2021 (DEC)
PRACTICAL
Programming in C

Each question carries equal mark.

Each candidate has to pick up one of the following questions by lottery and has to write the relevant source code and implement the same in the computer:

1. Write a C program to find the Greatest Common Divisor (GCD) of any two positive numbers to be accepted from the keyboard.

2. Write a C program to generate the first 10 terms of the Fibonacci series whose two leading terms are 0,1.

3. Write a C program to check if any positive integer is prime or not.

4. Write a C program to convert any octal number to its equivalent binary number.

5. Write a C program to arrange a given set of positive integers in ascending order.

6. Write a C program to find the value of the definite integral $\int_{0.2}^{1.4} (\sin x - \log_e x + e^x)\, dx$ using Trapezoidal Rule.

7. Write a C program to find the roots of the equation $x^2 - 5x + 2 = 0$ using Newton-Raphson method.

8. Write a C program to find to find the value of y at $x = 0.1$ given that $\dfrac{dy}{dx} = x^2 + y$ when $y(0) = -1$ using Euler's method.

9. Write a C program to find the value of y at $x = 0.2$ given that $\dfrac{dy}{dx} = 1 + y^2$, $y(0) = 0$ using Runge-Kutta method.

10. Write a C program to find the solution of the following system of equations by Gauss Elimination Method:

$$x + y + z = 9$$
$$2x - 3y + 4z = 13$$
$$3x + 4y + 5z = 40$$

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