



# REFORMED CHURCH UNIVERSITY

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## FACULTY OF EDUCATION AND SOCIAL SCIENCES

### BACHELOR OF SCIENCE HONOURS DEGREE IN INFORMATION TECHNOLOGY

Introduction to Programming

**HICT 110**

**Part 1 Semester 1 Examination**

**Total Marks [100]**

Date: July 2022

Time: 3 Hours

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### INSTRUCTIONS

1. This paper has *six (6)* questions
2. Answer any *four (4)* questions
3. Each question carries *25 marks*
4. Start each question on a new page

### Question 1

- (a) Describe the different data types in C (10)
- (b) Giving examples, distinguish between the while and do- while loops (15)

### Question 2

- (a) Explain the pre-processor directives with examples. (8)
- (b) Write a program in C to calculate the factorial of any number, using a recursive function. (17)

### Question 3

- (a) Distinguish between the getchar and scanf functions with examples. (10)
- (b) Explain the different types of operators in C programming and their precedencies. (8)
- (c) Write the structure of a C program (7)

### Question 4

- (a) Differentiate literals, variables and identifiers, giving examples for each. (10)
- (b) Explain the working of printf() and scanf() functions with their respective syntaxes and examples. (9)
- (c) Using an example, describe the concept of a nested structure. (6)

### Question 5

- (a) Outline the syntax of the switch case construct. (5)
- (b) Write a menu driven C program using switch case to take 2 integers as input and print the sum, difference and product, depending upon the choice provided by the user. (20)

### Question 6

Write a C program to define a structure Student, that contains the registration number, name and total marks of a student. The program must ask the user to input the details of 5 students and print the details of all the students whose total marks are greater than a given value. (25)