



24021557

QP CODE: 24021557

Reg No :

Name :

B.A DEGREE (CBCS) REGULAR EXAMINATIONS, APRIL 2024

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

8E17C2FB

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define time series.
2. Mention one example for random variation in time series.
3. What is meant by secular trend?
4. Define time reversal test
5. Define Paasche's Index number.
6. Mention the quotient rule associated with differentiation.
7. Define matrix.
8. Define a minor and cofactor.
9. Define relative frequency approach of probability.
10. Define sample space.
11. Four coins are tossed simultaneously. What is the probability of getting two heads?
12. Merits of normal distribution.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*



13. What are the factors affecting seasonal variations?
14. Explain moving average method in time series analysis.
15. Define index number. Mention its uses.
16. Calculate simple aggregate index number from the following data

items	A	B	C	D
price in 1998	40	60	20	50
price in 1999	50	80	30	70

17. Explain consumer price index numbers.
18. If $A = \{1,3,5,7\}$ and $B = \{2,4,6,8\}$ $C = \{7,8,9,10\}$. Find 1. $A \cup (B \cap C)$
2. $A \cap (B \cup C)$

19. Find BA if $A = \begin{bmatrix} 2 & 1 \\ -1 & 0 \\ 3 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix}$

20. Explain the addition and multiplication theorem of probability.
21. One hundred investigators are asked to take samples of 10 persons each to determine whether they are vegetarians. How many investigators would you expect to report 2 or less are vegetarians assuming that 40 percent of the people are vegetarians?

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

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

year	2011	2012	2013	2014	2015	2016	2017	2018	2019
value	10	12	15	20	18	25	24	28	34

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. Mean salary of workers in a factory is Rs.5400 with a SD of Rs.480. If a workers is selected at random find the probability that his salary is (i) less than Rs.4800, (b) between Rs.5000 and Rs.6000, (iii) exactly equal to Rs.5100 (iv) greater than Rs.5600

(2×15=30)