

Roll No.

Total Pages : 03

BT-I/D-21

41038

PROGRAMMING FOR PROBLEM SOLVING
ES-105A

Time : Three 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 : **8**
- (i) $(9AB3)_{12} + (74A5)_{12}$
 - (ii) $(2452)_8 - (624)_8$
- (b) What is the difference between an algorithm and pseudocode ? Also write an Algorithm and pseudocode for solving a quadratic equation. **7**
2. (a) Solve the following : **6**
- (i) $(AC2F.CD)_{16} = (?)_8$
 - (ii) $(463)_8 - (132)_8$ using 8' complement.
- (b) What do you understand by flow chart ? Draw flow chart for sort the array. **9**

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Unit II

3. (a) Write a program to reverse the digit of a number. 8
(b) Write a program to find the roots of a quadratic equation. 7
4. (a) Write a program to find sum of the following equation : 8
$$1 - X^3/3! + X^5/5! \dots \dots \dots X^n/n!$$

(b) Write a program to find the whether a character is vowel or not using switch statement. 7

Unit III

5. (a) Write a program to reverse the string without using string function. 8
(b) How can array be passed to a function ? Explain with suitable example. 7
6. (a) Write a program to check string for palindrome without using string function. 7
(b) Write a program for returning arrays from functions. 8

Unit IV

7. (a) How can the record be handled in C language using union ? Explain with suitable example. 7

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- (b) Write a program to handle string-using pointer. **8**
8. (a) Explain the operators used on pointers with example. **7**
- (b) Explain the use of structure within structure with suitable example. **8**

