



**Strathmore**  
UNIVERSITY

**SCHOOL OF COMPUTING & ENGINEERING SCIENCES  
BSC ELECTRICAL AND ELECTRONICS ENGINEERING  
END OF SEMESTER EXAMINATION**

**CSE 1101: INTRODUCTION TO COMPUTER TECHNOLOGY**

**DATE: 10/11/2022**

**Time: 2 Hours**

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**Question 1** is compulsory.

Choose any **other two**. Answer **three** questions in total.

**Questions 1**

**[30 Marks]**

- a. Using examples, define the following terms as used in information technology **[8 Marks]**
- i. Computer
  - ii. CAD
  - iii. Information System
  - iv. Malware
- b. You have been selected to run the integrated department of Computing and Engineering (SCES) in Strathmore. Using relevant applications, describe how computer systems are important in running this department. **[4 marks]**
- c. Technology and most importantly, the internet has created some social issues, which include dependency, addiction, fear of missing out (FOMO) and digital divide. Describe these limitations or downside to the internet **[4 marks]**
- d. Describe four qualities of good information **[4 marks]**
- e. Using your advanced knowledge in Digital logic, test the validity of the Boolean expression below: **[4 marks]**

$$\overline{p \vee q} = \overline{p} \wedge \overline{q}$$

- f. Perform the following conversions (show your work). **[6 Marks]**

(i)  $1011101_2 = ?_{10}$

(ii)  $166_8 = ?_{10}$

(iii)  $242_5 = ?_6$

**Question 2** **[15 Marks]**

- a. Why is the CPU referred to as the brain of the computer? Also during its operations, the same unit (CPU) functions using two important components. Highlight these items and their functions. **[5 marks]**
- b. Describe computer coding schemes, detailing what they do (give two examples of the coding scheme in your description). **[3 marks]**
- c. Identify the components of a computer and their roles **[4 marks]**
- d. Describe the following items: **[3 marks]**
- i. Touch screen
  - ii. Plotter
  - iii. Projector

**Question 3** **[15 Marks]**

- a. Explain at least 2 (two) reasons why one should become Computer Literate. **[2 Marks]**
- b. Explain the difference between the following:
- (i) Intranet and Extranet. **[2 Marks]**
  - (ii) Bit and Byte. **[2 Marks]**
  - (iii) Input and Output devices. **[2 Marks]**
- c. Describe three functions of a network. **[3 Marks]**
- d. Kinuthia a first-year Engineering student at Strathmore University was told by his colleague Kip to re-install the operating system on his laptop. Explain any two reasons why Kip advised Kinuthia to reinstall the operating system. **[4 Marks]**

**Question 4** **[15 Marks]**

- a. Imagine you are the CEO of Global Engineering Firm (GEF), with the aid of examples, describe to the board of directors the different geographical classifications of networks that your company uses to communicate. **[6 marks]**
- b. Differentiate between volatile and non-volatile memory. Give examples **[4 marks]**
- c. Yahoo's UK arm was fined £250,000 (\$335,000) by the UK Information Commissioner's Office over a data breach on its network which affected more than 500 million users

which took place in 2014. Imagine you were running such a company and would like to avoid such cases from happening again on your network, explain the qualities that can make your network top notch. **[5 marks]**

**Question 5** **[15 Marks]**

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- a. Consider software for the following set of questions:
- i. Define a software. **[1 mark]**
  - ii. Describe the different types of software found in the computing world. **[4 Marks]**
  - iii. Describe an operating system. **[2 marks]**
  - iv. Highlight three features and three function of operating systems. **[6 marks]**
  - v. What would influence you to choose a specific operating system? **[2 marks]**