LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.B.A.DEGREE EXAMINATION**.**

FIRSTSEMESTER- November -2014

BC1100 – ELEMENTS OF STATISTICS

SECTION - A

Answer ALL questions. **(10 x 2 = 20 marks)**

1. What are the important statistical techniques which are applied in business analysis?
2. What are the methods of collecting secondary data?
3. Write short notes on multiple bar diagrams.
4. What are the measures of central tendency?
5. Define the term of Geometric Mean.
6. Define the term Skewness.
7. Define the termpositive correlation.
8. What are the regression equations?
9. What is meant by Time Series?
10. What are the methods of measuring Seasonal Variation**?**

SECTION - B **(4 X 10 = 40 Marks)**

Answer any FOUR questions

11. Explain the various functions of Statistics.

12.(a) Differentiate between Judgment Sampling and Stratified Sampling..

(b) Distinguish between primary data and secondary data.

13. Draw a histogram and frequency polygon on the basis of the following data:

Mid value	14	21	28	35	42	49	56
Frequency	12	13	26	23	18	16	10

14. Calculate Geometric Mean for the following data

Class Interval	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
Frequency	8	12	18	8	6	5	4

15. Calculate Mean Deviation about Mean for the following data

X	10	11	12	13	14	15
F	3	12	18	12	3	7

16. Calculate Spearman's Rank Correlation coefficient of the following data:

Marks in Statistics	25	30	38	22	50	70	30	90
Marks in Accountancy	50	40	60	40	30	20	40	70

17. For the following data, find the trend values by using the method of Least squares. Estimate the production for the year 1996.

Year	1990	1991	1992	1993	1994
Production (in tonnes)	50	55	45	52	54

SECTION - C **(2 X 20 = 40 Marks)**

Answer any TWO questions

18.(a)In a moderately asymmetrical distribution, the mode and mean are 32.1 and 35.4 respectively. Calculate the median.

(b) Calculate Mean, Median and Mode and verify empirical relation

Class Interval	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
Frequency	8	16	20	10	6	4	2	3

(5+15)

19. The mean and standard deviation of 100 items are found to be 40 and 10 respectively. If at the time of calculations two items were wrongly taken as 13 and 40 instead of 30 and 14 find the correct mean and standard deviation. What is correct coefficient of variation?

(20)

20. From the following table gives the aptitude test scores and productivity indices of 10 workers selected at random.

Aptitude scores(x)	70	65	66	70	72	78	80	84	85	86
Productivity index(y)	68	60	62	65	68	70	74	80	81	82

Find the two regression equations and estimate:

(i) The productivity index of a worker whose test score is 98.

(ii) The test score of a worker whose productivity index is 75.

(20)

21. Calculate Seasonal Indices by the ratio-to-moving average method from thefollowing data:

Year / Quarter	2010	2011	2012	2013
I	22	26	30	49
II	50	35	20	70
III	25	60	51	53
IV	49	50	40	48

(20)