6015

III Semester 5 Yr. B.B.A. LL.B. Examination, March/April 2021
BUSINESS STATISTICS

Duration : 3 Hours | Max. Marks : 80

Instructions : 1. Answer any five questions from group (a) each question carries 10 marks.
2. Answer any five questions from group (b) each question carries 06 marks.
3. Answers should be written only in English.

Q. No. 1. a) Explain all the primary methods of data collection. Marks : 10

Q. No. 1. b) Represent the following distribution of marks by frequency polygon. Marks : 6

Percentage of Marks	No. of Students
0 – 10	01
10 – 20	05
20 – 30	07
30 – 40	09
40 – 50	50
50 – 60	35
60 – 70	25
70 – 80	10

Q. No. 2. a) Represent the following data by percentage bar diagram. Marks : 10

College	Number of students			
	Arts	Science	Commerce	Total
A	900	960	1140	3000
B	750	600	650	2000

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

P.T.O.

Q. No. 3. a) Calculate mean, median and mode for following data. Marks : 10

Marks	No. of Students
Less than 10	12
Less than 20	30
Less than 30	50
Less than 40	80
Less than 50	96
Less than 60	110
Less than 70	116
Less than 80	120

Q. No. 3. b) Find Harmonic mean. Marks : 6

X :	12	16	20	24	28	32	36	40
f :	10	13	15	20	25	32	28	22

Q. No. 4. a) Explain mathematical properties of Arithmetic mean with its merits and demerits. Marks : 10

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

Q. No. 5. a) A purchasing agent obtained samples of lamps from two suppliers. Find which company's lamps are more uniform. Marks : 10

Length of life in hours	Company A	Company B
700-900	10	3
900-1100	16	42
1100-1300	26	12
1300-1500	8	3

Q. No. 5. b) Calculate Bowley's co-efficient of skewness. Marks : 6

No. of children per family	No. of families
0	7
1	10
2	16
3	25
4	18
5	11
6	8

Q. No. 6. a) Define dispersion. Explain various measures of dispersion. Marks : 10

Q. No. 6. b) Define range. What are the merits of range ? Marks : 6

Q. No. 7. a) Define correlation. Explain different measures of correlation. Marks : 10

Q. No. 7. b) Write a note on rank correlation. Marks : 6

Q. No. 8. a) Calculate the regression equations for the following data : Marks : 10

X:	1	2	3	4	5
Y :	2	3	5	4	6

Q. No. 8 b) Calculate co-efficient of correlation from the following data : Marks : 6

X :	8	7	6	5	4	3	2
Y :	19	17	15	13	11	7	9

Q. No. 9. a) Calculate Fisher's Index number and show that it satisfies TRT and FRT. Marks : 10

	Base Year		Current Year	
Item	**Price (Rs.)**	**Expenditure (Rs.)**	**Price (Rs.)**	**Expenditure (Rs.)**
A	6	300	10	560
B	2	200	2	240
C	4	240	6	360
D	8	320	12	432

Q. No. 9. b) Write a note on applications of Index number. Marks : 6

Q. No. 10. a) Explain types of index numbers. Marks : 10

Q. No. 10. b) Construct cost of living index for 2009 from the given data taking 2005 as the base period. Marks : 6

Group	**Group Index for 2009**	**Weights (2009)**
Food	122	32
House rent	140	15
Cloth	112	18
Fuel	116	10
Miscellaneous	106	25

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III Semester 5 Year B.B.A. LL.B. Examination, December 2019
BUSINESS STATISTICS
(2018 and 2019 Batch)

Duration : 3 Hours Max. Marks : 80

Instructions : 1. Answer **all 5** questions.
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) What is Primary Data ? Explain various methods of collecting Primary Data. Marks : 10

OR

(a) Mention the requisites of a good table. Marks : 10

(b) Sales of a company from 2012-2013 to 2016-17 are given below : Marks : 6

Year	2012-13	13-14	14-15	15-16	16-17
Sales (Crores)	85	109	204	126	209

Represent this data by a suitable bar diagram.

OR

(b) Write a short note on Pie-Diagram with example. Marks : 6

UNIT – II

Q. No. 2. (a) Calculate the Mean, Median and Mode for the following : Marks : 10

Classes	**Frequency**
28-31	1
32-35	14
36-39	56
40-43	172
44-47	245
48-51	263
52-55	156
56-59	67
60-63	23
64-67	03

OR

(a) Write merits and demerits of Mean, Median and Mode. Marks : 10

P.T.O.

(b) Calculate Harmonic Mean for following : Marks : 6

Value	Frequency
0-10	4
10-20	8
20-30	14
30-40	19
40-50	25
50-60	32
60-70	24
70-80	17
80-90	12
90-100	7

OR

(b) Write a short note on Quartiles. Marks : 6

UNIT – III

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

Classes	Frequency
0-5	12
5-10	18
10-15	28
15-20	26
20-25	16

OR

(a) The number of employees and their average wages and variance of the wages per employee for 2 factories are given below. In which factory the variation is greater in the distribution of daily wage/employee ? Marks : 10

	Factory A	Factory B
No. of employees	50	100
Average wage	120	85
Variance	3	4

(b) What do you mean by Quartile Deviation ? Mention the merits of Quartile Deviation. Marks : 6

OR

(b) Write a note on skewness. Marks : 6

UNIT – IV

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

OR

(a) Obtain Rank correlation co-efficient from the following data : Marks : 10

Marks in Science	Marks in Mathematics
70	91
65	76
71	65
62	83
58	90
69	64
78	55
64	48

(b) From the following data find out two regression lines. Marks : 6

	X	Y
Mean	15.5	22
S.D.	3	4

r = 0.85

OR

(b) Write a short note on Rank-correlation. Marks : 6

UNIT – V

Q. No. 5. (a) Define Index Numbers. Explain different steps involved in the construction of Index Numbers. Marks : 10

OR

(a) Compute Fisher's Index Number. Show that it satisfies both Time Reversal Test (TRT) and Factor Reversal Test (FRT). Marks : 10

Item	2018		2019	
	Price	Quantity	Price	Quantity
P	5	6	6	7
Q	7	12	6	13
R	6	15	8	15
S	8	10	8	12

(b) Construct the cost of living index number from the table given below : Marks : 6

By Family Budget Method

Commodity	A	B	C	D	E
Quantity in units 2015	50	100	60	30	40
Price per unit 2015	6	2	4	10	8
Price per unit 2020	10	2	6	12	12

OR

(b) Write short note on "Weights" in index number. Marks : 6