

[MURBM 303 / MPIBA 0303]

**IMBA DEGREE EXAMINATION
III TRIMESTER**

BUSINESS STATISTICS

(Effective from the admitted batch 2008–09)

Time: 3 Hours

Max.Marks: 60

Instructions: All parts of the unit must be answered in one place only.
Figures in the right hand margin indicate marks allotted.

SECTION-A

1. Answer any **FIVE** of the following:
Each answer should not exceed one page. (5 x 4 = 20)
- a) Define Quartile deviation and give one example.
 - b) Give the formula for combined mean and combined standard deviation.
 - c) Define the KARL Pearson's correlation coefficient.
 - d) Define the Spearman's rank correlation coefficient.
 - e) Give the formula for regression coefficient of Y on X.
 - f) What are the uses of Index number?
 - g) Give two examples of Random variables.
 - h) Define discrete probability distribution. Give one example.

SECTION-B

Answer the following:

UNIT-I

2. a) Calculate the mean for the following frequency distribution. 8
- | | | | | | | | |
|-----------------|------|-------|-------|-------|-------|-------|-------|
| Class interval: | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| Frequency : | 6 | 5 | 8 | 15 | 7 | 6 | 3 |

OR

- b) Calculate the median for the following frequency distribution. 8
- | | | | | | | |
|-----------------|------|-------|-------|-------|-------|-------|
| Class interval: | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| Frequency : | 12 | 18 | 27 | 20 | 17 | 6 |

UNIT-II

3. a) Calculate the correlation coefficient for the following X and Y variables. 8

X:	65	66	67	67	68	69	70	72
Y:	67	68	65	68	72	72	69	71

OR

- b) Obtain the rank correlation coefficient for the following data. 8

X:	68	69	75	50	64	80	75	40	55	64
Y:	62	58	68	45	81	60	68	48	50	70

UNIT-III

4. a) Find the line of regression of X on Y for the following data. 8

X:	67	63	66	71	69	65	62	70	61	72
Y:	68	66	65	70	69	67	64	71	60	63

OR

- b) The two lines of regressions are $4x - 5y = 33$ and $20x - 9y = 107$. 8
i) Obtain the mean values of x and y.
ii) Obtain the value of correlation coefficient.

UNIT-IV

5. a) What is geometric cross formula? Give one example. 8

OR

- b) Check whether time reversal and factor reversal test is satisfied by the Fisher's index number for the following data. 8

Commodity	Price	Quantity	Price	Quantity
	1990	1990	1993	1993
1	25	7	22	8
2	16	10	14	15
3	13	12	27	12
4	10	16	25	10
5	14	10	15	4

UNIT-V

6. a) 60 boys and 20 girls are there in a class. Half of the boys and half of the girls of the class play cricket. Find the probability of the selected person to be a “boy” or a “girl” who plays cricket. 8

OR

- b) A random variable X has the following probability function. 8

X	4	5	6	8
P(x)	0.1	0.3	0.4	0.2

Determine (i) Expectation (ii) Variance.

[41/III T/108]

[41/III T/308]