



UNIVERSITY EXAMINATIONS
FIRST YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
FIRST SEMESTER 2022/2023
[SEPTEMBER-DECEMBER, 2022]

BIT 100: FUNDAMENTALS OF PROGRAMMING

STREAM: Y1S1

TIME: 2 HOURS

DAY: FRIDAY, 12:00 – 2:00 PM

DATE: 09/12/2022

INSTRUCTIONS

- 1. Do not write anything on this question paper.***
- 2. Answer question ONE and any other TWO questions.***

QUESTION ONE (30 MARKS)

- What is information technology (IT) (2 marks)
- Describe any four rules that may be used to construct an identifier (4 marks)
- Explain any four (4) basic operations that a computer performs irrespective of the program which is running on it (8 marks)
- Describe software as an element of a computer (8 marks)
- Write an algorithm to display the real roots of a quadratic equation if any given the formula, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ (8 marks)

QUESTION TWO (20 MARKS)

- Differentiate between a variable and a constant (4 marks)
- Describe the evolution of programming languages (5 marks)

c) Give any five (5) different types of programming languages (5 marks)

d) Evaluate the following expression: (6 marks)

`int i=2*3-3%2+4/5*8`

QUESTION THREE (20 MARKS)

a) Define a function citing the two broad categories of functions (6 marks)

b) Describe any three loop control structures (6 marks)

c) Explain any four (4) different types of software maintenance (8 marks)

QUESTION FOUR (20 MARKS)

a) Describe computer programming (2 marks)

b) Define an algorithm (2 marks)

c) Describe any two ways of representing an algorithm (4 marks)

d) Give any two advantages of machine language programming (4 marks)

e) Describe any four different types of programming error (8 marks)

QUESTION FIVE (20 MARKS)

a) Differentiate between an array and a structure (4 marks)

b) Write a C program to display the largest element in a unsorted array of integers (8 marks)

c) Describe the process of learning a programming language (8 marks)