

**BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)**  
**B. Tech. Sem - I Computer Science & Engineering-A&M : WINTER : 2024**  
**SUBJECT: PROGRAMMING & PROBLEM SOLVING**

Day : Thursday  
Date : 12/12/2024

W-23927-2024

Time : 10:00 AM-01:00 PM  
Max. Marks : 60

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat diagrams **WHEREVER** necessary.

**Q.1** Explain how a FLOW CHART helps in developing programming logic. What are the various types of symbols used in flowchart, explain their usages. (10)

**OR**

**Q.1** What do you mean by PSEUDO-CODES? Give a PSEUDO-CODE for finding AVERAGE of set of 10 integer numbers. (10)

**Q.2** Give structure of a C programme with explanations. (10)

**OR**

**Q.2** What are the various RELATIONAL Operators in C-Programming language? (10)

**Q.3** Do we need to specify the LENGTH of an array while declaring in C Program? Write a C program to input a string "STUDENT" into suitable type of array. (10)

**OR**

**Q.3** An application needs to store total SCORE and ROLL No of 10 students into 1-D array of type integer. Write a C program to find out the HIGHEST SCORE. (10)

Roll No	1	2	-	-	10
Total Score	20	08	-	-	11

**Q.4** State benefits of function-based program development. Further explain the following concept with suitable example and syntax. (10)  
Function Declaration, Function Definition and Function Call.

**OR**

**Q.4** Why do we need to provide "STRUCTURES" in C Programming? An application need to store records as per the details mentioned here. (10)  
Name of Student, Roll No, Score, Mobile Number.  
Use C-language and give a code for defining structure for the same.

**Q.5** What are the benefits of using POINTERS in programming language? (10)

**OR**

**Q.5** Write a C program to ADD two integer numbers using pointers. Explain each instruction using comments. (10)

**Q.6** Explain why file handling is important based on the following points. (10)  
Reusability, Portability, Efficiency and Storage Capacity.

**OR**

**Q.6** Explain use of following file functions of C-language (10)  
fopen (), fscanf (), fclose ().

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