



**STRATHMORE INSTITUTE**  
**DIPLOMA IN INTERNATIONAL RELATIONS/ DIPLOMA IN PROCUREMENT/**  
**DIPLOMA IN JOURNALISM AND NEW MEDIA / DIPLOMA IN**  
**ENTREPRENEURSHIP/ DIPLOMA IN BUSINESS MANAGEMENT**  
**END OF SEMESTER EXAMINATION FULL TIME PROGRAMME**

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

**DATE: 21<sup>st</sup> AUGUST 2018**

**TIME: 2 Hours**

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**Instructions**

1. This examination consists of FIVE questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

**SECTION A: (30 marks)**

**QUESTION ONE**

Mrs. Tausi is the owner of Pambazuka Group of Schools. The first school was started about ten years ago, but the number has since grown to five schools. Three of the schools are primary schools while the other two are secondary schools. With demand by the job market for people who are computer literate, Mrs. Tausi is considering acquiring desktop computers and other necessary equipment for the schools to begin offering Computer Studies as a subject that will be taken by students at secondary school level, and examined by the Kenya National Examination Council. Mrs. Tausi is also hoping that this move will make the schools attract more students and become more competitive. Mrs. Tausi has heard that with computers some tasks performed at the school could be automated. These are tasks such as inventory management, processing school fees, storing student performance records (grades), storing a data bank of exams, marketing the school through a website built for the school, managing teacher performance, learning and so on.

You have been asked to advise Mrs. Tausi on this move:

1. Explain to Mrs. Tausi what the term “Computer Literate” means. **(1 mark)**

2. Mrs. Tausi has heard you mention the terms: ‘data’ and ‘information’ in your discussion with her. She cannot quite determine the difference between the two terms. Using examples of each of the two terms, explain to her the difference between data and information. **(3 marks)**
3. You have been approached by Mrs. Tausi and have been given a task of giving her the description of **two** key staff that would be required in the Group of Schools’ computer department. Briefly describe at least **2** duties of each of the staff you have identified. **(4 marks)**
4. Identify any **three** examples of computer hardware that you think the schools would require. For each computer hardware device identified, explain what it would be used for. **(3 marks)**
5. Identify any **two** major categories of software that the school would require. For each category of software identified, explain what the school would use it for. **(2 marks)**
6. Once the devices are connected in The Group of Schools, what kind of a network will the schools end up with? Explain. **(2 marks)**
7. Discuss **three** networking requirements that Mrs. Tausi will need if she intends to have her school’s network connected to the internet. **(6 marks)**
8. Using appropriate examples discuss **two** benefits that The Group of Schools would derive from having a computer network. **(4 marks)**
9. Giving at least two reasons to support your answer, describe a network printer that you would recommend for the Group of Schools. **(3 marks)**
10. Discuss **two** measures that Pambazuka Group of Schools should take in order to secure the Schools’ computer resources (i.e. the data and equipment). **(2 marks)**

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

### QUESTION TWO

1. Storage can be broadly divided into various categories; namely, optical, magnetic and solid state storage.
  - a) Differentiate between storage media and storage devices and give **one** example of each. **(2 marks)**
  - b) Using a well labeled diagram describe any **three** parts of a hard-disk platter. **(4 marks)**
2. Cloud storage is a concept that is being adopted by many businesses today.
  - a) Define cloud storage. **(2 marks)**
  - b) Explain **three** ways in which an organization such as Strathmore University would benefit from the use of cloud storage. **(3 marks)**
3. Explain the **bus** and **star** network topologies and clearly illustrate with well labelled diagrams. **(4 marks)**

### QUESTION THREE

1. Whenever a user switches on a personal computer it undergoes a boot-up process. Discuss the **seven** steps of booting up. **(4 marks)**
2. Explain **three** differences between system software and application software. **(3 marks)**
3. Discuss the following characteristics of the operating system. **(3 marks)**
  - a) Multi-user
  - b) Multitasking
  - c) Multithreading
4. Whenever people are working with computers they get exposed to various computer risks.
  - a) In your own words, explain the meaning of the term: “computer system risk” **(1 mark)**
  - b) For each of the computer risks listed below, explain **two** safeguards that could be employed to avert/prevent the risk. **(4 marks)**
    - ☐ Software piracy
    - ☐ System failure

### QUESTION FOUR

1. Describe in detail, a computer system, including its main components. Support your description with at least **two** relevant examples of each of the main components. **(5 marks)**

2. In the design of a computer working environment, organizations have to be concerned about health issues surrounding the use of facilities and computer systems in the organization.
- a) Explain **three** major health hazards likely to affect computer users. **(3 marks)**
  - b) Outline **two** ways a computer user can use to minimize health risks. **(2 marks)**
3. Giving appropriate examples, discuss how information technology/information systems are being used in the following fields: **(5 marks)**
- a) Insurance
  - b) Government
  - c) Health care
  - d) Manufacturing
  - e) Retail business

#### **QUESTION FIVE**

1. What is the smallest unit of data that can be stored in a computer? **(1 mark)**
2. Why are binary numbers important in computing? **(2 marks)**
3. Perform the following conversions. Clearly show your workings.
- a) Decimal number  $240_{10}$  to binary **(2 marks)**
  - b) Binary number  $1110010_2$  to decimal **(3 marks)**
4. Calculate the number of bits in 256MB **(2 marks)**
5. Explain the purpose of the following functions used in Microsoft Excel. Using a simple spreadsheet, provide syntax which illustrates how they are used. **(5 marks)**
- a) Min
  - b) Max
  - c) Average
  - d) Sum