3 marks)**
- (c) The memory of a computer system contains both RAM and ROM. State **two** differences between RAM and ROM in a typical computer system. **(2 marks)**

## SECTION B: (15 marks per question. Choose any Two)

### QUESTION TWO

Tausi Jewellers is a jewellery company, with stores throughout the Africa continent. Each store is connected to the company's data centres in Pretoria and Nairobi, via a leased line connection. A backup link is available via an ADSL connection.

Each store has Point of Sale (POS) terminals, connected to a wired local area network (LAN), which the staff use to serve customers as well as report sales to the Head Office. A separate wireless network is provided for customers use while they are in the store.

IT support is provided by the company from its data centre in Nairobi. Store staff can email or call the dedicated IT support number when needed.

- (a) POS terminals in each of the stores feature the same computer components. Describe the purpose of the following components: **(4 marks)**
- i) Solid state drive
  - ii) Graphics card
- (b) All POS terminals are connected to a LAN. Explain **two** reasons why a LAN is used. **(4 marks)**
- (c) As well as a username and password, staff must use a biometric method to access the

POS terminals.

- i) Identify **one** biometric method to control access to the POS terminals. **(1 mark)**
- ii) Explain **two** advantages and **one** disadvantage of using biometric methods to control access to the POS terminals. **(3 marks)**
- (d) IT support staff of Tausi Jewellers are based at the data centre in Nairobi. To get IT support, store staff can use email or a dedicated phone number.  
Explain **two** advantages and **one** disadvantage of using email to obtain IT support. **(3 marks)**

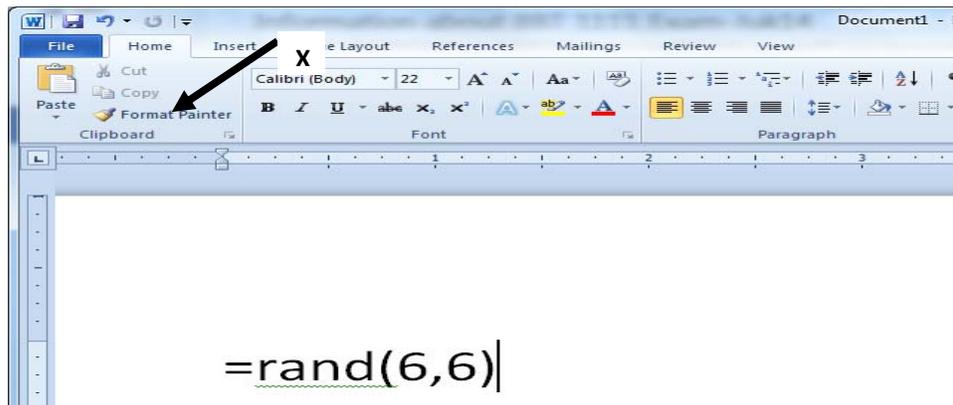
### QUESTION THREE

- a) Supporting your responses with relevant examples, explain **three** benefits of computer networking to an institution such as Strathmore University. **(4 marks)**
- b) Define a LAN and a WAN, giving an example of each. **(4 marks)**
- c) Explain **three** differences between system software and application software. **(3 marks)**
- d) Assuming you own a business that sells clothes, explain **four** ways you would use the internet to grow in the market. **(4 marks)**

### QUESTION FOUR

As part of the Information Technology lectures, we had lab lessons where you learnt how to use application packages such as MS-Word and MS-Excel. Answer the following questions, drawing from your knowledge of these two programs.

- (a) Use the image below to answer the questions that follow:



- i) What is the purpose of the tool labelled X? **(1 mark)**
  - ii) What does the formula on the image displayed above do? **(1 mark)**
  - iii) Your auntie has approached you for help in creating a table of contents. She has an MS. Word document with fifty pages of text. The pages have no page numbers inserted but the document has various headings and sub-headings.  
Explain to her the procedure that you would follow to create a table of contents from the presented document. **(4 marks)**
- (b) The sales data below have been entered into an excel worksheet. Use the information given to answer the questions that follow.

|   | A             | B    | C           | D     |
|---|---------------|------|-------------|-------|
| 1 | Location      | Coke | Minute Maid | Total |
| 2 | Nairobi       | 400  | 100         | 500   |
| 3 | Mombasa       | 300  | 400         |       |
| 4 | Kisumu        | 500  | 400         |       |
| 5 | Nakuru        | 300  | 600         |       |
| 6 | Total         |      |             |       |
| 7 | Highest value |      |             |       |
| 8 | Average       |      |             |       |

- i) Write a formula which if placed in B7 will show the highest sales figure for the coke column. **(1 mark)**
- ii) Write a function which if placed in B8 will show the average sales figure for the coke column. **(1 mark)**
- iii) Write a function and **two** formulae which if placed in B6 will show the total sales figure for the coke column. **(3 marks)**
- iv) If the formula placed in cell D2 is copied down the column to cell D5, what will be the formula in D5? **(2 marks)**
- v) What feature in MS Excel would be used to copy the formula used in cell D2 along the range of cells D3:D5? **(1 mark)**
- vi) The data values in columns B and C should be displayed as money amounts. State the formatting operation that you would use to do this. **(1 mark)**

#### QUESTION FIVE

- a) Define an Information System, giving at least **three** reasons why organizations use information systems. **(5 marks)**
- b) Describe any **three** kinds of information system that are used by managers at the three different levels of management clearly stating the users of such kind of systems. **(6 marks)**
- c) Organizations use productivity software to manage business. Explain, using examples, **two** types of productivity software an organization could use to manage its business. **(4 marks)**