



**I Semester B.B.M. Examination, November/December 2017**  
**(2012 – 13 and Onwards) (Repeaters)**  
**BUSINESS MANAGEMENT**  
**Paper – 1.5 : Quantitative Methods for Business – I**

Time : 3 Hours

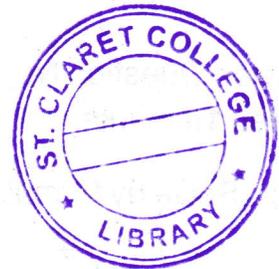
Max. Marks : 100

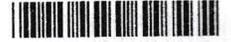
- Instructions:** 1) Answer should be written in **English** only.  
 2) **All** the rough work must be shown on the **righthand** margin.

SECTION – A

1. Answer **any 8** of the following. **Each** question carries **2** marks. **(8×2=16)**

- a) What is a rational number ?
- b) Find the HCF of 20, 32 and 48.
- c) What is quadratic equation ?
- d) Find the roots of the equation  $x^2 - 3x - 10 = 0$ .
- e) Insert a G.M. between 6 and 54.
- f) If the 8<sup>th</sup> term and 12<sup>th</sup> term of an A.P. are 6 and 14 respectively, find the common difference.
- g) If  $A = \begin{bmatrix} 3 & 6 & 1 \\ 9 & -9 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} -5 & 3 & 0 \\ 0 & 2 & 0 \end{bmatrix}$ . Find  $A + B$ .
- h) What is Scalar matrix ? Give an example.
- i) What is Banker's discount ?
- j) Find the compound interest on ₹ 2,500 for 2 years at 12% p.a.





## SECTION - B

Answer **any 3** of the following. **Each** question carries **8** marks.

(3×8=24)

2. Use Cramer's rule to solve

$$2x - 3y = 5$$

$$4x + 2y = 18.$$

3. The sum of three integers in A.P. is 15 and their product is 80. Find them.

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

5. Find the difference between simple interest and compound interest for 3 years at 5% p.a. on ₹ 12,000.

## SECTION - C

Answer Question No. **10** and **any 3** of the remaining questions. **Each** question carries **15** marks.

(4×15=60)

6. a) Solve by formula

$$x + \frac{1}{x} = 2\frac{9}{10}.$$

b) Solve by Elimination method.

$$2x - 3y = 19$$

$$3x + 2y = 9$$

7. a) Compute the inverse of the matrix  $A = \begin{bmatrix} 3 & 5 \\ 2 & 1 \end{bmatrix}$

b) If  $A = \begin{bmatrix} 2 & 5 \\ 1 & 3 \end{bmatrix}$   $B = \begin{bmatrix} 1 & -1 \\ -3 & 2 \end{bmatrix}$ . Find AB and BA. Is AB = BA.



8. a) Find the sum of all integers between 200 and 700 which are divisible by 9.  
b) The sum of 3 numbers in G.P. is 26 and their product is 216. Find the numbers.
9. a) Find the compound interest of ₹ 9,600 at 12% p.a. in 4 years.  
b) The difference between True Discount and Banker's Discount on a bill due 6 months at 4% is ₹ 24. Find :  
i) Banker's Discount  
ii) True Discount and  
iii) Bill Amount.
10. a) Compute the inverse of the matrix

$$\begin{bmatrix} 1 & 1 & 1 \\ 2 & 5 & 7 \\ 2 & 1 & -1 \end{bmatrix}$$

- b) Solve by Substitution method.

$$5x - 2y = -25$$

$$3x - 4y = -29$$

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