Reg. No. $\qquad$

## Model Question paper

Subject Title: COMPUTER LITERACY WITH NUMERICAL ANALYSIS Time: 3hours
Subject Code: 09MA204 Maximum Marks: 100

## PART-A

## Answer ALL questions ( $\mathbf{1 \times 1 0 = 1 0}$ Marks)

1.The $\qquad$ is a translator that converts assembly language into machine language.
2.What is the output of the following statement?
printf("\%v",12);
3.State whether the following variable name is valid or not

5root
4. $\qquad$ statement is a set of statements enclosed within a pair of curly braces
5.Define the order of convergence for Newton Raphson Method.
6.Does the root lies between 0 and 1 for the equation $4 x=e^{x}$.
7.write the Newton's forward difference formula to find the third derivative of $y=f(x)$.
8.Define simpson's $1 / 3$ rd rule.
9.The function which gets executed first in C is $\qquad$
10. $\qquad$ is used to access a particular element in an array.

## PART-B

## Answer ALL questions ( $5 \times 3=15$ Marks)

11.Mention the steps involved in writing a Program.
12. Write short notes on multiway decision statement.
13. Find the first approximate root of the equation $x e^{x}-2=0$, by the regula falsi method.
14. State (i) Milne's predictor corrector formula (ii) Adam's predictor corrector formula
15.Write a program to find out the factorial of a number using function

## PART - C

## Answer ALL questions ( $5 \times 15=75$ Marks)

16. i) Discuss about the various symbols used in flowcharting
(5)
ii) Define a variable. Explain the conventions used in reading and displaying variables
(OR)
17. i) Explain about the types of characters used in format strings
ii)How to specify the width using scanf function
(5)
18. Describe about the functioning of loops in C with suitable examples
(OR)
19. Explain the role of Arrays in C with examples

20 a)Solve the equation $x-\cos x=0$ by the Bisection method.
b) Solve $x^{2}-12=0$, by using Newton Raphson Method.
(OR)
21. a)Solve the following system of equations, by the Gauss Elimination method.
$3 x-4 y+z=2$
b) Using the iteration method, calculate the root of the equation $x^{3}-x-1=0$, correct to four decimal places.
22. Evaluate $\int_{0}^{6} \frac{d x}{1+x^{2}}$, by using (i) the trapezoidal rule, (ii) Simpson's $1 / 3$ rd rule and (iii) Simpson's $3 / 8$ th rule.

## (OR)

23) Using the Runge-Kutta method of fourth-order, solve $d y / d x=\left(y^{2}-x^{2}\right) /\left(y^{2}+x^{2}\right)$ with $y(0)=1$ at $\mathrm{x}=0.2,0.4$.
24. Write a program in C to find the smallest positive root using Newton-Raphson method.
(OR)
25. Write a program in $C$ to implement Runge-Kutta method
