ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
BBA - I SEMESTER
SEMESTER EXAMINATION: OCTOBER 2018
BBA1319- QUANTITAVIE TECHNIQUES

Time- 2 1/2 hrs   **Max Marks-70**

Section A

I.Answer the five questions Each question carries two marks   **(5x2=10)**

1. Determine the the value of an annuity after 6 years , which was paid in Rs1000 yearly instalments at the beginning of the year at 15% p.a .

2. A number exceeds 30% of itself by 133. Find the number

3. Find the mean proportion of 81 :4 and the sub duplicate of 9 :64

4. Calculate the population of a town 8 years later if it increases by 11%p.a .The current population is 135600.

5. How many elements of the GP 1,3,9 will be 9841 ?

6. A manufacturer sells an article for Rs 630 .What price was it listed to get a 40% discount ?

Section B

II.Answer any three questions. Each question carries five marks   **(3x5=15)**

7. National saving certificate has a face value of Rs100 and pays Rs 201.50 after 6

years.What is the rate of compound interest?

8. The premium for an insurance policy is Rs7000 payable at the end of every year . If the policy holder wishes to pay 8 years premium in advance at the rate of 12% , how much is the lump sum amount payable now ?

9. Solve using Cramers rule :
$$2x +y =1$$
$$x-4y =14$$

10. A commodity was produced by using 6 units of labour and 4 units of capital costing Rs620 . An another commodity was produced using 8 units of labour and 2 units of capital costing Rs 560 . What is the cost per unit labour and per unit capital?

Section C

III.Answer any three questions. Each question carries ten marks   (3x10=30)

11. A] A shopkeeper sold 8 kg of peas , 20 Kg of potato, 12 Kg of tomatoes and 4 Kg of onion on Monday .On Tuesday he sold 10Kg of peas, 15 kg of potato , 6 kg of tomato and 8 Kg of onions . Describe by means of 2X4 matrix the position of sales on the two different days of two different vegetables.
The prices of the vegetables are Rs 2.50 for peas ,Rs 1.25 for potato, Rs 2.25 for tomato and Rs 1 for onion on Monday . The prices are 10% more on Tuesday . Determine the total sales on Monday and Tuesday .   (8)

B]A motorist travels a distance of 84/km. He finds if on the return journey he increases the average speed by 4 km/hr and will take half and hour less. What was his initial speed?(7)

12. A] A man sold two houses for Rs 56000 each , on one he made a loss of 10% and another a profit of 15%. What is his net profit or loss?

B] Insert Five arithmetic means between 8 and 26 .

C] A depositor place a sum of Rs 50000 in his saving bank account on 12th March 2004 and withdraws the entire amount on 29th June 2004. The bank rules permit simple interest at 3.75%p.a .how much did he withdraw from his account ?

13. A]If Ram and Sham can do a work in 12 days , and Sham and Pam can do the work in 20 days and Ram and Pam take 15 days . How long will they take to do the work together? Also find how long will Pam take to do it alone?

B] Peter agreed to repay a loan amount at 10% in 9 equal instalments, but the first instalment payment is paid starting from the 5th year of an amount Rs 2000. Find the

value of the loan .

C] A trader gives a 20% trade discount and 10% cash discount. If the selling price is price of an article is Rs 288, what will be the marked price ?

Section D

IV.Answer the question given below; the question carries fifteen marks   (1x15=15)

14. A] if A = $\begin{matrix} 1 & 2 \\ 2 & 4 \\ 5 & 6 \end{matrix}$ and B = $\begin{matrix} 1 & -2 & 5 \\ 2 & 4 & -6 \end{matrix}$ show that $(AB)' = B' X A'$

B] Find the sum to n terms : 3 +33+333………

C] The daily income of K and L are in the ratio 2 :3 . If the income increases by Rs 50 each , the new ratio is 5:7 . Find their incomes.

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