

D 131410

(Pages : 3)

Name.....

Reg. No.....

**THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2025**

Common Course

A11—BASIC NUMERICAL METHODS

(2020—2023 Admissions)

Time : Two Hours and a Half

Maximum : 80 Marks

Section A*All questions can be attended.**Each questions carries 2 marks.*

1. What do you mean by measures of central tendency ?
2. What is the degree of a quadratic equation ?
3. What are the different methods of solving a quadratic equation ?
4. What is square matrix ?
5. What is scalar matrix ?
6. What do you mean by geometric progression ?
7. Write the limitations of arithmetic progression.
8. What do you mean by skewness ?
9. Find compound interest on Rs. 20,000 for 2 years at 5 % p.a. compounded annually.
10. What do you mean by quartile deviation ?
11. Calculate range and its co-efficient from the following data :
12. 80, 85, 75, 74, 78, 95, 74
13. Calculate median : 52, 45, 65, 74, 78, 45, 78, 89
14. Calculate mode : 98, 74, 75, 72, 63, 62, 75, 99, 87, 72, 53, 72
15. Calculate mean : 12, 35, 65, 45, 14, 25, 35, 14, 25

(15 × 2 = 30 marks) Max. Ceiling : 25 marks

Turn over

Section B

*All questions can be attended.
Each questions carries 5 marks.*

16. From the following information find the value of standard deviation and its co-efficient :

Class	:	2	4	6	8	10	12
Frequency	:	12	11	12	13	14	12

17. What is present value of money ?

18. Find out harmonic mean.

Speed	:	50	100	125	150
Km. travelled	:	100	200	250	300

19. Distinguish between AP and GP.

20. Solve $5(x-1) + 2(x-2) + 15 = x - 7$.

21. Find out mode.

Class	:	2	4	8	12	10	20
Frequency	:	110	100	120	105	107	103

22. Find Q1 and Q2.

Class	:	5	10	15	18	12	13	15
Frequency	:	8	2	4	5	8	9	8

23. Find out median :

Class	:	10	20	30	40	50	60	70	80
Frequency	;	10	14	13	1	17	14	15	16

(8 × 5 = 40 marks) Max. Ceiling : 35 marks

Section C

*Answer any two questions.
Each questions carries 10 marks.*

24. Explain different measures of dispersion.
25. Solve the following by using Cramer's rule :

$$\begin{aligned}x + y - z &= 0 \\2x - y + z &= 0 \\3x + y + z &= 6.\end{aligned}$$

26. Find quartile deviation from the following data :

Classes	:	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	:	50	60	10	20	20	30	40

27. Compute mean, median and mode of the following data :—

Classes	:	20-25	25-30	30-35	35-40	45-50	50-55	55-60
Frequency	12 :	19	12	16	18	15	18	14

(2 × 10 = 20 marks)