

Roll No.

Total Pages : 3

BT-1/D-23

41038

PROGRAMMING FOR PROBLEM SOLVING

Paper-ES-105A

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) Solve the following:

(i) $(126)_8 - (376)_8$,

(ii) $(FBD7.CD)_{16} + (98FE.5C)_{16}$,

(iii) $(59FD.45EA)_{16} = (?)_{10}$. 9

(b) What do you understand by impact and non-impact printers? Explain the working principle of laser printer. 6

2. (a) Solve the following:

(i) $(6735.547)_8 = (?)_{10}$ 4

(ii) $(478)_{10} - (4389)_{10}$ using 10's complement with proper steps. 5

- (b) What do you understand by flowchart? Draw a flowchart to find the roots of a quadratic equation. 6

UNIT-II

3. (a) Write a C program to find the largest out of three numbers using the Ternary Operator. 8
(b) Write a C program to Generate Multiplication Table. 7
4. (a) Write a C program to calculate the following series without pow () function :

$$x - \frac{x^3}{3!} + \frac{x^5}{5!} - \dots - \frac{x^n}{n!} \quad 7$$

- (b) Describe the loops statements with examples. 8

UNIT-III

5. (a) Write a program in C to multiply two matrices. 8
(b) Write a program to check whether string is palindrome or not without using string function. 7
6. (a) Write a program in C for concatenation of two strings without using strcat (). 7
(b) What is Recursion ? Write a program to find the factorial of a number using recursion. 8

UNIT-IV

7. (a) How the array can be handled by the Pointers in C Language ? Explain. 8
- (b) Write a program for array of structure with suitable example. 7
8. (a) Write a program to swap the two numbers using pointers. 8
- (b) Write a program to sort the array using call by reference. 7