



DCBB 203

II Semester B.B.A. Examination, October/November 2022
(NEP Scheme)

BUSINESS ADMINISTRATION
Paper – 2.3 : Business Mathematics

Time : 2½ Hours

Max. Marks : 60

Instruction : Answers should be written <i>only</i> in English.				
50	40	30	20	10

SECTION – A

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

1. a) What is an Equation ?
- b) Solve for 'x' : $4x - 20 = 0$.
- c) What is the order of matrix ?

$$A = \begin{bmatrix} 2 & 3 \\ 4 & 1 \end{bmatrix}$$
- d) What is Simple Interest ?
- e) Find the 4th proportion of 10, 20 and 30.
- f) What is Median ?
- g) What is Regression ?

50	40	30	20	10
SECTION – B				
50	40	30	20	10

Answer **any three** questions. **Each** question carries **5** marks. **(3×5=15)**

2. Solve for 'x' by formula method, $x^2 + 9x + 20 = 0$.

50	40	30	20	10
3. If $A = \begin{bmatrix} 2 & 0 & -4 \\ -6 & 2 & 8 \end{bmatrix}$, $B = \begin{bmatrix} 8 & 4 & 2 \\ 0 & 2 & 6 \end{bmatrix}$				
Find :				

- i) $3(A - B)$
- ii) $5(B - A)$.

P.T.O.



4. If it is given that $\log 2 = 0.3010$, $\log 3 = 0.4771$. Find $\log 8$, $\log 6$.
5. The difference between BD and TD on a bill due after 6 months @ 4% p.a. is Rs. 24. Find bill amount, BD and TD.
6. Calculate Median value :

Size	45	46	47	48	49	50
Frequencies	5	7	9	11	10	3

SECTION – C

Answer **any three** questions. **Each** question carries **8** marks. **(3×8=24)**

7. The weekly wages of 30 persons consisting men and women amount to ₹ 3,800. Each man receives ₹ 140 and each women ₹ 100 as wages per week. Find the number of men and women.
8. Solve for x and y by using Cramer's Rule.
 $6x + 5y = 2$
 $4x - 3y = 14$.
9. Compute QD and its co-efficient from the following data :

Age	20	30	40	50	60	70	80
No. of persons	3	61	132	153	140	51	3

10. Calculate Karl Pearson's correlation co-efficient from the following data :

Price (in ₹)	21	22	23	24	25	26	27	28	29
Demand (in 000' units)	20	19	19	17	17	16	16	15	14



11. Formulate both the Regression lines from the following data. Predict Y when X = 50 and X when Y = 25.

X	40	32	38	42	36	46
Y	30	35	40	36	28	35

SECTION – D

12. Answer **any one** of the following. Case-study carrying **11** marks. **(1×11=11)**

a) In a college 30% of the students are Hindus, 20% are Muslims, 25% are Jains and the rest are Christians. If there are 10 Jain students in the class, find the number of other students.

OR

b) A manufacturer allows a discount of 10% on the listed price of an article and still makes a profit of 8% on cost. Find the percentage of increase in the list price over the cost. What is the list price of an article sold at Rs. 198 ?

14. A manufacturer allows a discount of 10% on the listed price of an article and still makes a profit of 8% on cost. Find the percentage of increase in the net price over the cost. What is the list price of an article sold at 89.48?

OR

15. Find the number of other students.

16. In a college 50% of the students are Hindus, 50% are Muslims, 25% are Christians. If there are 10 Hindu students in the class, find the number of other students.

17. Answer any one of the following: Case-study carrying 11 marks. (11×1=11)

SECTION - D

A	30	32	40	38	38	32
X	40	35	38	42	40	48

X = 30 and X when Y = 32

18. Formulate both the Regression lines from the following data. Predict Y when X = 40 and X when Y = 32.

