

I Semester B.B.A. (Aviation Management)

Examination, March/April 2022

(CBCS Repeaters)

(2018-19 and Onwards)

Paper – 1.5 : MATHEMATICS FOR MANAGEMENT – I

Time : 3 Hours

Max. Marks : 70

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

SECTION – A

Answer **any five** of the following sub-questions. **Each** sub question carries **two** marks.

(5×2=10)

1. a) Define arithmetic progression.
- b) What do you mean by compound interest ?
- c) If $U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$ and $A = \{3, 4, 5, 6\}$, $B = \{4, 6, 7, 8, 0\}$,
 $C = \{0, 1, 2, 5, 9\}$ find
i) $A \cup B$ ii) $B \cap C$
- d) Write the methods of constructing index numbers.
- e) Mention any four functions of statistics.
- f) What is Arithmetic mean ?
- g) Write the types of correlation.

SECTION – B

Answer **any three** of the following questions. **Each** question carries **six** marks.

(3×6=18)

2. The sum of four numbers which are in AP is 32 and the product of whose extremes is 55. Find the numbers.
3. Find the simple interest on Rs. 2,276 for 2 years 6 months at 12.5% P.A.

P.T.O.



4. Calculate arithmetic mean.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students	5	8	15	20	12	6	4

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

6. Calculate Rank correlation from the following data.

X	415	434	420	430	424	428
Y	332	330	331	328	327	325

SECTION – C

Answer **any three** of the following questions. **Each** sub question carries **fourteen** marks.

(3×14=42)

7. a) Find the inverse of $A = \begin{bmatrix} 1 & -3 & 2 \\ 0 & 2 & 8 \\ -1 & 5 & 7 \end{bmatrix}$.

b) If $A = \begin{bmatrix} 4 & 6 \\ 3 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 4 \\ 6 & 2 \end{bmatrix}$ find out $2A + 3B$.

8. The sum of three terms of a GP is 26 and their product is 216. Find the numbers.

9. Compute Fisher's Ideal index and show how it satisfies TRT and FRT.

Commodities	Base Year		Current Year	
	Price (₹)	Quantity	Price (₹)	Quantity
P	5	6	6	7
Q	7	12	6	13
R	6	15	8	15
S	8	10	8	12



10. Find the compound interest on Rs. 10,000 for 2 years at the rate of 4% P.A. payable half yearly. What will be the simple interest in the above case ?
11. Find the value of mean, median and mode from the following data.

Weight in Kgs	No. of Students
71-75	3
76-80	10
81-85	15
86-90	18
91-95	25
96-100	19
101-105	14
106-110	9
111-115	2

SECTION – B