

M.A./M.Sc. Semester I Examination, 2020 (CBCS, CDOE)

Subject: Mathematics

Course: MMATG110 (C Programming) [Theory]

Time: 1 Hour

Full Marks: 20

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

[Notation and symbols have their usual meaning]

Answer any **two** questions. Only **first two** answers will be evaluated.

10×2 = 20

1. (a) Explain 'if', 'if else' and 'else if' statements with appropriate examples. [6]

(b) Write program segments in C that will evaluate the following function: [2+2]

$$y = \begin{cases} 2x^3 - 100 & \text{for } x < 50 \\ 300 & \text{for } x = 50 \\ 3x^2 + 2e^{-x/5} & \text{for } x > 50 \end{cases}$$

using (i) 'nested if' statements and (ii) 'else if' statements.

2. (a) Write a program for rewriting the name of a person with his/her surname first. [6]

(b) What is structure? How does a structure differ from an array? How can structure variables be declared? [2+1+1]

3. (a) What is array of pointers? [2]

(b) Write a program to add two arrays using pointers. [4]

(c) Explain the following string handling functions with examples. [2+2]

(i) *strcat*(), (ii) *strlen*()