



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.B.A. DEGREE EXAMINATION – BUSINESS ADMINISTRATION

FIRST SEMESTER – NOVEMBER 2016

BC 1100 - ELEMENTS OF STATISTICS

Date: 09-11-2016
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Section A

Answer ALL the Questions

10x2=20 Marks

1. Define statistics.
2. The following table shows the market position of different brands of cars.

Brand	A	B	C	D
% of buyers	60	20	15	5

Draw a bar diagram to represent the above information.

3. For the following data find out the arithmetic mean.

X	1	2	4	6	12
F	12	6	3	2	1

4. The profits earned by 10 companies are given below.

27	32	16	15	10	30	15	29	19	35
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Calculate the range.

5. What is Quartile deviation?
6. Define skewness.
7. What is correlation?
8. Give any two advantages of regression.
9. List out the methods of studying variation.
10. Define sampling error.

Section B

Answer any FOUR Questions

4x10=40 Marks

11. What are the methods of collecting data? And Explain.
12. Define Lorenz curve. And explain its steps.
13. Find the missing frequency for the following distribution if the mean is 12.9.

Class interval	0-5	5-10	10-15	15-20	20-25
Frequency	3	F	8	5	4

14. Production of cars by a company for 10 years are given below.

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Production	21	22	23	25	24	22	25	26	27	26

Calculate the trend values by using three years moving average method.

15. Calculate the Spearman's rank correlation coefficient from the following data.

Serial No.	1	2	3	4	5
Economics	85	60	73	40	90
Statistics	93	75	65	50	80

16. Calculate Standard deviation for the following data.

Class Interval	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Frequency	6	5	15	10	5	4	3	2

17. Calculate Mean, Median and Mode from the following.

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No.of Students	4	12	40	41	27	13	9	4

Section C

Answer any TWO Questions

2x20=40 Marks

18. a) The production of cement by a firm in years are given below (10Marks)

Year	1	2	3	4	5	6	7	8	9
Production	4	5	5	6	7	8	9	8	10

Calculate the trend values for the above series by the least squares method.

18.b) Compute the seasonal index numbers applying the simple average method for the following data.

Year	Summer	Monsoon	Autumn	Winter
1981	112	110	120	115
1982	80	145	105	90
1983	95	100	140	80
1984	110	90	130	110
1985	85	110	110	90
1986	92	120	110	85

19. from the data given below find

(20Marks)

- The two regression equation.
- The co efficient of correlation between marks in Tamil and English.
- The most likely marks in English when marks in Tamil are 30.

Marks in Tamil	25	28	35	32	31	36	29	38	34	32
Marks in English	43	46	49	41	36	32	31	30	33	39

20. a) Calculate correlation coefficient from the following.

(10Marks)

$$N=10, X=140, Y=150, (X-10)(Y-15)=60, (Y-15)^2=215, (X-10)^2=180$$

20. b) From the following data find out pearson's coefficient of correlation

(10Marks)

Demand (Kg)	28	34	41	57	52	68	62	75
Price (Rs)	14	18	23	28	30	34	37	41

21. Calculate Bowley's coefficient of skewness from the following distribution.

(20Marks)

X	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Y	358	2417	976	129	62	18	10
