

**2023/TDC(CBCS)/ODD/SEM/
STSHCC-502T/118**

TDC (CBCS) Odd Semester Exam., 2023

STATISTICS

(Honours)

(5th Semester)

Course No. : STSHCC-502T

**(Statistical Computing using C/C++
Programming)**

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

**Answer ten questions, selecting any two from each
Unit : 2×10=20**

UNIT—I

- 1. Why and when do we use the #<include> directive?**
- 2. How can we declare a variable in C? Give examples.**

3. What is the difference between `main()` and `void main(void)`?

UNIT—II

4. What is the purpose of `scanf` and `printf` function?

5. What is meant by library function? How are library functions accessed?

6. What is the output of the following program?

```
main()
{
    int x=5, y=10, z=10;
    x=y==z;
    printf("%d", x);
}
```

UNIT—III

7. Define the terms 'entry-controlled loop' and 'exit-controlled loop'.

8. What is the general form of the 'if-else' statement? Give example.

9. Why are 'break' and 'continue' statements used in loops?

UNIT—IV

10. What is a data structure? Why is an array called a data structure?

11. Distinguish between one-dimensional array and two-dimensional array.

12. What is a string? How can we declare a string?

UNIT—V

13. Distinguish between user-defined functions and library functions.

14. Define recursion. Give example.

15. What is meant by function declaration? How can we declare a function?

SECTION—B

Answer five questions, selecting one from each Unit : 6×5=30

UNIT—I

16. (a) What are C tokens? Discuss in brief the various types of C tokens. 4

(b) Distinguish between 'initialization' and 'assignment of variables'. 2

17. Discuss in brief the various data types in C.
- UNIT—II
18. Discuss in brief the different types of operators included in C.
19. (a) Write a program in C to find the average of three numbers.
- (b) Determine the value of the following expressions, if a = 5, b = 10 and c = -6 :
- (i) `a==c||b>a`
- (ii) `a<b&& a>c`

UNIT—III

20. (a) Explain the else-if ladder statement in C.
- (b) Discuss the syntactic rules associated with the use of switch statement.
21. What is meant by looping? Discuss in brief the various loop control statements in C.

UNIT—IV

22. (a) How can we declare and initialize a one-dimensional array?
- (b) Write a program to compute the length of a given character string.

23. (a) Describe the limitations of using scanf function for reading strings.
- (b) Write a C program to compute average of some selected numbers using array.

UNIT—V

24. Discuss briefly the different categories of function in C.
25. (a) What is a function prototype? How do function prototypes differ from traditional function declaration?
- (b) Write a program to compute factorial of an integer using recursion.
