

PAN AFRICA CHRISTIAN UNIVERSITY

DIPLOMA IN INFORMATION, COMMUNICATION AND TECHNOLOGY

END OF SEMESTER EXAMINATION

DEPARTMENT: COMPUTING AND INFORMATION TECHNOLOGY
COURSE CODE: DICT0111
COURSE TITLE: INTRO TO COMPUTERS AND OPERATING SYSTEMS
CAMPUS: ROYSAMBU
EXAM DATE: MONDAY 2nd AUGUST ,2025
TIME: 2:00PM -5:00PM

INSTRUCTIONS

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other Three questions in Section **B**.
- Write only your **student number** on the answer booklet provided.

SECTION A

(Answer ALL questions in this section)

Question 1:

A student is writing a report on how computers have evolved and needs help understanding their history.

- a) Describe the key characteristics of the five generations of computers. **(5 marks)**
- b) Identify and differentiate three types of computers used today, giving practical examples of where they are applied. **(5 marks)**

SECTION B

(Answer any THREE (3) questions in this section)

Question 2:

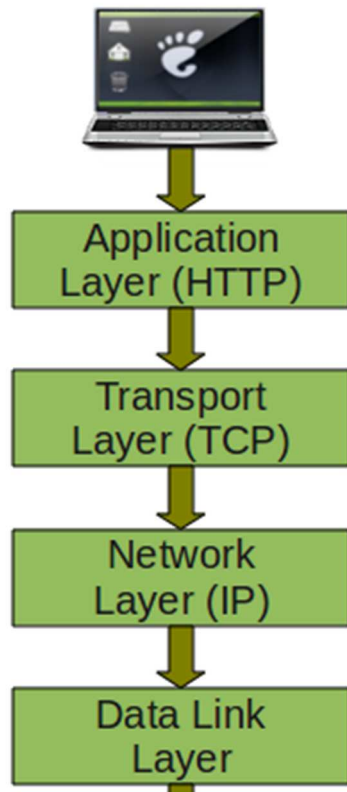
Define the following terms as used in computer systems: **(4 marks)**

- i. Input devices
- ii. Output devices
- iii. Peripheral devices
- iv. Bus architecture

Explain two reasons why understanding computer architecture is essential in system design and software development. **(6 marks)**

Question 3

- a) List and briefly describe four types of computer networks. **(2 marks)**
- b) The following diagram illustrates the TCP/IP protocol stack. Explain the function of each layer in the stack. **(8 marks)**



Question 4:

- a) Differentiate between the following types of operating systems: **(4 marks)**
 - i. Single-user vs. Multi-user OS
 - ii. Batch processing vs. Real-time processing OS
- b) Explain the differences between volatile and non-volatile memory, providing examples. **(4 marks)**
- c) Identify two common types of ports and the devices connected to them. **(2 marks)**

Question 5:

- a) Computers have evolved through multiple generations. Discuss the impact of Fifth Generation Computers on artificial intelligence and automation. (4 marks)
- b) Explain how antivirus software and firewalls protect computers from threats. (6 marks)

Question 6:

Below is an image showing various computer hardware devices.



- a) A hospital is upgrading its systems to enhance efficiency. Identify two input devices and two output devices that are essential for patient registration and diagnosis. **(4 marks)**
- b) Explain how these devices contribute to the hospital's operations. **(6 marks)**