INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Four Year B.Tech I Semester End Examinations (Regular) - November, 2018

Regulation: IARE – R18

PROGRAMMING FOR PROBLEM SOLVING

Time: 3 Hours   **(Common to AE | ME)**   **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Draw the block diagram and explain in detail the different components of a computer system.
   [7M]

   (b) What is an operator? Explain the different types of operators in C Language with a suitable programming example. **[7M]**

2. (a) What are the steps in creating and running a C program? **[7M]**

   (b) Write a C program for calculating the mean and median of 'n' numbers. **[7M]**

UNIT – II

3. (a) Explain the syntax of a switch statement with an example. **[7M]**

   (b) Write a C Program to evaluate simple expressions of the form "number operator number" using necessary decision making constructs. **[7M]**

4. (a) State the difference between entry and exit controlled loop with an example. **[7M]**

   (b) Write a C program to read the age of 15 persons and find out how many of them fall under the following categories using while loop **[7M]**
   i) Still a baby- age 0 to 5
   ii) Attending school - age 6 to 17
   iii) Adult life-age 18 & over

UNIT – III

5. (a) What are the different ways of passing parameters to a function? Explain. **[7M]**

   (b) Write a C program using the concept of functions to swap the values of variables without using third variable. **[7M]**

6. (a) Discuss recursion concept in C with a suitable example. **[7M]**

   (b) What is a string? How to declare the strings using array and pointer? Discuss the string handling functions. Write a C program to count the vowels in the given string. **[7M]**

UNIT – IV

7. (a) Explain the different ways of passing each member of a structure object as a separate argument with suitable example. **[7M]**

   (b) Define NULL pointer. List any 4 advantages of using pointers? Write a C program to display the pointer address before and after incrementing the pointer using arithmetic operation. **[7M]**

8. (a) Explain in detail about array of structures and pointer to a structure with example. **[7M]**

   (b) Write a C program to store the following information(fields:bookname,page,price) of 100 books using array of structures. **[7M]**

UNIT – V

9. (a) Explain the various file handling functions with its declarations and write C program to explain them. **[7M]**

   (b) What are command line arguments? Write a program to check if a single argument is supplied on the command line when the program is invoked. **[7M]**

10. (a) Write a C Program to sort the given array in descending order using Bubble Sort. **[7M]**

    (b) With suitable programming example, explain how random read and write operations can be performed in C Language using the file I/O system. **[7M]**

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