6015/7015

III Semester 5 Yr. B.B.A.LL.B./B.Com.LL.B. Examination, September/October 2023 (June 2023)
BUSINESS STATISTICS

Duration : 3 Hours Max. Marks : 80

Instructions : 1. Answer all 5 Units.

2. One essay type and one short note question or problem from each Unit have to be attempted.

3. Use simple calculator.

UNIT – I

Q. No. 1. a) Define statistics. Explain the sources of secondary data. Marks : 10

OR

Q. No. 1. a) Define classification of data. Explain different types of classification of data. Marks : 10

Q. No. 1. b) Write short note on ogive curves. Marks : 6

OR

Q. No. 1. b) Represent the following frequency distribution by Histogram. Marks : 6

Classes	**f**
10 – 20	4
20 – 30	10
30 – 40	15
40 – 50	20
50 – 60	17
60 – 70	12
70 – 80	6

UNIT – II

Q. No. 2. a) What do you mean by measures of central tendency ? What are the various measures of central tendency ? Marks : 10

OR

P.T.O.

Q. No. 2. a) Calculate : Marks : 10

(i) Mean

(ii) Median and

(iii) Mode for the following.

Marks	No. of Students
More than 30	100
More than 35	92
More than 40	80
More than 45	62
More than 50	40
More than 55	24
More than 60	14
More than 65	06
More than 70	00

Q. No. 2. b) Explain the merits and demerits of median. Marks : 6

OR

Q. No. 2. b) Write a short note on quartiles. Marks : 6

UNIT – III

Q. No. 3. a) Define dispersion. Explain various measures of dispersion. Marks : 10

OR

Q. No. 3. a) Calculate Karl Pearson's co-efficient of skewness. Marks : 10

Classes	f
0 – 5	12
5 – 10	18
10 – 15	28
15 – 20	26
20 – 25	16

Q. No. 3. b) Write a short note on skewness. Marks : 6

OR

Q. No. 3. b) What do you mean by quartile deviation and mention the merits of quartile deviation. Marks : 6

UNIT – IV

Q. No. 4. a) Define regression. Explain linear and non-linear regression and lines of regression. Marks : 10

OR

Q. No. 4. a) Calculate the co-efficient of correlation from the following data. Marks : 10

X :	7	6	5	4	3	2	1
Y :	18	16	14	12	10	6	8

Q. No. 4. b) Obtain the rank correlation co-efficient from the following data. Marks : 6

Marks in Stats :	70	65	71	62	58	69	78	64
Marks in Accounts :	91	76	65	83	90	64	55	48

OR

Q. No. 4. b) Write a note on correlation. Marks : 6

UNIT – V

Q. No. 5. a) Calculate Laspeyre's Paasche's and Fisher's index for the following data and test that it satisfies FRT and TRT tests. Marks : 10

Commodities	**Base year**		**Current Year**	
	Price	**Quantity**	**Price**	**Quantity**
A	12	10	20	12
B	4	20	4	24
C	8	12	12	15
D	12	15	24	2

OR

Q. No. 5. a) Index numbers are 'specialised averages' discuss. Mention its advantages and purposes. Marks : 10

Q. No. 5. b) Construct cost of living index number by family budget method for the year 1980 taking 1975 as base year. Marks : 6

Commodity	A	B	C	D	E
Quantity in units 1975	50	100	60	30	40
Price per unit 1975	6	2	4	10	8
Price per unit 1980	10	2	6	12	12

OR

Q. No. 5. b) Write short notes on 'Weights' in index numbers. Marks : 6

6015/7015

III Semester 5 Yr. B.B.A.,LL.B./B.Com.,LL.B. Examination, March/April 2024
(Odd Sem.)
BUSINESS STATISTICS

Duration : 3 Hours Max. Marks : 80

Instructions : 1. Answer all five Units.
2. One essay type question and short note question or problems is compulsory from each Unit.
3. Use simple calculator only.
4. Answer should be written in English completely.

