PAN AFRICA CHRISTIAN UNIVERSITY

UNIVERSITY EXAMINATIONS: 2025/2026

EXAMINATION FOR THE CERTIFICATE IN INFORMATION AND COMMUNICATION TECHNOLOGY

CICT0111

INTRODUCTION TO COMPUTERS AND OPERATING SYSTEMS

END TERM EXAMINATION

TIME: 8:00 AM - 11:00 AM

DATE: WEDNESDAY 29TH JULY, 2026 **TIME: 3 HOURS**

INSTRUCTIONS: Question One is Compulsory, Choose Three Other Questions

SECTION A (COMPULSORY)

QUESTION ONE (15 Marks) Compulsory

a) Describe the following types of computer hardware devices and the role of each device as applied.
   i. CPU
   ii. BIOS
   iii. USB **[3 marks]**

b) Explain three basic operations of a computer. **[3 marks]**

c) Discuss how cloud computing and AI represent the continuation of the evolution of computers. **[2 marks]**

d) Define a firewall and state one purpose of having a firewall in a computer system. **[2 marks]**

e) Differentiate between RAM and ROM. **[2 marks]**

f) Compare the difference between public cloud storage and community cloud storage in computer systems. **[3 marks]**

SECTION B: (ANSWER ANY THREE (3) QUESTIONS IN THIS SECTION)

QUESTION TWO (15 marks)

a) State the technology used in the second, third, and fourth generations of computers. Give one example of a first-generation computer. **[4 marks]**

b) Distinguish between a LAN and WAN. **[4 marks]**

c) Describe two input devices and two output devices used in computer systems.

[4 marks]

d) Explain three functions of an operating system. **[3 marks]**

QUESTION THREE (15 marks)

a) State four functions of the CPU in a computer system. **[4 marks]**
b) Explain the following parts of the Central Processing Unit: **ALU**, **Control Unit**, **Buses**, and **Registers**. **[4 marks]**
c) Define a distributed system and state two characteristics of distributed systems. **[4 marks]**
d) Define a port in computer systems and explain two types of ports found in a computer. **[3 marks]**

QUESTION FOUR (15 marks)

a) Computers have become an essential part of modern society and have transformed many sectors.
Explain the role computers in the following areas:
   i. Government services **[2 marks]**
   ii. Learning institutions **[2 marks]**
b) Organizations rely on data backups to safeguard information. Describe the following backup methods and give one advantage for each:
   i. Full backup **[2 marks]**
   ii. Differential backup **[2 marks]**
   iii. Incremental backup. **[2 marks]**
c) System utilities are special programs designed to support the operating system and improve computer performance. Discuss three common system utilities and their functions. **[3 marks]**
d) Explain the function of a search engine and give one example of a search engine **[2 marks]**

QUESTION FIVE (15 marks)

a) Discuss five ways cloud computing can improve efficiency and reduce costs for small and medium-sized enterprises. **[5 marks]**
b) A startup is deciding between IaaS, PaaS, and SaaS for its operations.
Discuss each model with examples and recommend the most suitable option for the startup. **[6 marks]**
c) Explain two risks of storing data in the cloud and how they can be mitigated. **[4 marks]**

QUESTION SIX (15 marks)

a) Describe two situations under which an individual can reasonably expect privacy while using the internet. [**4 Marks**]
b) Employers often install monitoring systems in the workplace. Explain three reasons why an organization may justify the use of surveillance technologies. **[3 Marks]**
c) Discuss four major threats or risks associated with the use of computers in society today. **[4 marks]**
d) Computers store sensitive and valuable information, making them targets for security threats.
Discuss four computer security measures that individuals or organizations can implement to protect systems and data. **[4 marks]**