Roll No. .....

41183

B. Sc. (Pass Course) 4th Semester

Examination – May, 2019

MATHEMATICS (PROGRAMMING IN C AND NUMERICAL METHODS)

Paper : 12BSM-243

Time : Three hours] *[Maximum Marks : 30*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after examination.

Note : Attempt ***five*** questions in all, selecting ***one*** question from each Section (I to IV). Question No. **9** (Section V) is ***compulsory***.

SECTION – I

1. (a) What do you understand by programmer's model of a computer ? How does it help in problem solving and programming ? 3

(b) What is an escape sequence ? What is its purpose. $2\frac{1}{2}$

P. T. O.

2. (a) What do you mean by data types. What are various data types used in C language ? Illustrate their declaration and usage ? 3

(b) Describe the six assignment operators. What is the purpose of each operator. $2\frac{1}{2}$

SECTION – II

3. (a) Describe the purpose and syntax of various decision- making constructs in C language. 3

(b) Differentiate between for and do-while loop. 2

4. (a) What are the rules for naming function ? 3

(b) Differentiate between macros and functions. 2

SECTION – III

5. (a) What is the purpose of strcpy ( ) function. What function returns the length of a string. $2\frac{1}{2}$

(b) What is a structure in C ? How structure is defined and declared ? $2\frac{1}{2}$

6. (a) Find the real root of the following equation by Regula Falsi method correct to three places of decimal $x^3 - 4x - 9 - 0$. $2\frac{1}{2}$

(b) Using Newton Raphson formula find the value of $4\sqrt{32}$. $2\frac{1}{2}$

SECTION – V

9. (a) Draw a flow chart to find the area of a circle of given radius. $1\frac{1}{2} \times 6 = 9$

(b) What are C-tokens ?

(c) What is syntax of comment statement in C - Language ?

(d) Compare different iterative methods on account of order of convergence.

(e) Define pointers.

(f) Define Descart's rule of signs.