CS – 369

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I Semester B.B.A. Examination, March 2023
(CBCS) (2014 – 2015 and Onwards) (Repeaters)
1.5 : QUANTITATIVE METHODS FOR BUSINESS – I

Time : 3 Hours Max. Marks : 70

Instruction : *Answers should be written in* ***English*** *only.*

SECTION – A

Answer **any five** sub-questions. **Each** carries **2** marks. **(5×2=10)**

1. a) What is natural number ?
   b) Find the HCF of 20, 32 and 48.
   c) What do you mean by linear equation ?
   d) Find the LCM of 40, 72 and 135.
   e) What is scalar matrix ?
   f) Solve for 'x' if $3x + 6 = 27$.
   g) Find the simple interest @ 10% p.a. for 5 years on ₹ 10,000.

SECTION – B

Answer **any three** questions from the following. **Each** carries **6** marks. **(3×6=18)**

2. Solve the equation by Elimination method.

   $x + y = 15$ and $3x - y = 21$.

3. Find the difference between the simple interest and compound interest on ₹ 3,000 in 3 years at 4% p.a.

4. Solve by Cramer's rule :

   $3x + 2y = 8$

   $4x - 3y = 5$.

5. The price of 2 kg of rice and 5 kgs of wheat is ₹ 85 and price of 3 kgs of rice and 8 kgs of wheat is ₹ 132. Find the price of rice and wheat.

6. If the 3rd and 6th term of a A.P. are 7 and 13 respectively. Find the A. P. and the 15th term.

P.T.O.

SECTION – C

Answer **any three** of the following. **Each** question carries **14** marks. **(3×14=42)**

7. a) A bill for ₹ 84,000 was drawn on 2-04-2021 at 6 months date. It was discounted on 12-05-2021 at 10% p.a. Calculate :
   i) Bankers discount
   ii) True discount
   iii) Bankers gain.

   b) The present age of three persons are in the ratio of 4 : 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages.

8. a) Solve for x :

$$\begin{vmatrix} 1 & 4 & 5 \\ 2 & x & 0 \\ 3 & 5 & 8 \end{vmatrix}$$

   b) If $A = \begin{bmatrix} 3 & -1 & 2 \\ 1 & 3 & 2 \\ 0 & 1 & -1 \end{bmatrix}, B = \begin{bmatrix} 1 & 2 \\ 2 & -1 \\ 1 & 1 \end{bmatrix}$

   verify $(AB)' = B'A'$.

9. a) A sum of three terms in A.P. is 36 and their product is 1536. Find the numbers.

   b) A sum of three terms in G.P. is 26 and their product is 216. Find the numbers.

10. a) Solve for A and B in $2A + B = \begin{bmatrix} 6 & 3 \\ 6 & -2 \end{bmatrix}$ and $3A + 2B = \begin{bmatrix} 1 & 0 \\ 0 & 5 \end{bmatrix}$.

    b) Solve by Cramer's rule.

    $6x + 5y = 2$

    $4x - 3y = 14$

11. a) Nine tables and eight chairs cost ₹ 456. Eight tables and nine chairs cost ₹ 462. Determine the cost of each table and chair.

    b) Find the HCF and LCM of 440, 1800 and 2800.