



**REFORMED CHURCH UNIVERSITY**

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**FACULTY OF COMMERCE**

**BACHELOR OF COMMERCE HONOURS DEGREE IN PUBLIC  
ADMINISTRATION**

**INFORMATION TECHNOLOGY AND COMPUTER APPLICATION**

**HPAD 125**

**PART 1 SEMESTER 1**

**Total Marks [100]**

**DATE: DECEMBER 2023**

Time: 3 Hours

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**INSTRUCTIONS**

1. This paper has *six (6)* questions
2. Answer question *one (1)* and *any* other *three (3)*
3. Each question carries *25 marks*
4. Start each question on a new page

### Question 1

- a) Explain the features of a graphical user interface as used in computers. (4)
- b) Work out the hexadecimal equivalent of  $101111100011_2$  (3)
- c) Convert
- (i)  $111.101_2$  to decimal; (2)
  - (ii)  $14.6875_{10}$  to binary. (2)
  - (iii)  $-17_{10}$  into 8-bit representation (4)
- d) Perform the following arithmetic operation (4)
- $$110.11_2 + 11.011_2$$
- e) Discuss the following components of the CPU (6)
- (i) Arithmetic Logic Unit
  - (ii) Control Unit
  - (iii) Registers
- c) Differentiate between system and application software citing examples. (6)
- d) Using diagrams, describe three network topologies used to show the configuration of computers (6)

### Question 2

- (a) Explain the importance of networking in today's digital age. (8)

(b) Distinguish between Database and Database Management System

(DBMS). (4)

(c) Differentiate between Primary and Secondary Memory, providing two

examples for each. (6)

(d) Explain how a computer uses its memory during its operation. (6)

### Question 3

(a) Explain the major differences between a random access and a sequential device. (5)

(b) (i) Explain THREE advantages and THREE disadvantages of laser printers in comparison with ink jet printers. (6)

(ii) Describe the operating principles of both types of printers. (6)

(c) Explain THREE functions of antivirus software. (6)

(d) Describe any THREE different types of cyber threats. (6)

### Question 4

Discuss any four types of networks that can be used at an educational institution.

(25)

### Question 5

(a) Explain what an Operating System is, and discuss its various functions. (10)

(b) Discuss how information technology can change the context of business management. (15)

**Question 6**

'The increasing number of people now using the internet to meet new people and socialise has brought people closer together'. Discuss. (25)

*End of Paper*