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INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

B.Tech I Semester End Examinations (Supplementary) - February, 2018

Regulation: IARE – R16

COMPUTER PROGRAMMING
Common for (CSE | IT | ECE | EEE)

Time: 3 Hours

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

- Write a C program to find the smallest of three numbers using conditional operator. [7M]
 - Differentiate the following operators giving suitable examples. [7M]
 - Bitwise left shift and right shift
 - Post and pre increment
 - Logical AND and Logical OR
 - Unary and binary operator '+'
- Write an algorithm to find the sum of all integers between 100 and 500 that are not divisible by 10. Also draw the flow chart for the same. State which approach do you prefer to use and why? [7M]
 - Draw a flowchart to find the roots of a quadratic equation. [7M]
 - Write a C program to find whether the given two numbers are equal or not?

UNIT – II

- With appropriate examples, explain the following string handling functions. [7M]
 - strncat
 - strcmp
 - strchr
 - strstr
 - Write a C program to display the given string in an alphabetical order. [7M]
- Differentiate break and continue statements in C. Illustrate with a program segment. [7M]
 - Write a C program to print twin prime numbers between 1 to 100. Examples for twin prime numbers are (3,5), (5,7), (11,13) difference of 2 between consecutive prime numbers. [7M]

UNIT – III

- How to pass one function as an argument to the another function. Write a C program to calculate square and cube of a given number using function as an argument. [7M]
 - What is a generic pointer? Which operations are not permitted on pointers? [7M]

6. (a) Discuss the usage of the following preprocessor directives. [7M]
i. #define
ii. #ifdef
iii. #endif
(b) Write a C program to find matrix multiplication using pointers. [7M]

UNIT – IV

7. (a) What are structures? How they are different from unions. Give example for each. [7M]
(b) i. Construct an array of structure called “student” with the data members: name, roll-no, class, grade and percentage marks. Read n records and print the details of the student given a particular roll-no as the key [7M]
ii. Define a structure by name ‘complex’ consisting of real and imaginary parts of a complex number. Write a C program to add two such complex numbers.
8. (a) The annual examination is conducted for 10 students on three subjects. Write a C program to read the data and find the total marks of each student. [7M]
(b) i. Discuss the functions used in dynamic memory allocation with appropriate examples. [7M]
ii. Develop a C program to demonstrate passing structures as parameters to functions.

UNIT – V

9. (a) Write a C program to display the contents of a file in reverse order. [7M]
(b) Write a C program to read name and marks of n number of students from user and store them in a file. If the file previously exists, add the information of n students. [7M]
10. (a) Write a C program to count number of characters, number of words and number of lines in a given file. [7M]
(b) Write a C program to find number of vowels in the given file use command line arguments. [7M]