UNIT – I

Q. No. 1. a) Draw a percentage bar diagram for the following data : Marks : 10

Expenditure	Company A Rs.	Company B Rs.
Materials	3,00,000	4,00,000
Wages	50,000	60,000
Power	1,00,000	1,30,000
Maintenance	20,000	30,000
Total	**4,70,000**	**6,20,000**

OR

Q. No. 1. a) Define statistics. Explain the scope and limitations of statistics. Marks : 10

Q. No. 1. b) Write a short note on classification. Marks : 6

OR

Q. No. 1. b) Mention the components of a good table. Marks : 6

P.T.O.

UNIT – II

Q. No. 2. a) Explain the various measures of central tendency. Marks : 10

OR

Q. No. 2. a) Calculate mean, median and mode for the following data : Marks : 10

Marks	No. of students
Less than 10	15
Less than 20	35
Less than 30	64
Less than 40	84
Less than 50	96
Less than 60	120
Less than 70	192
Less than 80	256

Q. No. 2. b) Calculate geometric mean from the following data : Marks : 6

Classes	f
0 – 10	5
10 – 20	7
20 – 30	15
30 – 40	25
40 – 50	8

OR

Q. No. 2. b) Find the harmonic mean from the data : Marks : 6

Marks	No. of Students
15 – 25	4
25 – 35	11
35 – 45	19
45 – 55	14
55 – 65	6
65 – 75	2

UNIT – III

Q. No. 3. a) The scores of 2 batsman A and B inning during a certain season are given below. Marks : 10

Mr. A	58	59	60	54	65	66	52	75	69	62
Mr. B	87	89	78	71	73	84	65	66	56	46

Use appropriate measure and answer the following :

(i) Who is the better scorer ?

(ii) Who is more consistent ?

OR

Q. No. 3. a) Find the quartile deviation and its co-efficient. Marks : 10

Weekly wages	Number of workers
250 – 300	5
300 – 350	13
350 – 400	22
400 – 450	44
450 – 500	36
500 – 550	24
550 – 600	16

Q. No. 3. b) Write a short note on skewness. Marks : 6

OR

Q. No. 3. b) Calculate mean deviation about the median for the following data : Marks : 6

x	f
10	3
11	12
13	12
14	3
12	18

UNIT – IV

Q. No. 4. a) Ten competitors in a beauty contest are ranked by 3 judges in the following order : Marks : 10

1st Judge	2	7	1	5	3	4	8	6	10	9
2nd Judge	10	6	3	8	7	2	9	5	4	1
3rd Judge	2	5	6	9	1	3	7	4	8	10

Use rank correlation coefficient to determine which pair of Judge has the nearest approach to common taste in a beauty.

OR

Q. No. 4. a) Define regression. Explain the linear and non-linear regression and lines of regression. Marks : 10

Q. No. 4. b) Compute the regression equation for the following data : Marks : 6

X	10	12	13	17	18	20	24	30
Y	5	6	7	9	13	15	20	21

OR

Q. No. 4. b) Distinguish between correlation and regression. Marks : 6

UNIT – V

Q. No. 5. a) Define index number. Explain the steps involved in the construction of index number. Marks : 10

OR

Q. No. 5. a) Calculate Fisher's ideal index from the following data and show how it satisfies time reversal test and factors reversal test. Marks : 10

Commodities	Base Year		Current Year	
	Price (Rs.)	Quantity	Price (Rs.)	Quantity
A	10	100	12	96
B	8	96	8	104
C	12	144	15	120
D	20	300	25	250
E	5	40	8	64
F	2	20	4	24

Q. No. 5. b) Write a short note on consumer price index. Marks : 6

OR

Q. No. 5. b) Construct Laspeyre's index number from the following data : Marks : 6

Year	Commodity – A		Commodity – B		Commodity – C	
	Price (Rs.)	Quantity	Price (Rs.)	Quantity	Price (Rs.)	Quantity
2021	10	20	16	12	15	6
2022	8	24	14	14	20	8

6015/7015

III Semester 5 Years B.Com.,LL.B./B.B.A.,LL.B. (Even Sem.) Examination, August/September 2024
BUSINESS STATISTICS

Duration : 3 Hours Max. Marks : 80

Instructions : 1. Figures to the right indicate marks.

