

FE sem - I | Branches - All | Nov - 2025 | Q-P code - 99895 (2/2)

Q.4

Date - 11.12.2025 (15 marks)

A. Explain nested structure with eg.

5M

B. Write the output for following code.

5M

```
#include<stdio.h>
int main()
{
    int val= 1;
    do {
        val++;
        ++val;
    } while(val++>25);
    printf("%d\n", val);
    return 0;
}
```

C. Write a program to check whether a string is palindrome or not.

5 M

Q.5

(15 marks)

A. Explain the use of following in-built functions of C-language by giving suitable programming examples

6 M

- i) pow()
- ii) ceil()
- iii) puts()

B. Explain the need of Function Prototype with example.

4 M

C. Give the difference between entry and exit controlled loop with an example.

5 M

Q.6

(15 marks)

A. Implement a program to find transpose of a matrix.

6 M

B. Explain the Syntax of switch case?

Discuss what is the need of break statement in switch case?

5 M

C. Write an algorithm and draw flowchart to find the roots of quadratic equation.

4 M

FE sem-II | Branches - AI1 | NOV-2025 | Q.P. Code - 99895

Time: 2 hour

Date - 11.12.25

Max. Marks: 60

1/2

NB: 1) Question No.1 is compulsory.

2) Attempt any three questions from question no. 2 to 6.

Q1 Solve any Five out of the following (5 marks each) (15 marks)

- A. What is an algorithm? Explain properties of an algorithm.
- B. State any two library functions of string.h along with its syntax and e.g.
- C. Write a program to print following star pattern

```

*
**
***
****
*****

```

- D. Write a C program to find frequency of characters in a string.
- E. Give difference between Structure and Union.
- F. How to create Array of Structure variables and assign values to its members?
- G. Write a program to check whether given year is leap year or not.

Q.2 (15 marks)

- A. What is Recursion? Write a program to display factorial of number using recursion. 6 M
- B. Write a program to reverse a string 4 M
- C. Explain basic data types in C along with their sizes and ranges 5 M

Q.3 (15 marks)

- A. Write a program in C to find the smallest of N elements using an array. 5 M
- B. Explain bitwise operators with example. 4 M
- C. Write a program to print the following pattern. (Note- Not only 4 lines, it should print N lines taken from the user.) 6 M

```

A
B B
C C C
D D D D

```

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C. Write a program to check whether a string is palindrome or not. 5 M

Q.5 (15 marks)

A. Explain the use of following in-built functions of C-language by giving suitable programming examples 6 M

- i) pow()
- ii) ceil()
- iii) puts()

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C. Give the difference between entry and exit controlled loop with an example. 5 M

Q.6 (15 marks)

A. Implement a program to find transpose of a matrix. 6 M

B. Explain the Syntax of switch case?  
Discuss what is the need of break statement in switch case? 5 M

C. Write an algorithm and draw flowchart to find the roots of quadratic equation. 4 M