

I Semester B.B.A. Examination, March/April 2022**(CBCS – 2020 – 21 and Onwards) (Repeaters)****AVIATION MANAGEMENT****Paper –1.5 : Mathematics and Logical Reasoning**

Time : 3 Hours

Max. Marks : 70

Instruction : Answers should be written completely in English.**SECTION – A**

1. Answer any five of the sub-questions. Each sub-question carries two marks. **(5×2=10)**

- What do you mean by continuous Random variable ?
- Look at this series : 7, 10, 8, 11, 9, 12, ? What should be the next number ?
- With an example, define a square matrix.
- Give the meaning of Natural numbers.
- The total Simple Interest of a sum is Rs. 4,016.25 for 5 years. What is the sum if the rate of interest is 9% P.A.
- What is a simple equation ?
- Define combination.

SECTION – B

- Answer any three questions. Each question carries six marks. **(3×6=18)**

- Two numbers are in ratio of 5 : 7, if 4 is subtracted they are in ratio of 6 : 9, what are the numbers ?
- Calculate the selling price, if 9 pants and 6 shirts are sold at Rs. 20,000 and 5 pants and 7 shirts at Rs. 27,500.
- If ROSE is coded as 6821, CHAIR is coded as 73456, PREACH is 961473, explain in detail what will be the code of SEARCH and BEACH.
- Consider a set of 5 alphabets P, Q, R, S, T. In how many ways can 4 alphabets be selected without repetition.



6. With the given equation, find the matrix X, $2A + 3B - X = C$ if

$$A = \begin{bmatrix} 2 & 3 & 4 \\ -3 & 0 & 2 \end{bmatrix}, B = \begin{bmatrix} 3 & -4 & -5 \\ 1 & 2 & 1 \end{bmatrix}, C = \begin{bmatrix} 5 & -1 & 2 \\ 7 & 0 & 3 \end{bmatrix}$$

SECTION – C

Answer any three question. Each question carries fourteen marks. $(3 \times 14 = 42)$

7. a) If $A = \begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$. Verify $(AB)' = B'A'$.

b) What is the present value of annuity if given, Rs. 8,000 for 5 years at 10% p.a. ?

8. a) The sum of two numbers is 216 and their HCF is 27. Find the numbers.

b) What is the simple interest earned on Rs. 8,200 at 17.5%, for a period of 6 months ?

9. a) $\frac{17}{2(x+1)} + \frac{7}{2(x+1)} = \frac{89}{8(x-7)} + \frac{7}{8(x+1)}$. Solve the equation.

b) Solve by using formula method.

$$x^2 + 6x + 7 = 0.$$

10. a) What must be added to each term of the ratio 2 : 3 ?

b) In certain language code MONKEY is written as XDJMNL. How is TIGER, LION and ELEPHANT be written. Explain with steps.

11. In how many different ways can the letter of the word CORPORATION be arranged. So that the vowels always come together ?