Math-3.5

Sl.No. :

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III Semester M.Sc. Degree Examination, May - 2026
(Scheme : Non-CBCS)
MATHEMATICS
Computer Programming

Time : 3 Hours **Max. Marks : 80**

Instructions : ***1) Answer any five full questions.***
2) All questions carry equal marks.

Q1) a) Mention the components of a personal computer.

b) What is system software? Explain the application of software.

c) Describe the sequences of steps involved in problem solving of computer programming.

[5+5+6]

Q2) a) What is a decision table and explain the types of decision tabels?

b) Explain the flowchart uses in different geometric shapes to denote different types of actions along with their meaning.

c) Explain the following operating systems.

i) File

ii) Program

iii) Directory

[4+6+6]

Q3) a) Explain the four types of integer constants in C.

b) Explain the following:

i) loop

ii) for loop

iii) while loop

iv) do while loop

c) Write the difference between break and continue statements? Explain with an example.

[4+8+4]

Q4) a) Explain the following with an example.

i) If-statement

ii) If-Else

b) Write a program to illustrate nested if else and multiple arguments to the scanf function.

c) Write a program to find the largest and smallest number in array.

[4+6+6]

Q5) a) Explain the categories of functions with an example.

b) Write a program to illustrate 'Call by Value'.

c) Explain the pointer declaration along with suitable examples.

[6+5+5]

Q6) a) Explain the following.

i) Dynamic memory allocation

ii) Allocating a block of memory

iii) Allocating multiple blocks of memory

b) Write an algorithm and C program for an entered number is prime or not.

c) What is the bisection method and what is it based on? Explain briefly.

[6+6+4]

Q7) a) Write an algorithm and C-Program for the Newton-Raphson method.

b) Write an algorithm and C-Program for the sum of *n* terms of the sine series.

[8+8]

Q8) a) Write an algorithm and C-Program for Gauss elimination method.

b) Write an algorithm and C-Program for Runge-Kutta 4^{th} order.

[8+8]

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