LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com. DEGREE EXAMINATION – CORPORATE SECRETARYSHIP

FIRST SEMESTER – APRIL 2017

CO 1104- FUNDAMENTALS OF STATISTICS

Date: 24-04-2017   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

SECTION A

Answer the following: **10 x 2 =20**

1. What are the two types of data?
2. What is random sampling?
3. What is a pie diagram?
4. State the uses of time series.
5. State the equation of X on Y and Y on X.
6. Define Average.
7. Write down 2 differences between regression and correlation.
8. The mean marks of 100 students were found to be 40. Later on it was discovered that a score was misread as 83. Find the correct mean corresponding to the correct score.
9. Find the Median of the following data:
   84,91,72,68,87,78.
10. The profits earned by 10 public undertaking are given below 27,32,16,15,10,30, 15,29,19,35. Calculate the range and coefficient of range.

SECTION B

Answer any FOUR of the following: **4 x 10 = 40**

11. A) Explain the various methods of Dispersion.

    B) Explain the types of Correlation.

12. A) Explain the components of Time Series.

    B) Explain the different types of Bar Diagram.

13. Using three year moving averages determine the trend and short-term fluctuations.

Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Production (in tonnes)	21	22	23	25	24	22	25	26	27	26

14. Calculate coefficient of Skewness from the following data:

Daily Expenditure	0-20	20-40	40-60	60-80	80-100
No. of families	13	25	27	19	16

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15. Construct a Histogram and Frequency Polygon for the following frequency distribution.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No.of students	2	3	10	18	15	5	6

16. From the following data, find out which product is more stable in prices.

Prices of A (Rs.)	20	22	19	23	16
Prices of B (Rs.)	10	20	18	12	15

17. Compute Quartile Deviation and its coefficient.

Weight	60	61	62	63	65	80	75	70
No.of Workers	1	3	5	7	10	1	3	1

SECTION C

Answer any TWO of the following: **2 x 20 = 40**

18. Obtain the straight line trend equation and tabulate against each year after estimation
    Of the trend and short-term fluctuations:

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968
Value	380	400	650	720	690	620	670	950	1040

Estimate the value for the year 1971.

19. The following table shows the ages and weight of 10 persons:

Age (X)	23	33	36	20	27	25	37	35
Weight(Y)	60	63	68	55	57	58	70	65

a) Obtain two regression equations.
b) Find the expected weight of a person who is 45 years old.
c) Find the expected age of a person who is 75kgs.
d) Correlation Coefficient.

20. Ten competitors of a beauty contest are ranked by three judges in the following order:

Judge1	1	6	5	10	3	2	4	9	7	8
Judge2	3	5	8	4	7	10	2	1	6	9
Judge3	6	4	9	8	1	2	3	10	5	7

21. 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
Frequency	33	12	16	42	32	45	26