ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27

BBA Strategic Finance- I SEMESTER

SEMESTER EXAMINATION: JANUARY 2021

BBASF 1319 – QUANTITATIVE TECHNIQUES-I

Time- 2 1/2 hrs   **MaxMarks-70**

This paper contains two printed pages and four parts

SECTION A

Answer any FIVE of the following questions. Each question carries two marks (5x2=10)

1. A merchant has 120 litres and 180 litres of two kinds of oil. He wants to sell the oil by filling the two kinds in tins of equal volumes. Find the greatest volume of such a tin.
2. The sum of 5 times a number and 13 times the same number is 162. Find the number.
3. A sum of money amounts to Rs.885 in 4 years at the rate of 4.5% p.a. simple interest. Find the sum.
4. If $[x \quad 6] + [7 \quad y] = [14 \quad 8]$ find x and y.
5. Is 101 a term of the series 5+7+9+..........?
6. If $A \; matrix = \begin{matrix} 0 & 2 & 3 \\ 2 & 1 & 4 \end{matrix}$ and $B \; Matrix = \begin{matrix} 7 & 6 & 3 \\ 1 & 4 & 5 \end{matrix}$ find 5B - 3A

SECTION B

Answer any THREE of the following questions. Each question carries five marks. (3x5=15)

7. If 20 men can build a wall 56 meters long in 6 days. How many days will it take for 25 men to build 3 walls 60 meters long?
8. Sum of a number and its reciprocal is $5\frac{1}{5}$. Find the number.
9. If at the end of each year, a saver deposited Rs. 1000 into a savings account that paid 6% interest p.a., How much would he have at the end of 10 years?
10. Determine minors of the following matrix: $A = \begin{matrix} 5 & 2 & 3 \\ 3 & 1 & 2 \\ 1 & 2 & 1 \end{matrix}$

SECTION C

Answer any TWO of the following questions. Each question carries fifteen marks. (2x15=30)

11. A) If 2 is added to the numerator and denominator it becomes $\frac{9}{10}$ and if 3 is subtracted from the numerator and denominator it becomes $\frac{4}{5}$, Find the fractions. **(10)**

B) Chotu is fifteen years elder than Motu. Five years ago, Chotu was three times as old as Motu. How old are they now? **(5)**

12. A) Solve by Cramer's Rule: $6X - 7Y = 5$ and $9X - 5Y = 13$ **(5)**

B) Find the inverse of Matrix $X = \begin{matrix} 1 & 2 & -3 \\ -3 & 4 & 5 \\ 1 & 2 & -1 \end{matrix}$ **(10)**

13. A) A fruit seller cheats his customer on the weights of the fruits. The fruit weighs 1570 grams instead of 1750 grams. What is his gain and Gain per cent? Also find the customer's loss and loss per cent.
(8)

B) The monthly income of two persons are in the ratio of 7:8 and their monthly expenditures are in the ratio 11: 13. If each saves Rs. 3,000 per month, find their monthly income. **(7)**

SECTION D

Answer the following compulsory question. The question carries fifteen marks. (1x15=15)

14. A) Insert 5 Arithmetic means between – 6 and 12. **(6)**

B) The sum of first three terms of a G. P. is 16 and the sum of the next three terms is 128. Find the first term and the common ratio. Also write the G.P. **(9)**

*********End of the paper*********