



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.B.A. DEGREE EXAMINATION – BUSINESS ADMINISTRATION

FIRST SEMESTER – NOVEMBER 2015

BC 1100 - ELEMENTS OF STATISTICS

Date : 11/11/2015

Dept. No.

Max. : 100 Marks

Time : 01:00-04:00

SECTION - A

Answer ALL questions.

(10 x 2 = 20 Marks)

1. State the limitations of statistics.
2. Distinguish clearly between deliberate and random sampling
3. State the rules for diagrammatic representations.
4. What are the various methods of measuring central tendency?
5. Calculate range and its coefficient for the following data 65,66,56,50,40,55,58,70.
6. Pearson’s coefficient of skewness is -0.7 and the value of the median and S.D. are 12.8 and 6 respectively. Determine the value of the mean.
7. Define positive and negative correlation
8. What are the regression equations?
9. Define Seasonal Variation.
10. Explain the meaning and objectives of time series analysis.

SECTION - B

Answer any FOUR questions:

(4 X 10 = 40 Marks)

11. Explain the various uses of statistics in business studies.
12. Write short notes of the following:
(a) Stratified sampling (b) Random sampling
13. Below is given the frequency distribution of marks in statistics obtained by 100 students in a class. Determine the Ogive for this distribution and use it to determine the median.

Marks	10 – 19	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69	70 – 79	80 – 89
No. of students	9	12	15	20	18	22	10	16

14. Compute median from the following data:

Mid-value	Frequency	Mid-value	Frequency
115	6	165	60
125	25	175	38
135	48	185	22
145	72	195	3
155	116		

15. Find the quartile deviation and coefficient of quartile deviation for the following data:

Marks	0-10	10 - 20	20-30	30-40	40-50	50-60	60 -70
Frequency	8	20	34	46	28	14	10

16. Calculate Correlation coefficient for the following data:

<i>Marks in Statistics</i>	65	66	67	67	68	69	70	72
<i>Marks in Accountancy</i>	67	68	65	68	72	72	69	71

17. Using 1964 as the origin, obtain a straight line trend equation by the method of least squares.

Year	1960	1962	1963	1964	1965	1966	1969
Value	140	144	160	152	168	176	180

Find the trend value of missing year 1961.

SECTION- C

(2 X 20 = 40 Marks)

Answer any TWO questions:

18.(a) Find the Harmonic Mean from the data given below:

Marks	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No. of students	4	11	19	14	0	2	9

(b) From the following data, find out which share is more stable in its value

Shares of x	36	55	52	53	58	60	48	50	40	49
Shares of y	108	107	105	105	102	108	104	103	107	101

(10+10)

19. Find the Karl Pearson's coefficient of skewness for the following data:

Annual sales (Rs.in'000')	0 – 20	20 – 40	40 – 60	60 -80	80 - 100	100 -120
Number of items	20	50	59	30	25	16

(20)

20. In a partially destroyed laboratory record of an analysis of correlation data, the following results were obtained.

Variance of X = 9

Regression Equations

$8X - 10Y + 66 = 0$

$40X - 18Y = 214$

Find (i) the mean values of X and Y

(ii) the coefficient of correlation between X and Y

(iii) the variance of Y

(20)

21.(a) Calculate the seasonal indices from the following data using the simple average method.

Year	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
1974	72	68	80	70
1975	76	70	82	74
1976	74	66	84	80
1977	76	74	84	78
1978	78	74	86	82

(10)

(b) Calculate the trend values by the method of moving averages assuming a four - yearly cycle, for the following data.

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Sugar production	37.4	31.1	38.7	39.5	47.9	42.6	48.4	64.6	58.4	38.6	51.4	84.4

(10)
