



DCAF102

Reg. No.

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I Semester B.Com. (Accounting &amp; Finance) Degree Examination, May/June -2022

COMMERCE

Quantitative Aptitude for Business Decisions

(NEP Scheme - 2021-22)

Time : 2½ Hours

Maximum Marks : 60

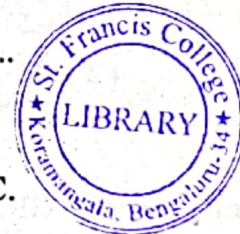
**Instructions to Candidates:**

Answers should be written in English only.

## SECTION - A

Answer any **Five** of the following questions. Each question carries **Two** marks. (5×2=10)

1. a. Give the meaning of Prime Numbers.
- b. Solve  $3x^2 - 27 = 0$ .
- c. The LCM and HCF of two numbers are 180 and 3 respectively. If one number is 27, find the other number.
- d. Find the 20<sup>th</sup> term of an AP 15, 12, 9, 6 .....
- e. What is a square matrix? Give an example.
- f. If  $A : B = 5 : 7$  and  $B : C = 3 : 2$  find  $A : B : C$ .
- g. An article costing Rs. 84 was sold for Rs. 105 find the gain percentage.



## SECTION - B

Answer any **Four** of the following questions. Each question carries **Five** marks. (4×5=20)

2. The sum of 3 numbers in AP is 9 and their product is 8. Find the numbers.
3. Solve for x :

$$\frac{3x-1}{2} + \frac{x+2}{3} = \frac{9x+12}{5} - 2$$

[P.T.O.]



4. Solve by elimination method.

$$3x + 2y = 18$$

$$3x + 4y = 24$$

5. Evaluate  $\begin{vmatrix} 2 & 4 & 10 \\ 15 & 11 & 6 \\ 5 & 9 & 8 \end{vmatrix}$ .

6. Find the CI on Rs. 20,000 for 2 years at 4% p.a.

### SECTION - C

Answer any **Two** of the following questions. Each question carries **Twelve** marks.

(2×12=24)

7. a. Solve by formula method.

(6+6)

$$15x^2 + 16x - 15 = 0.$$

- b. If  $A = \begin{bmatrix} 1 & 2 \\ 2 & 4 \\ 5 & 6 \end{bmatrix}$   $B = \begin{bmatrix} 1 & -2 & 5 \\ 2 & 4 & -6 \end{bmatrix}$  show that  $(AB)' = B'A'$ .

8. a. The sum of 3 terms in GP is 14 and their product is 64. Find them. (6+6)

- b. The annual income of two persons is in the ratio of 8:5 and their annual expenditure in the ratio of 5:3. If they save Rs. 1,200 p.a. and Rs. 1,000 p.a. Find their incomes.

9. a. The difference between simple interest and compound interest of a certain sum of money for 5 years at 10% p.a is Rs. 600. Find the sum. (6+6)

- b. Solve by Cramer's rule :

$$4x - 2y = 8$$

$$3x + y = 4$$



## SECTION - D

Answer any **One** of the following question. Which carries **Six** marks. (1×6=6)

10. A certain sum at a certain percent p.a. simple interest becomes Rs. 1,150 in 3 years and Rs. 1,250 in 5 years. Find the rate percent p.a.
11. A company is considering the three methods of production it could use in producing three Products, A, B and C. The amount of each product produced by each method is as shown below.

	Product A	Product B	Product C
Method I	4	8	2
Method II	5	7	1
Method III	3	3	9

Further information relating to profit per unit is as under :

Product	Profit per unit (Rs.)
A	10
B	4
C	6

Using matrix multiplication find which method maximizes total profit.

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