

(Duration: 3 hours)

Total Marks : 80

N.B. (1) Question no. 1 is compulsory.(2) Attempt any **three** questions from remaining **five** questions.(3) Assume **suitable data** wherever necessary.(4) Figures in **right** indicate **full** marks.

1. (a) Write a Program to find sum of the digits of a given number. 4
 - (b) Explain any two library functions in math.h with example. 4
 - (c) Explain type-casting with suitable example. 4
 - (d) Explain ternary operator with example. 4
 - (e) Explain nested Structure with example. 4
 2. (a) What is recursion? Write a Program to find factorial of given number using recursion. 10
 - (b) Write a Program to find sum of even elements present in an array of n elements. 10
 3. (a) Write a program to calculate multiplication of two M x N matrices. 10
 - (b) Write a program to generate following patterns. 10
- i> 1 ii> A B C D

 2 3 A B C

 4 5 6 A B

 7 8 9 10 A
4. (a) Compare the following : 10
 - i) Entry controlled loop and Exit controlled loop.
 - ii) break and continue statements.
 - (b) What do you mean by an algorithm and flowchart? Explain with example. 10

5. (a) Write a program using function to check whether entered string is palindrome or not. 5
- (b) Compare call by value and call by reference with suitable examples. 5
- (c) Define a structure named hotel to display Name, Address, Room charge and No. of rooms.
- Write a Program that reads information about 'n' hotels and display the hotels with room charges less than 5000Rs. 10
6. (a) What is a file? Explain different modes with syntax in which file can be opened. 10
- Explain various functions to read and write to a file.
- (b) Write a Program to display all Armstrong numbers between 100 and 999. 5
- (c) Explain static and External storage classes with example. 5
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