

- N.B:**
- 1. Question No. 1 is compulsory.**
 - 2. Answer any three out of remaining five questions.**
 - 3. Figures to right indicates full marks**
 - 4. Assume suitable data if necessary and state them clearly**

- Q1. a) Define union. Compare structure and union. 4
 b) What is an error? Explain different types of errors occurred in program. 4
 c) Explain switch case and if-else ladder with example 4
 d) Explain any four standard library functions from string.h. 4
 e) Explain break and continue statement with example. 4
- Q2. a) Define Algorithm. Write Algorithm to check whether given number is armstrong 10
 Numbers or not also mention input and output specifications to algorithm. 10
 b) Explain various storage classes with example. 10
- Q3. a) Explain Nested Structure. Write a program using nested structure to create an 10
 Array of structure to store the details of N students.
 The details are,
 1. Student name
 2. Student Roll no
 3. Marks of Physics, Chemistry, Maths.
 Calculate the total of P-C-M. Display the data in the format
 Name Roll no Total marks
- b) Define pointer and its use. Explain array of pointer with example. Write 10
 program to swap to values by using call by reference concept.
- Q4. a) Explain recursive function. Write a program to find the GCD of a number by 10
 Using recursive function. 10
 b) Write a program to perform matrix multiplication by passing input matrix to the function 10
 And printing resultant matrix. 10
- Q5. a) Write a program to display following pattern: 5
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1
2 3 2
3 4 5 4 3
4 5 6 7 6 5 4
5 6 7 8 9 8 7 6 5

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- b) Write user defined function to implement string concatenation. 5
- c) Explain need of file data and various modes of files also write program to create and edit copy of file 10
- Q6. a) Write a program to sort the given array in ascending order. 10
- b) Write a program for finding sum of series,  $1+2+3+4+\dots$  upto n terms. 5
- c) Draw the flow chart to find roots of a quadratic Equation. 5

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