BT-2/M-24   42035

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) Elaborate block diagram of computer.   5

   (b) Differentiate compiler and interpreter.   5

   (c) Write a short note on debugger, linker, loader and assembler.   5

2. (a) Discuss various types of memory in detail.   6

   (b) Solve the following :   9

      (i) Convert $(6735.47)_8$ into $( )_{10}$

      (ii) Convert $(59FD.4D)_{16}$ into $( )_{10}$

      (iii) $(126)_8 - (375)_8$

Unit II

3. (a) Discuss various storage classes in C language. **5**

    (b) Write a C program to find area of a circle. **5**

    (c) Write a C program to check whether a character is a Vowel or Consonant. **5**

4. (a) Write a C program to print factorial of a number. **5**

    (b) Write a C program to print days of week using switch statement. **5**

    (c) Elaborate different iterative statements with suitable examples. **5**

Unit III

5. (a) Discuss different parameters passing techniques with suitable example. **7**

    (b) Write a C program to print Fibonacci series using recursion. **8**

6. (a) Write a C program to concatenate two strings without string function. **7**

    (b) Elaborate array how the length of array is calculated. Write a C program to multiply two matrices. **8**

Unit IV

7. (a) Elaborate pointers. Write a C program to print array of pointers. **8**

   (b) Differentiate structure and union. Write a C program to print union. **7**

8. (a) Explain various file operations in C with suitable example. **7**

   (b) Write short notes on the following : **8**
      (i) Pointers and string
      (ii) Dynamic memory allocation.