Name:

Reg.No:

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(Pages: 2)

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U FTL3 A11B - BASIC NUMERICAL SKILLS

(Food Technology - Common Course)

(2019 Admission onwards)

Time : 2.5 Hours

Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

- 1. Define venn Diagram.
- 2. What is Ordered Pair?
- 3. What is transpose of a matrix?
- 4. Find the Minor of 2

$$A = egin{bmatrix} 2 & 5 \ 4 & 3 \end{bmatrix}$$

- 5. Solve $4x^2 12x + 9 = 0$ by completing square method.
- 6. What is Arithmetic Progression give an exampe?
- 7. Give the equation for finding nth term of GP.
- 8. Define geometric mean.
- 9. Find the number of years a sum of Rs. 10000 will take to become 18000 if the rate of inetrest is 18%.
- 10. What is greater than ogive? Give an example.
- 11. Why is arithmetic mean considered to be the best average?
- 12. What is absolute measure of dispersion?
- 13. What is symmetric distribution?
- 14. Give Karl Pearson coefficient of skewness.
- 15. Define Marshal-Edgeworth Index Number.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer *all* questions. Each question carries 5 marks.

16. Solve: (i) 5x - 11 = 3x + 9 (ii) 3y + 4 = 7 - 2y

- 17. Solve by Quadratic formula $y^2 y = 7$.
- 18. If the total costs are C(x) = 500 + 90x, and total revenues are $R(x) = 150x + x^2$. Find the Breakeven point(s).
- 19. How many terms of the sequence -8, -4, 0, Must be taken so that the sum be 132.
- 20. Find three numbers in A.P whose sum is 9 and the product is -165.
- 21. Explain Methods of collecting secondary data.
- 22. Calculate the harmonic mean.

Marks	:	30-39	40-49	50-59	60-69	70-79	80-89	90-99	
Frequency	:	2	3	11	20	32	25	7	

23. Find QD and its coefficient.

Wages	:	Below 5	Below 10	Below 15	Below 20	Below 25	Below 30
No of workers	:	4	10	13	21	33	40

(Ceiling: 35 Marks)

Part C (Essay questions)

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

- 24. If U= $\{1, 2, 3, 4, 5, 6, 7, 8\}$ A= $\{1, 2, 3\}$ B= $\{2, 4, 5\}$ C= $\{2, 4, 6\}$ Verify De morgan's Law.
- 25. Solving of simultaneous equations with the help of matrices (Crammer's Rule)

 $\begin{array}{l} 3X+2Y+Z=6\\ 2X-3Y+3Z=2\\ X+Y+Z=3 \end{array}$

26. Solve x + 9y - z = 4

2x + 7y + 3z = 7

- 3x + 10y + 4z = 9
- 27. Explain steps in statistical enquiry. Also explain different source and type of data.

 $(2 \times 10 = 20 \text{ Marks})$
