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II Semester B.Com.(Regular)/LSCM/T&T/IAS and B.B.A.

Degree Examination, July/August - 2024

COMMERCE

Business Mathematics

(NEP Scheme)

Paper : 2.2

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answers to be written in English only.

SECTION - AAnswer any **FIVE** of the following sub-questions. Each sub-question carries 2 marks.

(5×2=10)

1. a) What are Prime numbers?
- b) Solve for x , $x + \frac{3x}{8} = 11$.
- c) Solve for x , $\begin{vmatrix} 2x-1 & 2 \\ 4 & 3 \end{vmatrix} = 0$.
- d) What is Banker's Gain?
- e) What is sub duplicate ratio of 9:16.
- f) Find x in the proportion $10:40=x:200$.
- g) What is Transpose of a matrix?

**SECTION - B**Answer any **FOUR** of the following questions. Each question carries 5 marks. (4×5=20)

2. The HCF of two numbers is 42 and their L.C.M. is 1260 and one of their is 210. Find the other.
3. Solve for B , $\frac{B+1}{2} - \frac{B-2}{3} = \frac{B+4}{5} + \frac{7}{15}$.
4. Solve by substitution method $2x+3y=12$ and $2x+4y=12$.

[P.T.O.]





5. Five years ago, father was thrice as old as son. Ten years later, father will be twice as old as son. How old are they?
6. Solve by using formula
 $2x^2 - 7x + 3 = 0$.

SECTION - C

Answer any **TWO** of the following questions. Each question carries 12 marks.

(2×12=24)

7. a) The sum of 3 numbers in G.P. is 35 and their product is 1000. Find the numbers.
b) If 3rd and 7th terms of an A.P. are 15 and 39 respectively. Find A.P.
8. a) Find the inverse of $A = \begin{bmatrix} 1 & 3 & 2 \\ 0 & 2 & 1 \\ 0 & 5 & 3 \end{bmatrix}$.
b) Solve by Cramer's rule method $5x + 3y = 1$ and $3x + 5y = 0$.
9. a) A bill for Rs. 4250 drawn on May 27th for 4 months was discounted on July 19th at 4% p.a. Find.
i) Banker's discount.
ii) True discount.
iii) Banker's Gain.
iv) How much the holder of the bill receives.
b) In what period will Rs. 8000 amounts Rs. 10,400 at 12% p.a simple interest.

SECTION - D**(Skill Development Questions)**

Answer any **ONE** of the following question. Each question carries 6 marks. (1×6=6)

10. A manufacturer produces X, Y, Z which he sells in two markets, Annual sales are indicated below:

	X	Y	Z
1	10,000	2,000	18,000
2	6,000	20,000	8,000

If the unit sale of the above products are Rs. 2.50, Rs. 1.50, and Rs. 1.00 respectively. Find the cost and the profit.

11. If a man saves Rs. 50/- in the first month and Rs. 80/- in the second month and Rs. 110/- in the third month and so on how much will he save in 5 years.