

QP CODE: S5020251



S5020251

Reg No :

Name :

B.A DEGREE (CBCS) SPECIAL EXAMINATIONS, FEBRUARY 2025

Fourth Semester

**Complementary Course - ST4CMT52 - QUANTITATIVE TECHNIQUES FOR
ECONOMIC ANALYSIS II**

(Common for B.A Economics Model II Foreign Trade, B.A Economics Model II Insurance, B.A
History Model II Forestry and Environmental History)

2017 Admission Onwards

1D237BBB

Time: 3 Hours

Max. Marks : 80

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. Define additive models in time series .
2. What is meant by secular trend?
3. Mention any two demerits of moving average method in time series.
4. What is mean by index number?
5. Define time reversal test. Is it satisfied by Paasche's index number?
6. Define first order derivative.
7. Define a triangular matrix
8. Find A- B if $A = \begin{bmatrix} 1 & 2 & -3 \\ 5 & -8 & -9 \\ 1 & 0 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} -5 & 3 & -3 \\ 5 & 10 & 5 \\ -3 & -3 & 8 \end{bmatrix}$
9. Define the subjective approach of probability
10. State the addition theorem of probability.
11. Define binomial distribution
12. If 3 cards are drawn from the pack of 52, what is the probability that all the three will be queens?

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.



13. Explain the importance of time series analysis.
14. Explain secular trend and seasonal variations in time series.
15. What are the methods for construction of Index numbers?
16. Calculate Fischer's index number for the data

item	base price	base quantity	current price	current quantity
A	20	4	24	8
B	25	6	30	9

17. Distinguish between aggregate expenditure method and family budget method.
18. Find $A - B$ and $B - A$ for the following : a. $A = \{1, 2, 3, 4, 5\}$ AND $b = \{2, 4, 6, 8, 10\}$
b. $A = \{a, b, c, d, e, f\}$ and $B = \{a, e, i, o, u\}$
19. Find $\begin{vmatrix} 1 & -3 & 2 \\ 4 & -1 & 2 \\ 3 & 5 & 2 \end{vmatrix}$
20. Explain the term random experiments with suitable examples.
21. State the properties of normal distribution.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. 1) Explain the method of semi average in finding trend
2) Apply the method of semi average for determining the trend

year	2001	2002	2003	2004	2005	2006	2007
value	12	15	20	18	25	24	28

23. Solve the system of equation : $12x - 16y + 20z = -24$, $4x + 4y - 8z = -4$ and $8x + 12y + 4z = 20$
24. Distinguish between weighted and unweighted index numbers? Explain the methods used for their construction ?
25. In an intelligence test administered to 1000 students the average score was 42 and SD 24. Find the number of students (a) exceeding a score 50, (b) scoring between 30 and 54. Also find (c) the value exceeded by the top 100.

(2×15=30)