LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com., B.B.A. DEGREE EXAMINATION – **CORPORATE SEC. & BUSI. ADMI.**

THIRD SEMESTER – **APRIL 2016**

ST 3105 - INTRODUCTION TO STATISTICS

Date: 06-05-2016
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

SECTION -A

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

1. State any three non-probability sampling.
2. What is the general rule to be followed in Tabulation.
3. Explain two-dimensional diagrams to represent data.
4. Calculate range and its coefficient for the following data:35,40,52,29,51,46,27,30,30,23.
5. Define standard deviation.
6. Define the positive skewness.
7. Differentiate positive and negative correlation.
8. State any two limitations of rank correlation.
9. Describe the semi average method of measuring trend.
10. State the negative attributes.

SECTION - B

Answer any FIVE questions   **(5 X 8 = 40 Marks)**

11.(a) Differentiate between classification and tabulations.

(b) Describe the primary and secondary methods of data collection.

12. Draw a Histogram and Frequency Polygon on the basis of the following data:

Marks	1-10	11-20	21-30	31- 40	41-50	51-60	61-70	71-80
No. of students	5	8	12	14	9	7	6	4

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. Calculate Mean Deviation about the median for the following data:

x	10	11	13	14	12
f	3	12	12	3	18

15. Find the Quartile Deviation and its Coefficient for the following distribution:

Class Interval	0 – 10	10 – 20	20 – 30	30 - 40	40 – 50	50 – 60
Frequency	10	12	20	13	7	8

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

Marks in Statistics	92	89	87	86	86	77	71	63	53	50
Marks in Accountancy	86	83	91	77	68	85	52	82	37	57

17. Calculate the trend values by the method of moving averages, assuming afour-yearly cycle, from the following data relating to sugar production in India.

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

18. 200 Candidates appeared for a competitive examination and 70 of them succeeded.65 received special coaching and out of them 40 candidates succeeded. Prepare a 2 x 2 contingency table and using Yule's coefficient, discuss whether special coaching is effective or not.

SECTION- C

Answer any TWO questions   **(2 X 20 = 40 Marks)**

19. (a) Calculate the value of Median for the following data:

Class Interval	21 – 30	31 – 40	41 – 50	51 – 60	61 – 70	71 - 80	81- 90
Frequency	69	167	207	65	58	27	10

(b) The scores of two players A and B in 12 rounds are given below:

A	83	85	80	85	84	87	89	97	95	94	92	91
B	87	89	85	91	92	94	96	82	86	81	86	83

Identify the better player and the more consistent player?

                                                                                          (10+10)

20. Calculate karl Pearson's coefficient of skewness from the following data:

Daily Expenditure(Rs.in '00)	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100
No. of families	13	25	27	19	16

                                                                                          (20)

21(a) Find the correlation coefficient between production and sales from the data given below:

Production (in tones)	12	9	8	10	11	13	7
Sales(Rs.in lakhs)	14	8	6	9	11	12	3

(b)The following table shows the Ages (X) and Blood Pressure (Y) of 8 persons:

Age (X)	52	63	45	36	72	65	47	35
B.P(Y)	128	130	135	115	140	125	126	116

Obtain the regression equation of Y on X and find the expected blood pressure of a Person who is 49 years old.   **(10+10)**

22. Calculate Seasonal Indices by ratio-to-moving average method from the following data:

Year \ Quarter	I	II	III	IV
2001	75	60	54	59
2002	6	65	63	80
2003	90	72	66	85
2004	100	78	72	93

                                                                                          (20)

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