



Register Number:

Date:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
BBA STRATEGIC FINANCE - I SEMESTER
SEMESTER EXAMINATION: OCTOBER 2019
BBASF 1319 – QUANTITATIVE TECHNIQUES- I

Time- 2 1/2 hrs

Max Marks-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. Find the largest number which when divided 108, 288 and 360 leaves no remainder.
2. Find the n th term and the 13th term of an A.P. 7,10,13.....
3. If $A = \begin{bmatrix} 3 & -1 & 2 \\ 3 & 1 & 2 \end{bmatrix}$ $B = \begin{bmatrix} 1 & 4 & 6 \\ 1 & 3 & -1 \end{bmatrix}$ Find $2A-3B$
4. Find the simple interest on Rs. 15,300 for 3 years 7 months and 73 days at the rate of 3.5% per annum.
5. Solve for 'a': $2(a + 3) = 10 + 4(a - 8)$.
6. Two numbers are in the ratio 3:5. If 8 is added to each that ratio becomes 2:3. Find the numbers.

SECTION B

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

7. a) If $a:b = 7:5$ and $b:c = 2:8$ then find $a:b:c$.
b) Find the C.I. on Rs. 2,000 for 2 years at the rate of 8% p.a. payable half yearly. What will be the C.I. if payable annually. **(2 + 3)**
8. The length of a rectangle is 5cm more than its width and the area is 50 square cm. Find the length and width of the rectangle using formula method.
9. John got a deal to lend Rs. 6,00,000 today and in return, he will receive twenty-five annual payments of Rs. 6,000 each. The annuity will start at the end of 5th year at the rate of interest of 6% p.a. Determine whether the deal is feasible one for John.
10. If $B = \begin{bmatrix} 4 & 5 & 6 \\ 0 & 1 & 2 \end{bmatrix}$ and $C = \begin{bmatrix} 1 & -4 & -1 \\ -2 & 5 & -3 \\ 3 & 6 & 5 \end{bmatrix}$ then find $B.C'$

SECTION C

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

11. a) A person earns Rs 6000 a month with an increment of Rs 300 per year on the monthly salary .How much did he receive at the end of 30 years.

b) A bullet train has to reach its destination 1200km away. If the speed increases by 60km/hr, then the train will reach one hour earlier. Find the initial speed of the train

(8+7)

12. a) Solve for X and Y by Cramer's rule: $3x - y = 6$

$$2x - 15 = -3y$$

b) Find the inverse of $A = \begin{pmatrix} 3 & 4 \\ 1 & 2 \end{pmatrix}$

(7+8)

13. a) A father wants to send his child for higher studies after 15years. He expects the cost of higher studies to be Rs.10,00,000. How much should he save annually, if the interest rate is 12% .p.a.?

b) Insert 3 geometric means between $9/4$ and $4/9$

(8+7)

SECTION D

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

A) A) A commodity was produced by using 6 units of labour and 4 units of capital. Thus the total cost comes to Rs. 620. Another commodity is produced by using 8 units of same labour and 2 units of same capital; the total cost comes to Rs. 560. What is the cost per unit of labour and per unit of capital?

(7)

B) Anand sold a house to Bharath at 20% gain, Bharath sells it to Chethan at 15% gain and Chethan sells it to Dinesh at a loss of 10%. If Dinesh pays Rs.1,86,300 how much does Anand pay?

(8)

***** End of Question Paper *****