2. Answer should be written in English completely.

3. Use simple calculator only.

UNIT – 1

Q. No. 1. a) Define statistics. Explain the characteristics of statistics. Marks : 10

OR

Q. No. 1. a) Present the following data by a percentage bar rectangular diagram. Marks : 10

Items	Family A	Family B
	Income Rs. 4,500 per month	Income Rs. 3,500 per month
Food	1,300	1,200
Clothing	800	700
Rent	700	500
Education	300	350
Electricity	400	100
Miscellaneous	600	250
	4,100	**3,100**

P.T.O.

Q. No. 1. b) Explain the limitations of statistics. Marks : 6

OR

Q. No. 1. b) Present the following business statistics results of 2nd B.Com.LL.B. held during December 2016, 2017 and 2018 by means of multiple bars. Marks : 6

Year	1st Class	2nd Class	3rd Class	Failed
Dec. 2016	100	300	400	280
Dec. 2017	120	400	700	300
Dec. 2018	100	500	600	200

UNIT – 2

Q. No. 2. a) Find the geometric mean and harmonic mean from the following distribution. Marks : 10

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
No. of Students	7	12	4	25	30	22

OR

Q. No. 2. a) From the following data calculate mean, median and mode. Marks : 10

Wages (in Rupees)	No. of Workers
Above 0	80
Above 10	77
Above 20	72
Above 30	65
Above 40	55
Above 50	43
Above 60	28
Above 70	16
Above 80	10
Above 90	8
Above 100	0

Q. No. 2. b) Explain the various measures of central tendency. Marks : 6

OR

Q. No. 2. b) The mean weight of 100 students in a class is 60 kgs. The mean weight of boys in the class is 65 kgs. and that of girls is 55 kgs. Find the number of boys and girls in the class. Marks : 6

UNIT – 3

Q. No. 3. a) Following are the runs scored by batsmen in a cricket match. Find the mean deviation and coefficient of mean deviation from mean and median. Marks : 10

Runs scored	No. of matches
5	16
10	32
15	36
20	44
25	28
30	18
35	12
40	14

OR

Q. No. 3. a) The scores of two batsmen A and B in ten cricket matches is given below. Marks : 10

A	B
63	53
71	19
39	31
10	48
96	10
60	90
14	67
32	62
28	40
48	80

Using coefficient of variation, find whether batsmen A or B is more consistent in scoring.

Q. No. 3. b) You are given $\overline{X}$ = 50, C.V. = 40% and coefficient of skewness = −0.4. You are required to find out standard deviation, mode and median. Marks : 6

OR

Q. No. 3. b) Write a note on skewness. Marks : 6

UNIT – 4

Q. No. 4. a) Calculate correlation coefficient for the following X and Y series : Marks : 10

X	Y
45	56
55	50
56	48
58	60
60	62
65	64
68	65
70	70
75	74
80	82

OR

Q. No. 4. a) From the following data, obtain the two regression equations. Marks : 10

X	1	5	3	2	1	2	7	3
Y	6	1	0	0	1	2	1	5

Q. No. 4. b) Write a note on Spearman's coefficient of rank correlation. Marks : 6

OR

Q. No. 4. b) Obtain the regression equations from the following : Marks : 6

	X Series	Y Series
Mean	20	25
Variance	4	9

Coefficient of correlation = 0.75.

UNIT – 5

Q. No. 5. a) Using the data given below, calculate price index number for the year 2018 by

(i) Laspeyre's formula

(ii) Paasche's formula and

(iii) Fisher's formula with the year 2009 as base. Marks : 10

Commodity	Price (Rs.)		Quantity (kg.)	
	2009	2018	2009	2018
Rice	90	110	100	130
Wheat	64	85	50	68
Pulses	59	90	70	74
Sugar	48	60	62	83
Ragi	60	65	95	45
Jowar	40	45	08	15
Onion	20	15	20	19
Toor dal	30	29	25	28
Moong dal	42	45	42	38
Soybean	41	80	18	29

OR

Q. No. 5. a) An enquiry into the budgets of the middle class families in Mumbai gave the following information. Marks : 10

Expenses on	Weights (in %)	Price (Rs.)	
		2002	2013
Food	20	300	500
Rent	10	100	200
Clothing	5	40	300
Fuel	3	120	80
Electricity	8	95	220
Vegetables	12	40	98
Refreshments	12	85	100
Miscellaneous expenses	30	500	600

What changes in the cost of living index of 2013 has taken place as compared to 2002 ?

