CENTRE FOR UNIVERSITY WIDE MODULE

COMPUTER SCIENCE FOR ENGINEERS - EMN1202

INTRODUCTION TO COMPUTERS - EMG1202

INTRODUCTION TO ICT - ESG1110

INTRODUCTION TO INFORMATION TECHNOLOGY - NGE1106/BAC1206/BMA1206

INTRODUCTION TO COMPUTER APPLICATIONS - LCS1105

COMPUTATIONAL THINKING - CMS1211

Supplementary Examination Paper

AUGUST 2026

Time allowed: 3 hours

Total Marks: 100 marks

Examiner: MS N Chauke

INSTRUCTIONS

1. This paper contains ONE section with SIX questions.
2. Answer any FIVE questions.
3. Each question carries 20 marks.
4. Where a question contains subdivisions, the mark value of each subdivision is shown in brackets.
5. Illustrate your answer, where appropriate, with clearly labeled diagrams.
6. Started each question on a new page.
7. This paper comprises of 3 printed pages

QUESTION 1

Modern day computers use the computer architecture proposed by Van Nuemann in 1945.

a) Define the term *computer architecture*. [2]

b) Briefly describe the 3 categories of computer architecture. [12]

c) Describe the technologies used from the first generation up to the fourth generation of computers. [6]

QUESTION 2

Systems software can be described as programs that control and support operations of a computer.

a) Describe in detail any 4 (four) types of systems software. [12]

b) Briefly explain any 4 (four) functions of the Operating System. [8]

QUESTION 3

Information Technology is incorporated in every professional field.

a) Briefly explain any 3 (three) software applications particular to your field of study. [12]

b) Distinguish between application software and systems software. [4]

c) Convert the following into decimal

i) 1111.011 [2]

ii) F23DE [2]

QUESTION 4

A computer network is a system of interconnected devices sharing resources

a) Briefly describe the 3 (three) transmission modes. [10]

b) Describe any 4 features of a wide area network (WAN). [4]

c) Describe using diagrams the following topologies

i) Star Topology [3]

ii) Mesh Topology [3]

QUESTION 5

A computer virus is a program that is deliberately created to cause annoyance (malicious/harmful) capable of altering or deleting data.

a) Briefly explain the three strategies used by corporates to protect themselves from viruses. [12]
b) Describe in detail any 3 (three) types of viruses you are familiar with. [8]

QUESTION 6

Windows, Linux, Android, Ubuntu, IOS are examples of Operating Systems

a) Describe in detail any 4 (four) types of Operating Systems. [16]
b) Briefly describe how the email virus works. [4]