

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(4 Pages)

Reg. No:.....

Question Code: 26E00411

Course Code : 24UECO32

UG Degree - End Semester Examinations, April 2026

Third Semester

B.COM

Business Mathematics and Statistics

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. All the rational and irrational numbers are known as _____
K:1 numbers.
- (a) Real (b) Whole
(c) Natural (d) Counting
- CO:1 2. A mathematical statement in the form of an equality of two
K:1 expression is called an _____.
- (a) Equation (b) Identity
(c) Linear (d) None of these
- CO:2 3. Discount is allowed by the _____.
K:2
- (a) Buyer to the seller (b) Seller to the buyer
(c) Both a and b (d) None of these
- CO:2 4. Banker discount is _____.
K:1
- (a) Ani (b) $\frac{Ani}{1 + ni}$
(c) $BD - TD$ (d) Pni
- CO:3 5. The most widely used measures for representing the entire data
K:1 by one value is known as an _____.
- (a) Mode (b) Median
(c) Average (d) Quartiles

- CO:3 6. The word "Mode" is derived from the _____ word.
K:1 (a) American (b) French
(c) Italian (d) None of the above
- CO:4 7. Positive correlation is also known as _____ correlation.
K:1 (a) Indirect (b) Inverse
(c) Direct (d) Partial
- CO:4 8. _____ variable is one whose value is influenced or is to be
K:2 predicted.
(a) Dependent (b) Independent
(c) Predictor (d) Regressor
- CO:5 9. _____ variations may occur due to the change in climate and
K:2 weather conditions.
(a) Cyclical (b) Erratic
(c) Seasonal (d) None of these
- CO:5 10. _____ method is the ideal method of index numbers.
K:1 (a) Fisher's (b) Paasche's
(c) Kelly's (d) Laspeyre's

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Explain the different types of numbers.

K:3 **(OR)**

(b) Solve $\frac{12}{x-2} = \frac{13}{x+1}$

- CO:2 12. (a) A sum of money amount for Rs.38,460 in 4 years and
K:3 Rs.40,720 in 6 years. Find the principal and the rate of interest per annum.

(OR)

(b) Write a short note on 'Banker's Discount'.

- CO:3 13. (a) Calculate mean from the following data.

K:3 40,50,55,78,58,60,73,35,43,48

(OR)

(b) Calculate median from the following data.

20,25,16,46,71,82,12,0,8

CO:4 14. (a) What is meant by correlation? State its uses.

K:3

(OR)

(b) From the following data obtain the two regression equations:

X	6	2	10	4	8
Y	9	11	5	8	7

CO:5 15. (a) Discuss the components of time series.

K:3

(OR)

(b) From the following data construct an index for 2025 taking 2024 as base:

Price 2024	50	40	80	110	20
Price 2025	70	60	90	120	20

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Solve $\frac{5x-3}{3x-5} = \frac{2x+3}{1-6x}$

K:4

(OR)

(b) Solve the following equations by simultaneous Linear equation method.

$$4x+9y=5$$

$$3x-5y=39$$

CO:2 17. (a) The difference between true discount and Banker's discount on a bill due after 6 months at 12% p.a is Rs.72.

K:4

Find i) The amount of the bill

ii) Banker's discount

(OR)

(b) Define annuity. Explain the different types of annuity.

CO:3 18. (a) Calculate the mean of the following distribution.

K:4

Class interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	8	5	12	35	24	16

(OR)

(b) Calculate the median from the following:

Marks	10	20	30	40	50
Students	2	5	10	4	3

CO:4 19. (a) Calculate spearman's rank correlation co-efficient.

K:4

Rank (Profits)	1	2	3	4	5	6	7	8
Rank (working Capital)	4	5	7	8	1	2	3	6

(OR)

(b) Distinguish between correlation and regression.

CO:5 20. (a) State the uses of time Series Analysis.

K:4

(OR)

(b) Compute Laspeyre's, Paache's and Fisher's index for the following data:

Items	2015		2020	
	Rate	Qty	Rate	Qty
Wheat	5	2	6	2
Rice	4	4	6	5
Milk	3	5	4	8
Oil	15	6	15	12