Q. No. 5. b) Construct Fisher's index for the following data and verify whether it satisfies TRT and FRT. Marks : 6

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	12	100	20	112
B	14	120	14	240
C	08	80	12	120
D	20	60	24	40
E	16	120	24	48
F	15	40	30	52

OR

Q. No. 5. b) What is index number ? Explain the advantages of index number. Marks : 6

6015/7015

Third Semester 5 Year B.B.A., LL.B./B.Com. LL.B. Examination, January/February 2025 (Odd Sem.)
BUSINESS STATISTICS

Duration : 3 Hours Max. Marks : 80

Instructions : 1. Answer all five Units.
2. One essay type question and short note/problem is compulsory from each Unit.
3. Figures to the right indicate marks.
4. Answer should be written in English only.
5. Use simple calculator only.

UNIT – 1

Q. No. 1. (a) Prepare a frequency distribution for the following observation by constructing a class interval of 10 and draw a histogram. Marks : 10

16	12	30	29	22	35	39	40	42	40
50	30	18	12	5	15	3	4	9	45
9	0	5	6	8	15	25	22	3	4
8	12	5	9	3	4	30	32	29	1

OR

(a) Define statistics. Explain the scope and limitation of statistics. Marks : 10

Q. No. 1. (b) Prepare a blank table to show the distribution of students of a college according to : Marks : 6

I) Faculty : Arts, Commerce and Science

II) Gender : Male and Female

III) Year : 2009 and 2010

OR

(b) Distinguish between Primary and Secondary data. Marks : 6

P.T.O.

UNIT – 2

Q. No. 2. (a) The following table shows the age distribution of persons in a particular region. Calculate Mean, Median and Mode from the following data. Marks : 10

Age (years)	No. of Persons
Below 10	02
Below 20	05
Below 30	09
Below 40	12
Below 50	14
Below 60	15
Below 70	19

OR

(a) Explain the various measures of central tendency. Marks : 10

Q. No. 2. (b) Calculate the missing frequency (number of students) against the class 30 – 40 of the following data, where $\bar{X} = 28$. Marks : 6

Marks	No. of Students
0 – 10	12
10 – 20	18
20 – 30	27
30 – 40	–
40 – 50	17
50 – 60	06

OR

(b) Explain the merits and demerits of mean. Marks : 6

UNIT – 3

Q. No. 3. (a) Following are the scores of two batsmen, Sachin and Sidhu in a series of innings. Marks : 10

Sachin	Sidhu
12	47
115	12
06	76
73	42
07	04
19	51
119	37
36	48
84	13
29	0

Find out :

1) Who is better scorer ?

2) Who is more consistent ?

OR

(a) Define dispersion. Explain the various measures of dispersion. Marks : 10

Q. No. 3. (b) Calculate Karl Pearson's coefficient of skewness from the following data. Marks : 6

Value	Frequency
6	4
12	7
18	9
24	18
30	15
36	10
42	5

OR

(b) What is Quartile Deviation ? Explain its merits and demerits. Marks : 6

UNIT – 4

Q. No. 4. (a) 10 Competitions in a beauty contest were ranked by 3 judges in the following. Marks : 10

Judge 1	Judge 2	Judge 3
1	3	6
6	5	4
5	8	9
10	4	8
3	7	1
2	10	2
4	2	3
9	1	10
7	6	5
8	9	7

Use rank correlation coefficient to determine which pair of judges have the nearest approach to common taste in beauty.

OR

(a) Define correlation. Explain the kinds of correlation. Marks : 10

Q. No. 4. (b) Estimate the 2 regression equations using the following data. Marks : 6

	X	Y
Mean	25	30
Standard deviation	05	4

and r = 0.8

Estimate the value of X when Y = 20.

