



QP – 349

I Semester B.B.A. Examination, March/April 2022  
(CBCS) (Repeaters) (2014 –15 and Onwards)  
BUSINESS ADMINISTRATION  
Paper – 1.5 : Quantitative Methods for Business – I

Time : 3 Hours

Max. Marks : 70

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

SECTION – A

1. Answer **any five** sub-questions. **Each** carries **2** marks. **(5×2=10)**
- Find the HCF of 20, 32 and 48.
  - If  $B = \begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ , find  $B^2$ .
  - What do you mean by scalar matrix ?
  - State the types of equation.
  - Find the LCM of 18, 27 and 36.
  - Define equation.
  - Find the simple interest at 10% per annum for 5 years on Rs. 5,000.

SECTION – B

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

- 6 kgs of sugar and 14 kgs of rice cost Rs. 1,100 and 14 kgs of sugar and 6 kgs of rice cost Rs. 1,260. Find the cost of sugar and rice per kg, using Cramer's Rule.
- Solve the equation by Elimination method  $3x + 7y = 13$  and  $5x - 2y = 8$ .
- If the 3<sup>rd</sup> and 6<sup>th</sup> terms of a AP are 7 and 13 respectively. Find the AP and 15<sup>th</sup> term.
- Find the compound interest on Rs. 20,000 at 6% PA for 4 years. What is the simple interest in the same amount ?

P.T.O.



6. If  $A = \begin{bmatrix} 1 & 5 & 6 \\ 7 & 8 & 9 \\ 10 & 11 & 12 \end{bmatrix}$ ,  $B = \begin{bmatrix} 4 & -2 & 3 \\ 0 & -1 & 2 \\ -3 & 4 & 5 \end{bmatrix}$ ,  $C = \begin{bmatrix} 2 & 3 & 1 \\ 1 & 4 & 5 \\ 7 & 8 & 3 \end{bmatrix}$ , find  $2A + B + C$ .

## SECTION - C

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

7. a) Solve by formula method  $x^2 + 3x - 28 = 0$ .  
 b) Solve the equation  $x^2 - 8x + 25 = x(x - 4) - 25(x - 5) - 16$ .

8. a) Solve by Cramer's rule

$$3x - 7 = 6y$$

$$2x - 15 = -3y$$

b) If  $A = \begin{bmatrix} 2 & 4 & 7 \\ 9 & 0 & -3 \\ -6 & 8 & -5 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 2 & 5 \\ 3 & 7 & 9 \\ 4 & -2 & -7 \end{bmatrix}$ , find  $4A + 2B$ .

9. a) Manohar borrowed Rs. 12,650 from money lender at 18% p.a. simple interest. After 3 years he paid Rs. 10,381 and gave buffalo to clean the debt. Find the cost of buffalo.  
 b) A bill for Rs. 12,750 drawn on May 27<sup>th</sup> for 4 months was discounted on July 19<sup>th</sup> at 4% PA. Find the present value of True discount, Banker's discount and Banker's gain.
10. a) Find 3 numbers in AP whose sum is 9 and the product is 8.  
 b) The sum of three numbers in a GP is 26 and their product is 216. Find the numbers by using formula.
11. a) Find the HCF of 806,663 and 377 by division method.  
 b) Find the HCF and LCM of 506 and 1863.