

Q.P. Code – 56134

**First Semester B.B.M. Degree Examination,
October/November 2019**

(CBCS Scheme)

Management

QUANTITATIVE TECHNIQUES — I

Time : 3 Hours]

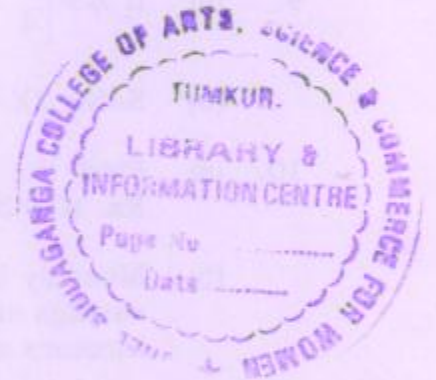
[Max. Marks : 90

Instructions to Candidates : Answer should be written completely in English.

SECTION – A

Answer any **TEN** of the following. Each question carries **2** marks : **(10 × 2 = 20)**

1. (a) Give the meaning of Arithmetic Progression.
- (b) What do you understand by Quadratic equation?
- (c) Give the meaning of null matrix. Give an example.
- (d) Name the parties of Bills of Exchange.
- (e) Solve for X : $-X + (3 + X) = 5$.
- (f) What is Banker's gain? How do you calculate it?
- (g) What is the meaning of Unit matrix?
- (h) Give the meaning of interest.
- (i) Give the meaning of annuity.
- (j) Calculate simple interest on Rs. 2,000 for 5 years at 8% p.a.
- (k) Give the meaning of Direct proportion.
- (l) What is True discount?



SECTION – B

Answer any **FIVE** questions. Each question carries **5** marks : **(5 × 5 = 25)**

2. Find the simple interest on Rs. 20,000 for 5 years 9 months and 74 days at the rate of 5% per annum.
3. If $3(x + 5) - 25 = 9 + 2(x - 7)$, find x .

Q.P. Code – 56134

4. Find the 15th term of the series $35 + 39 + 43 + 47 + \dots$.
5. If 30 chairs cost Rs. 1,500, what will be the cost of 240 chairs, at the same price?
6. If $A = \begin{bmatrix} 5 & 3 \\ 4 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 6 & 8 \\ 9 & 1 \end{bmatrix}$ find out $2A + 2B$.
7. A number is divided into 3 parts in the ratio $2 : 3 : 4$, if the third part is 20, what are the others?
8. Solve for X : $-3(4X + 1) - (4X - 1) = 2(X + 5)$.

SECTION – C

Answer any **THREE** of the following. Each question carries **15** marks :

(3 × 15 = 45)

9. (a) If $A = \begin{bmatrix} 9 & 1 \\ 4 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 5 \\ 7 & 12 \end{bmatrix}$, find $2A + 5B$.
(b) Solve $2X + 3Y - 1 = 0$, $3X - Y + 2 = 0$ by Cramer's rule.
10. (a) Find the difference between compound interest and simple interest on Rs. 10,000 invested for 5 years at 7.5% per annum.
(b) Monthly incomes of A and B are in the ratio of $3 : 4$ and their monthly savings are in the ratio of $1 : 2$. If each spends Rs. 2,000, find their monthly incomes and savings.
11. (a) Solve by using Formula method : $9X^2 - 3X - 2 = 0$.
(b) Find the sum of all natural numbers between 200 to 500 which are divisible by 7 in an A.P.
12. (a) Find the numbers in G.P. if their sum is 31 and their product is 125.
(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 $4A + 2B$.
13. (a) Present value on a bill of Rs. 15,000 due on 3 months hence at 5% per annum. Find (i) T.D. (ii) B.D. (iii) B.G.
(b) Solve the equation :
$$\begin{array}{r} 5X - 3Y - 24 = 0 \\ -7X + 11Y - 14 = 0 \end{array}$$