



III Semester B.Com. Examination, February/March 2024  
(NEP Scheme) (Freshers and Repeaters)

COMMERCE

Paper – 3.2 : Business Statistics

Time : 2½ Hours

Max. Marks : 60

**Instruction :** Answers should be written **completely** either in **English** or **Kannada**.

SECTION – A

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

1. a) Define Statistics.
- b) Mention any two types of statistical averages.
- c) If  $\bar{X} = 12$ ,  $Z = 13$ . Find median.
- d) If variance = 36  $\sum x = 150$ ,  $N = 10$ . Find co-efficient of variance.
- e) What do you mean by Time Reversal Test (TRT) ?
- f) If  $b_{xy} = 0.8$  and  $b_{yx} = 0.45$ , find  $r$ .
- g) What are mutually exclusive events ?



SECTION – B

Answer **any three** questions. **Each** question carries **4** marks. **(3×4=12)**

2. Compute mean deviation co-efficient about mean from the following data :

(x) = Marks	45	110	78	70	52	75	83	64	98

3. a) Find  $\bar{X}$ . If C.V. = 40% S.D. = 12.
- b) Find the co-efficient of mean deviation, if  $\bar{X} = 120$  and M.D. = 12.



4. Which company has greater variability of salary ?

	Company – A	Company – B
<b>No. of Employees :</b>	250	200
<b>Standard deviation :</b>	500	600
<b>Average monthly salary : (₹)</b>	20,000	25,000

5. Construct consumer price index number for the following data by Family Budget Method :

Commodities	$P_0$	$P_1$	W
A	2	4	2
B	4	6	4
C	6	6	3
D	2	3	1
E	1	1	1

6. From a pack of 52 playing cards, a card is drawn at random. What is the probability that it is either queen or ace ?

### SECTION – C

Answer **any three** questions. **Each** question carries **10** marks.

(10×3=30)

7. Compute the mean, median and mode from the following data :

Marks	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
<b>No. of students</b>	5	10	12	20	09	11	03

8. Following are the marks obtained by 2 students Vasudev and Koshith in ten tests of 100 marks each.

Test		1	2	3	4	5	6	7	8	9	10
<b>Marks obtained</b>	<b>Vasudev</b>	40	80	76	48	52	72	61	56	60	55
	<b>Koshith</b>	48	75	54	60	63	65	72	51	72	60

Find who is better scorer and if consistency is the criterion for awarding prize who should get prize ?



9. Compute Fisher's Ideal index from the following and show how it satisfies TRT and FRT.

Commodities	2021		2022	
	Price	Quantity	Price	Quantity
M	8	80	10	110
N	10	90	12	108
O	16	256	20	340
P	20	420	24	456
Q	25	550	32	704

10. Find out Karl Pearson's co-efficient correlation from the following between price and demand.

Price :	45	48	52	56	60	64	68	72	76	80
Demand :	120	116	116	100	96	96	96	84	72	62

11. Given the following information  $\bar{X} = 65$ ,  $\bar{Y} = 67$ ,  $\sigma_X = 2.5$  (SD) variance of  $Y = 12.25$  and correlation co-efficient = 0.8 obtained.
- Two regression lines
  - Estimate of X when Y = 70 and of Y when X = 58.

SECTION - D

12. Answer **any one** question, the question carries **8** marks. (1×8=

- a) Find mode graphically for the following frequency distribution.

C. I :	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
F :	14	23	35	20	8	5

OR

- b) Compute quartile deviation and its co-efficient from the following :

X :	100 - 200	200 - 300	300 - 400	400 - 500	500 - 600	600 - 700	700 - 800
Y :	12	25	55	120	60	30	13