GIET UNIVERSITY, GUNUPUR – 765022

RD19MSC024

Roll No: | | | | | | |

Total Number of Pages : 1 AR-19 M.SC

M.Sc 1ST SEMESTER REGULAR EXAMINATIONS, NOV/DEC 2019-20

PHPC103- Computer Programming and Numerical Analysis

Time: 3 Hours Max Marks: 80

The figures in the right hand margin indicate marks.

Q.1 Answer any four of the following: [4 X4 =16]

a What is the Basic Data types and Description Briefly in C.

b Write a C program to find SUM and AVERAGE of two integer Numbers using User Defined Functions?

c Write a program for Trapizodial Method?

d What are the Necessary steps for forming and solving simultaneous linear equations?

e Describe Finite Difference in Briefly.

f What is meant by Extrapolation and Interpolation?

OR

2. Answer all questions from the following [2 x 8 =16]

a Write a short notes of Integer Data Type

b Write a short notes on Array Manipulation in C

c Write a C Program to Check the Prime Number.

d Deliberate the C program for Simpson 1/3 rule for easy and accurate calculation of numerical integration of any function

e Write a Short note on Gaussian elimination

f Explain about the Matrix Inversion.

g Write a short notes on eigen values and eigen vectors

h Difference between Forward Differences and Backward Differences Interpolation.

SECTION-B

3. Answer all Questions: [16 x 4 =64]

a What is the difference between a statement and an expression? Write a C program for Statement and Expression with suitable examples.

OR

b Explain about Conditional and Interactive Constructs. Write a C Programs of Conditional and Interactive Constructs with suitable examples.

4.

a Write a C program for Ranga – Kutta Method.

OR

b Write a C program of finding the Root of an Equation by Newton – Raphson Method

5.

a Use Gauss – Jordan method to solve the system of equations: x+y+z=1, 4x+3y-z=6, 3x+5y+3z=4.

OR

b How can I solve a transcendental equation by using the Newton-Raphson method?

6.

a Write a numerical integration by trapezoidal and Simpson's rules

OR

b What is the Runge-Kutta second order method? How does one write a first order differential equation in the above form?