LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com. DEGREE EXAMINATION – **CORPORATE SECRETARYSHIP**

THIRD SEMESTER – NOVEMBER 2017

ST 3105 - INTRODUCTION TO STATISTICS

Date: 09-11-2017   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

SECTION -A

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

1. Explain the uses of tabulations.

2. State the different types of diagrams.

3. Write short notes on multiple bar diagrams.

4. What are the measures of central tendency

5. What are the merits of median?

6. Define kurtosis.

7. Define mean deviation.

8. Define the term correlation.

9. What is meant by Time Series?

10. Write a short note on simple average method.

SECTION - B   **(5 X 8 = 40 Marks)**

Answer any FIVE questions

11. Explain the various functions of Statistics?

12. (a) Differentiate between classification and tabulation.

   (b) Distinguish between primary data and secondary data.

13. Draw histogram and frequency polygon to present the following data :

Income(Rs.)	No. of employees	Income(Rs.)	No. of employees
4000-4499	21	6000-6499	62
4500-4999	32	6500-6999	43
5000-5499	52	7000-7499	18
5500-5999	105	7500-7999	9

14. Calculate the standard deviation for the following data.

Marks	$0-10$	$10-20$	$20-30$	$30-40$	$40-50$	$50-60$	$60-70$
No. of students	8	12	18	8	6	5	4

15. Compute coefficient of quartile deviation from the following data:

Wages	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of workers	20	45	85	460	70	55	35	30

16. Find the correlation coefficient between production and sales of a factory from the data given below:

Production (in tonnes)	50	55	63	67	65	60	61
Sales (in thousands)	35	36	42	51	54	53	55

17. Using four yearly moving averages, calculate the trend values and short term fluctuation:

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Production	50	36.5	43	44.5	38.9	38.1	32.6	41.7	41.1	33.8

18. 400 Candidates appeared for a competitive examination and 50 of them succeeded.35 received special coaching and out of them 30 candidates succeeded. Prepare a 2 x 2 contingency table and using Yule's coefficient, discuss whether special coaching is effective or not.

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

Answer any TWO questions

19.(a) Calculate the Mean, Median and Mode from the following data:

Marks	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
No. of students	5	10	15	20	12	7	6	4

(b) The mean marks in statistics of 100 students in a class was 72. The mean marks of boys was 75 while their number was 70. Find out the mean marks of girls in the class.

(15 + 5)

20. Calculate Karl Pearson's coefficient of Skewness from the following data:

monthly Income (Rs. in thousands)	10 – 20	20 – 30	30 – 40	40 -50	50 – 60	60 – 70	70 – 80
No. of persons	25	16	20	10	15	8	7

(20)

21. The following table gives the aptitude test scores and productivity indices of 10 workers selected at random:

Aptitude scores (X)	70	75	79	78	76	74	75	79	80	84
Productivity index (Y)	80	84	89	86	85	82	84	89	86	90

Find the two Regression Equations and estimate:
   (i)   the productivity index of a worker whose test score is 85
   (ii)   the test score of a worker whose productivity is 95

(20)

22. Using 4-quarter moving average in respect of the following data, find (i) the trend (ii) short-term fluctuations and   (iii) seasonal variations

Year	1st quarter	2nd quarter	3rd quarter	4th quarter
1971	31	39	45	36
1972	42	44	57	45
1973	49	53	65	55
1974	47	51	62	50

(20)

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