

END OF SEMESTER EXAMINATIONS, APRIL / MAY - 2019
COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS
SUBJECT CODE: #9UBT06

MAJOR : B.Sc.(H)

SEMESTER : II
 MAX.MARKS : 75

SECTION - A (5 X 2 = 10)

Answer ALL Questions:

1. Find the positive root of $x^3 + x^2 - 2x^2 - 6x - 4 = 0$ by bisection method.
 2. By Gauss-Jordan elimination method, how we can write x_1 and x_2 ?
 3. Define Extrapolation.
 4. Write down the various measures of central tendency.
 5. Find the Co-efficient for the following data.
- | | | | | | |
|---|----|---|---|----|----|
| 8 | 10 | 5 | 9 | 12 | 11 |
|---|----|---|---|----|----|

SECTION - B (5 X 4 = 20)

Answer ALL Questions:

6. a) Solve the equation $x^3 + x^2 - 1 = 0$ for the positive root by iteration method.
 (OR)
 b) Solve for a positive root of $x^3 - 4x + 1 = 0$ by Regula Falsi Method.
7. a) Solve the system of equation by Gauss Elimination Method,
 $x + 2y + z = 3, 2x + 3y + 3z = 10, 3x + y + 2z = 13.$
 (OR)
 b) Solve the following system by triangularization method,
 $x + y + z = 1, 4x + 3y + z = 6, 3x + 5y + 3z = 4.$
8. a) Using Lagrange's interpolation formula find $y(10)$ from the following table.

x:	5	6	9	11
y:	12	13	14	16

(OR)

- b) Find the values of y at $x = 21$ from the following data.

x:	20	23	26	29
y:	0.3420	0.3907	0.4384	0.4848

9. a) Find the arithmetic mean by step deviation method marks:

20	30	40	50	60	70	80	90	90
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 (OR)

- b) Find the median from the following data.

Wages Rs:	50	75	100	150	250	Total
No of Labourers:	8	14	10	5	3	40

10. a) Find the quartile deviation for the following data.
 $391,384,591,407,672,522,777,733,1490,2488.$
 (OR)

- b) Find mean deviation for the following data:

x:	2	4	6	8	10
f:	1	4	6	4	1

SECTION - C (3 X 15 = 45)

Answer any THREE Questions:

11. Assuming that a root of $x^3 - 9x + 1 = 0$ lies in the interval $(2, 4)$, find that root by bisection method.

12. Solve the following system by Gauss-Jacobi Method.

$$10x - 5y - 2z = 3, 4x - 10y + 3z = 3, x + 6y + 10z = -3$$

13. From the data given below, find the value of x when $y = 13.5$.

x:	93.0	96.2	100.0	104.2	108.7
y:	11.38	12.80	14.70	17.07	19.91

14. Find the Mean, Median and Mode.

Salary (Rs,000)	3.5	5.8	8.10	10.15	15-20	20-30	30-50	Total
No. of Persons	10	25	52	173	108	36	16	420

15. Calculate the Standard Deviation of the following series.

No of students in 00's (Below)	2	6	10	14	18	22	26
No of Colleges	0	7	19	42	61	72	80
