22U350   (Pages: 2)   Name: ....

Reg. No: ....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(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. Difine Null set and Singleton Set.

2. What are the symbols used in Venn Diagram?

3. Find 5 A
$$A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

4. Find two numbers whose sum is 30 and difference is 4.

5. Solve $4x2 – 9 = 0$.

6. Write down Quadratic Equation.

7. Write the first four terms of the AP, $a = 10$, $d = 10$.

8. Define geometric mean.

9. Find the total interest and amount at the end of 5 years for Rs. 5000 at 10 % p.a, simple interest

10. What is sampling?

11. Differentiate primary data and secondary data.

12. What is less than ogive? Give an example.

13. The average of 11 result is 30, that of the first five is 25 and that of the last five is 28. What is the sixth result?

14. What is harmonic mean?

15. State the positions of mean, median and mode in positively skewed and negatively skewed distribution.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

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

16. What is cartesian product ? If A={a,b,c} B={x,y} Find A × B and B × A.

17. Draw a histogram for the following distribution relating to the marks secures by the students of the class in accountancy Marks : 0-5 5-10 10-15 15-20 20-25 25-30 30-35 No. of students : 5 15 25 50 40 30 20

18. Find three numbers in A.P whose sum is 9 and the product is -165.

19. Which term of the series 2, 1, 1/2, …. is 1/2048?

20. For producing a certain product, if total costs can be represented by C(x) = 1600 + 1500x, and the total revenues can be represented by R(x) = 1600x - x2, Find the break even points and the maximum possible profit.

21. The scores of a batsman in 10 different matches were 38,70,48,34,42,55,63,46,54,44. Find the MD and SD of these scores.

22. Find quartile deviation and inter quartile range.

      Age   : 0-20 20-40 40-60 60-80   80-100

      No of persons :   4   10   15   20   11

23. Define components of Time Series.

(Ceiling: 35 Marks)

Part C (Essay questions)

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

24. Find the Adjoint of Matrix $A = \begin{bmatrix} 1 & -3 & 2 \\ 4 & -1 & 2 \\ 3 & 5 & 2 \end{bmatrix}$

25. Solve x + 3y - z = 7 4x - y + 2z = 9 3x + 2y + z = 13

26. A manufacturer of TV sets produced 600 sets in the third year and 700 sets in the seventh year. Assuming that the production increases uniformly by a fixed number every year, find

(i) the production in the first year

(ii) the production in the 10th year

(iii) the total production in first 7 years

27. From the following data construct index numbers of price applying.

(i) Laspeyre's Index number   (ii) Paasche's Index Number

(iii) Fisher's Index Number   (iv) Dorbish and Bowley's method

Commodity	Prices		Quantities	
	2000	2001	2000	2001
A	10	12	20	22
B	8	8	16	18
C	5	6	10	11
D	4	4	7	8

(2 × 10 = 20 Marks)

****