

CSE 101

B.Tech. IInd SEMESTER EXAMINATION, 2024-25

BACHELOR OF TECHNOLOGY

(IT & ECE)

5916

Programming for Problem Solving

Time : Three Hours]

[Maximum Marks : 75

Note: There are three sections (A, B and C) and Candidate has to attempt questions from all sections. Marks are indicated against each section.

Section-A

1. Attempt all parts of the following : 5×3=15
- (a) State various features of C. Programming language.
 - (b) What do you mean by relational operators ?
 - (c) What do you mean by header files ?
 - (d) Differentiate if else and switch case with the help of flow chart.
 - (e) State differences in between malloc () and calloc () functions.

Section-B

Note: Attempt all questions :

4×5=20

2. (a) What do you mean by string in C ? Write a C-function to count number of vowels in a given string.

OR

- (b) Implement OR Gate, AND Gate and Ex.OR Gate using bitwise operators in C-language.
3. (a) What do you mean by recursion ? Compute sum of digits of a given number using recursion. Suppose the input is 1234, the function must return 10.

OR

- (b) What are the various storage classes in C ? Explain with suitable example.
4. (a) What is an array ? create an array of 10 elements (integer type only) and print them.
- OR**
- (b) Differentiate between while and do-while loop.

5. (a) What do you mean by self-referential structure in C?

OR

- (b) Differentiate between union and structure in C.

Section-C

Note: Attempt any two questions : 2×20=40

6. (a) Implement linear search on an array of 10-integers in C.
- (b) In an array, there are 10 integers. Write a C program to find out the largest integer from the array.

7. (a) Differentiate between call by value and call by reference with suitable example.

- (b) What do you mean by FILE in C ? Write a C program to write 10 integers in a text file.

8. (a) What do you mean by macro in C ? Differentiate between macro expansion and parameterized macro with suitable C-code.
- (b) Differentiate between break and continue keywords with suitable C-code.

9. (a) Check whether a number is even or odd using bitwise operator.
- (b) Multiply a given number by 7 by using bitwise operator.

•••••