SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.
B.C.A - END SEMESTER EXAMINATIONS - NOV'2024
SEMESTER - II
20UCAAT2002 - Allied Mathematics - II

Total Duration : 2 Hrs.30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Evaluate $\sqrt{12}$ by using Newton Raphson method.
2. From the following table find $f(x)$ using newton interpolation formula

x	1	2	7	8
y	1	5	5	4

3. Explain Newton's backward difference formula to compute the derivative.
4. Using trapezoidal rule, evaluate $\int_0^1 e^x dx$.
5. Calculate rank correlation from the following table

X	5	4	3	6	1	2
Y	2	6	1	4	5	3

6. Solve the following system of equation by using gauss elimination method

$3x + 4y + 5z = 18;$
$2x - y + 8z = 13;$
$5x - 2y + 7z = 20.$

7. Explain any one of the properties of divided differences.
8. Calculate coefficients of correlation

X	10	15	20	25	30
Y	8	12	10	6	4

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Solve the following system of equation by using gauss seidal method

$8x - 3y + 2z = 20;$
$4x + 11y - z = 33;$
$6x + 3y + 12z = 35.$

Contd...

10. Using lagranges formula of interpolation find y(9.5) given

x	7	8	9	10
y	3	1	1	9

11. Find the first and second derivative of the function tabulated below at x = 0.6.

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X	0.4	0.5	0.6	0.7	0.8
Y	1.5836	1.7974	2.0442	2.3275	2.6511

12. Using Simpson rule, Evaluate $\int_0^1 \frac{1}{1+x^2}\, dx$.

13. Calculate coefficient of correlation from the following table

X	23	25	36	48	59	62	77	84	90
Y	15	22	34	39	45	49	61	74	85

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