OR

(b) Difference between correlation and regression. Marks : 6

UNIT – 5

Q. No. 5. (a) Calculate Fisher's Ideal Index from the following data and prove that it satisfies TRT and FRT. Marks : 10

Commodities	2002		2003	
	Price	Expenditure	Price	Expenditure
A	8	80	10	120
B	10	120	12	96
C	05	40	05	50
D	04	56	03	60
E	20	100	25	150

OR

(a) What is Index Number ? Explain the importance and limitations of Index Number. Marks : 10

Q. No. 5. (b) Compute Consumer Price Index Number by using the following information. Marks : 6

Items	Group Index		Group Weight
	2008	2012	
Food	140	210	33
Clothing	220	300	10
Fuel	125	140	05
Housing	150	200	12
Others	135	160	11

OR

(b) Explain the types of Index Number. Marks : 6

6015/7015

III Semester 5 Year B.B.A.LL.B./B.Com.LL.B.
Examination, June/July 2025 (Even Sem.)
BUSINESS STATISTICS

Duration : 3 Hours

Max. Marks : 80

Instructions :
1. **Answer all five Units.**
2. **One essay type question and short note question or problems is compulsory from each Unit.**
3. **Use simple calculator.**

UNIT – I

Q. No. 1. (a) Draw less than and more than Ogives for the following data and determine the median graphically. Marks : 10

Class Interval	Frequency
10 – 20	2
20 – 30	5
30 – 40	7
40 – 50	12
50 – 60	9
60 – 70	4

OR

Q. No. 1. (a) What is primary data ? Explain the various methods of collecting primary data. Marks : 10

Q. No. 1. (b) Draw a pie chart to represent the following data. Marks : 6

Colour	Frequency
Red	100
Blue	130
Green	240
Yellow	50
Other	80

OR

Q. No. 1. (b) Write a short note on tabulation. Marks : 6

P.T.O.

UNIT – II

Q. No. 2. (a) Calculate the geometric and harmonic mean from the following data. Marks : 10

Class Interval	Frequency
100 – 200	4
200 – 300	6
300 – 400	10
400 – 500	12
500 – 600	11
600 – 700	13

OR

Q. No. 2. (a) Write the merits and demerits of mean, median and mode. Marks : 10

Q. No. 2. (b) Write a short note on quarties. Marks : 6

OR

Q. No. 2. (b) Calculate the median of the following distribution. Marks : 6

x	f
10	24
15	6
8	30
20	16
18	26

UNIT – III

Q. No. 3. (a) What is Skewness ? Explain the types and measures of Skewness. Marks : 10

OR

Q. No. 3. (a) You are given below the daily wages paid to the workers in two factories X and Y. Marks : 10

Daily Wages	No. of workers	
	Factory X	Factory Y
120 – 130	15	25
130 – 140	30	40
140 – 150	44	60
150 – 160	60	35
160 – 170	30	12
170 – 180	14	15
180 – 190	7	5

Use appropriate measure and answer the following :

(i) Which factory pays higher wages ?

(ii) Which factory has a more consistent wages structure ?

Q. No. 3. (b) Calculate the range and it's coefficient from the following. Marks : 6

Marks	No. of students
10 – 20	5
20 – 30	8
30 – 40	10
40 – 50	7
50 – 60	12
60 – 70	9

OR

Q. No. 3. (b) Define dispersion. Explain the measures of dispersion. Marks : 6

UNIT – IV

Q. No. 4. (a) Explain correlation analysis. Marks : 10

OR

Q. No. 4. (a) Calculate Spearman's rank correlation co-efficient between marks in Accountancy and marks in Statistics from the data. Marks : 10

Marks in Accountancy	Marks in Statistics
78	84
39	47
36	51
65	53
62	58
90	86
82	62
75	68
25	60
98	91

Q. No. 4. (b) From the following data find out two regression lines for the following data. Marks : 6

	X	Y
Mean	15.5	22
SD	3	4

r = 0.85

OR

Q. No. 4. (b) Write a short note on regression analysis. Marks : 6

UNIT – V

Q. No. 5. (a) Calculate index numbers from the following data. Marks : 10

(a) Fisher's price index number.

(b) Test whether Fisher's price index satisfy time reversal and factor reversal test.

Commodities	p_0	q_0	p_1	q_1
A	8	5	10	11
B	8.5	6	9	9
C	9	4	12	6

OR

Q. No. 5. (a) What is index number ? Explain the uses of index number. Marks : 10

Q. No. 5. (b) Write a short note on time reversal test and factor reversal test. Marks : 6

OR

Q. No. 5. (b) Write a note on cost of living index. Marks : 6
