

2018**M.Sc.****2nd Semester Examination****APPLIED MATHEMATICS WITH OCEANOLOGY
AND COMPUTER PROGRAMMING****PAPER—MTM-206 (Unit-II)****Subject Code—21****(Practical)****Full Marks : 25****Time : 2 Hours**

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Lab 2 : (Language : C Programming)

Answer any *two* questions on the basis of lottery

2×20

1. Write a program in C to find the value of $\int_a^b f(x)dx$ by Trapezoidal rule to be constructed using a user defined function.

10

(Turn Over)

2. Write a program in C to find the value of $\int_a^b f(x)dx$ by Simpson's 1/3rd rule to be constructed using a user defined function. 10
3. Write a program in C to search a number from a list by linear search technique which is constructed using a user defined function. 10
4. Write a program in C to search a number from a list by binary search technique which is constructed using a user defined function. 10
5. Write a program in C to arrange a list of numbers in ascending order by bubble sort technique which is constructed using a user defined function. 10
6. Write a program in C to arrange a list of numbers in ascending order by insertion sort technique which is constructed using a user defined function. 10
7. Write a program in C to arrange a list of numbers in ascending order by selection sort technique which is constructed using a user defined function. 10
8. Write a program in C to find the number of occurrence of a given string which is constructed using a user defined function. 10

9. Write a program in C to check whether a string is palindrome or not which is constructed using a user defined function. 10
10. Write a program in C to display a string in reverse order using a user defined function. 10
11. Write a program in C to sort a list of names in alphabetical order which is constructed using a user defined function. 10
12. Write a program in C to replace given letter or word in a given string through a user defined function. 10
13. Write a program in C to find the root of a polynomial equation which is constructed using a user defined function. 10
14. Write a program in C to find the solution of tri-diagonal equations using a user defined function. 10
15. Write a program in C to find the solution a differential equation by Euler's method which is constructed using a user defined function. 10
16. Write a program in C to find the solution of a differential equation by Runge-Kutta method constructing.

17. Write a program in C to find the solution a differential equation by modified Euler's method which is constructed using a user defined function. 10

[Viva-Voce + Note Book — 05 Marks]
