

Structure Programming Approach



QP CODE : 530203

(3 Hours)

[Total Marks: 80]

- N.B.
1. Q.no.1 is compulsory
 2. Attempt any **three** out of the remaining five questions
 3. Figures to **right** indicate **full** marks
 4. Assume suitable data if necessary but justify the same
- Q.1.
- a. Explain the significance of pointers in C 4
 - b. What is an algorithm? How do you develop an algorithm? 4
 - c. Explain the following statement with example: 4
 - i. continue
 - ii. break
 - d. Explain any two functions of string.h 4
 - e. Explain the following functions- floor(), ceil(), trunc(), sqrt() 4
- Q.2.
- a. Write a program to display prime numbers between 1 to 1000 5
 - b. What is recursion? Write a program to compute fibonacci series using recursion. 5
 - c. Write a C program to add two distances(feet-inch system) entered by user, using structures 10
- Q.3.
- a. Write a C program to check if the given number is a palindrone or not 6
 - b. Write a C program to print following pattern 6

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E
E D
E D C
E D C B
E D C B A
                
```
 - c. Write a program to calculate sum of digits of a given n digit number using recursion 8
- Q. 4.
- a. Write a program to sort given 10 numbers in ascending order 10
 - b. Write a program to calculate the sum of following series: 10

$$(1!/1) + (2!/2) + (3!/3) + (4!/4) + (5!/5) + \dots + (n!/n)$$
- Q.5.
- a. Write a program to compute matrix multiplication and transpose of a matrix 10
 - b. Write a program to count number of vowels and consonants in a given sentence 10
- Q.6.
- a. Explain the difference between call by value and call by reference with example 8
 - b. Explain different storage classes 8
 - c. What is a file? Explain the following file handling functions in c-fopen(), fread(), fwrite() 4
