# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

## B.Sc. DEGREE EXAMINATION – STATISTICS

## FOURTH SEMESTER – APRIL 2016

## ST 4202 - NUMERICAL METHODS USING C

Date: 27-04-2016
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

## PART – A

**Answer ALL questions:** (10 x 2 = 20 marks)

1. When do we prefer long integer?
2. How do string constants differ from character constants
3. What is the need for input and output library functions?
4. What useful purpose does the getch( ) function serve?
5. Distinguish between break and continue statement.
6. What is meant by nested loop?
7. Give the general syntax for while – do statement.
8. What is an array?
9. Define interpolation.
10. List out the different categories of function.

## PART – B

**Answer any FIVE questions:** (5 x 8 = 40) marks

11. Explain the data types with an example in C.
12. Write a program to find mean and variance of n numbers.
13. Explain the concept of branching and looping with examples.
14. Write a C program to find the factorial numbers.
15. Explain the following
    a) Modulus operator
    b) Unary operator
    c) Increment and decrement operator
16. Explain trapezoidal rule and Simpson 1/3 rule.
17. Briefly explain else…if else statement with examples.
18. Explain the syntax for the following
    a) printf( )      b) scanf( )      c) exit( )      d) break

## PART – C

**Answer any TWO questions:** (2 x 20 = 40 marks)

19. a) Explain the structure of a C program.
    b) Write a program to find Fibonacci series for given n numbers.      ( 8 + 12)

20. a) Explain the concept of array with an example.
    b) Write a C program to add the matrices A and B both of which are of order m x n
    ( 8 + 12)

21. Explain Newton Raphson method and write a program for the same.

22. Explain the Gauss –elimination method to solve a given set of simultaneous equation and write a program for the same.

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