(7 pages)

Reg. No. : .....

Code No. : 30596 E **Sub. Code : CMEC 22**

B.A. (CBCS) DEGREE EXAMINATION, APRIL 2023

Second Semester

Economics — Core

STATISTICS FOR ECONOMICS — II

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Graphical method of studying relationship between two variables are called as ————

(a) Regression (b) Scatter diagram

(c) Correlation (d) Error term

2. X and Y variables in a graph, the points lie in a straight line decreases from left to right that is said to be ———— correlation.

(a) Positive

(b) Negative

(c) Perfectively positive

(d) Perfectly negative

3. Regression analysis is widely used for ———— and ————

(a) Prediction and forecasting

(b) Addition and multiplication

(c) Understanding and identification

(d) Identification and simplification

4. Find suitable linear equation ————

(a) $6x^2 + 5x = 0$

(b) $Y = a + bx^2$

(c) $Y = a + b_1x^3 + b_2x^2 + b_3x^3$

(d) $Y = a + bx$

5. Time series data are divided into ———— categories.

(a) 4 (b) 5

(c) 3 (d) 6

6. Monsoon variations repeat during a period of ————

(a) 5 years (b) one year

(c) 7 years (d) 6 months

7. Whole sale price index numbers is also called as ——— index numbers.

(a) general price (b) consumer price

(c) cost of living (d) retail price

8. Construct index number from the following data by using simple aggregate method $\Sigma P_0 = 13$ and $\Sigma P_1 = 24$

(a) 184.62 (b) 54.17

(c) 1.85 (d) 0.54

9. If we throwing the dice, then ——— is the equal events of the total numbers.

(a) 6 (b) 5

(c) 4 (d) 3

10. Modern theory of probability was developed by ———

(a) Keynes

(b) Pigou

(c) Andly Kolmogorov

(d) Samuelson

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) List out the graphical method of correlation.

Or

(b) For the data given below find the regression equation of "y on x" and "x on y". $x = 40$, $y = 60$, $\sigma x = 5$, $\sigma y = 7$, $r = 0.65$.

12. (a) State the difference between correlation and regression.

Or

(b) Calculate the regression coefficient of the following data.

X	1	2	3	4	5	6	7
Y	9	8	10	12	11	13	14

13. (a) What are the components of time series analysis?

Or

(b) Fit a straight line trend for the following data by using the method of semi averages.

Year	2000	2001	2002	2003
Production	138	141	145	148
Year	2004	2005	2006	2007
Production	156	160	174	210

14. (a) Explain the uses of index number.

Or

(b) From the following data by using family budget method.

Commodity	Base year		Current year
	Price	Quantity	Price
A	2	10	4
B	4	6	5
C	6	5	8
D	8	5	10

15. (a) Write about addition theorem of probability.

Or

(b) List out the properties and importance of probability.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Find rank correlation from the given data.

R1 : 4, 1, 7, 3, 5, 6, 2

R2 : 2, 6, 5, 1, 4, 7, 3

R3 : 1, 3, 4, 7, 6, 2, 5

Or

(b) Discuss the methods of measuring correlation.

17. (a) Calculate the co-efficient of association between extravagant fathers and sons from the data given below.

Extravagant fathers with extravagant sons = 327

Extravagant fathers with miserly sons = 545

Miserly fathers with extravagant sons = 741

Miserly fathers with miserly sons = 235

Or

(b) Explain the uses of regression.

18. (a) Compute 3 yearly and 5 yearly moving averages for the following data by using the method of moving averages.

Year	2003	2004	2005	2006	2007	2008
Rice production	18	26	28	22	17	14
Year	2009	2010	2011	2012	2013	2014
Rice production	23	30	29	25	24	20

Or

(b) Explain the methods of semi-average and moving average.

19. (a) Construct price index number from the data given below by using Laspeyer's method.

Commodity	Base year		Current year	
	Price	Quantity	Price	Quantity
A	7	4	10	9
B	6	3	5	5
C	5	4	8	6
D	8	2	7	4

Or

(b) Discuss the problems involved in the construction of index numbers.

20. (a) A bag contains 6 white and 4 black balls, another bag contains 4 white and 8 black balls, we should take one ball from each bags then what is the probability of (i) Both are white? (ii) Both are black? (iii) One white and one black?

Or

(b) Explain the multiplication theorem of probability with an example.
