B.A DEGREE (CBCS) REGULAR EXAMINATIONS, AUGUST 2022

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)

2020 Admission Only

C01B4AAB

Time: 3 Hours   Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What purpose is served by analysis of time series?

2. Name the 4 components of a time series.

3. Name any two methods of measuring trend .

4. What is mean by index number?

5. Define Marshall - Edgeworth (M E) index number .

6. Find the derivative of $y = x^3 + 4x^2 - 12x$

7. What is tabulation method?

8. Define matrix.

9. Define probability.

10. State the addition theorem of probability.

11. Define mutually exclusive events.

12. Define normal distribution.

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. Distinguish between additive models and multiplicative models in time series.

14. Find out four yearly moving average for the data

year	1990	91	92	93	94	95	96	97	98	99	2000
sales	80	81	85	79	86	94	90	108	120	121	148

15. Define time reversal test. Examine whether Laspeyre's and Fisher's index numbers satisfy this test.

16. Calculate simple aggregate index number from the following data

items	A	B	C	D
price in 2010	20	40	30	50
price in 2015	30	50	60	80

17. Construct consumer price index number for the following data

group	A	B	C	D
index	300	250	200	125
weight	4	3	2	1

18. From the Indifference schedule for pen and paper given below. Draw Indifference curve:

    pen (units) : 1,2,3,4

    paper (units) : 30,20,12,10

19. Define inverse of a matrix. Find the inverse of A$= \begin{bmatrix} 5 & 3 \\ 4 & 7 \end{bmatrix}$

20. State the properties of binomial distribution.

21. Find the probability of drawing an ace or a spade from the pack of cards.

$(6 \times 5 = 30)$

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. Distinguish between weighted and unweighted index numbers? Explain the methods used for their construction ?

24. What are the different types of matrix ?Explain the properties of matrix?

25. What is meant by probability ?Explain its different approaches?

(2×15=30)