



**FIRST YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE IN INFORMATION
TECHNOLOGY**
FIRST SEMESTER, 2022/2023
(SEPTEMBER-DECEMBER, 2022)

CIT 0108: COMPUTER PROGRAMMING

STREAM: Y1 S 1

TIME: 2 HOURS

DAY: TUESDAY, 12:00 – 2:00 P.M.

DATE: 06/12/2022

INSTRUCTIONS

- 1. Do not write anything on this question paper.*
- 2. Answer Question ONE [Compulsory] and any other TWO Questions.*

QUESTION ONE (30 MARKS)

- (a) Describe high level programming languages. (2 marks)
 - (b) Distinguish the following terms as used in Pascal programming language:
 - (i) Global variables and local variables;
 - (ii) Source code and object code.
 - (iii) Linkers and Loaders
 - (iv) Compilers and Interpreters (8 marks)
 - (c) Citing examples explain any three major categorizations of operators in C (6 Marks)
 - (d) Name any four rules that should be followed when naming identifiers in C programming (4 Marks)
 - (e) Describe three main program designs tools used in C programming (6 marks)
 - (f) Outline four qualities of a good algorithm (4 marks)

QUESTION 2 (20 MARKS)

2. (a) Briefly describe the following programming languages
- i. Machine language
 - ii. Assembly language
 - iii. High level languages (6 Marks)
- (b) List five features of low-level languages (5 Marks)
- (c) With reference to computer programming, differentiate between:
- (i) Syntax and semantic errors;
 - (ii) Logical and runtime errors
 - (iii) Programming and computer languages. (9 marks)

QUESTION THREE (20 MARKS)

3. (a). Machine language is the very basic level programming language; discuss its merit and demerits as a programming language. (7 marks)
- (b). Citing examples describe standard inbuilt functions in C (4 marks)
- (c). Explain the three types of operators in C programming (6 marks)
- (d). Differentiate between Operand and operator in C programming (3 marks)

QUESTION FOUR (20 MARKS)

4. (a) Explain the following components of a structured programming language:
- (i) Program header; (2 Marks)
 - (ii) Declaration; (3 Marks)
 - (iv) Program body. (2 Marks)
- (b) Describe the following elements of the program (5 Marks)
- #include(stdio.h)
- #include(maths.h)
- (c) Define the following program elements of structured programming languages.
- (i) Reserved words.
 - (ii) Data types.
 - (iii) Variables.
 - (iv) Expressions. (8 marks)

QUESTION FIVE (20 MARKS)

5. (a) Describe the four components of a C program (6 marks)
- b) Write a function in Pascal that will return the value of E in the following expression:
- $$A = \pi r^2 \quad (7 \text{ marks})$$
- (c). Testing is a major step in software development; discuss program testing highlighting different types of testing. (7 marks)