

I Semester B.B.A. Degree Examination, November/December 2018
(F+R) (CBCS) (2014-15 and Onwards)
BUSINESS ADMINISTRATION
Paper – 1.5 : Quantitative Methods for Business – I

Time : 3 Hours

Max. Marks : 70

Instruction : Should be written in **English** only.

SECTION – A

1. Answer **any five** sub-questions from the following. **Each** sub-question carries **2** marks. **(5×2=10)**
- Give the meaning of Real numbers.
 - Solve for 'x' if $3x + 6 = 27$.
 - What is Scalar Matrix ? Give an example.
 - Find 'x' if $\begin{vmatrix} x & 4 \\ 4 & x \end{vmatrix} = 0$.
 - What is proportion ?
 - Find the simple interest on ₹ 20,000 for 2 years at 8% p.a.
 - What is Arithmetic progression ?

SECTION – B

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

- The product of two numbers is 19200 and their HCF is 40. Find their LCM.
- Solve for 'x'

$$x + \frac{3x}{8} = 11$$

4. If $A = \begin{bmatrix} 2 & 3 \\ 0 & -4 \end{bmatrix}$ $B = \begin{bmatrix} 1 & 5 \\ 2 & 0 \end{bmatrix}$

Show that $(A B)' = B' A'$.



5. Solve by Cramer's rule

$$3x + 2y = 8$$

$$4x - 3y = 5.$$

6. Calculate the amount and compound interest on ₹ 1,000 for 15 years at compound interest rate at 12% p.a.

SECTION - C

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

7. a) Solve the equation by factorisation method

$$x^2 + 2x - 15 = 0.$$

b) Solve for 'x' if

$$\frac{x+1}{2} - \frac{x-2}{3} = \frac{x+4}{5} + \frac{7}{15}$$

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 bill for ₹ 8,000 was drawn on 22nd August for 6 months due and discounted on 16th November at the rate of 15% p.a.

Calculate :

a) Banker's discount

b) Banker's Gain

c) True' discount.

b) Two numbers are in the ratio of 5 : 8 and if 9 is added to each, they are in the ratio of 8 : 11. Find the numbers.



10. a) Calculate the amount at an annuity of ₹ 12,000 for 10 years if the rate of interest is 10% p.a.
- b) If 30 chairs cost ₹ 3,000. What will be the cost of 240 chairs at the same price ?
11. a) The sum of 4 numbers in A.P. is 32 and the product of two extremes is 55. Find the numbers.
- b) The sum of 3 numbers in GP is 28 and their product is 572. Find the numbers.
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