LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION - **STATISTICS**

FIRST SEMESTER – NOVEMBER 2015

ST 1502/ST 1500 - STATISTICAL METHODS

Date : 04/11/2015   Dept. No. [   ]   Max. : 100 Marks
Time : 01:00-04:00

PART – A

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

1. What are the methods of classification?
2. Mention the requisites of a standard table.
3. Why Arithmetic Mean is said to be a good measure of Central Tendency?
4. A person walks 9 hours at a speed of 3 kms per hour and again walks 8 hours at a speed of 4 kms per hour. Find the average speed per hour by using appropriate average.
5. What do you mean by curve fitting?
6. Write down the Normal equations to fit a second degree polynomial $Y = a_0 + a_1x + a_2x^2$.
7. Define (i) Positive correlation (ii) Negative correlation.
8. State the properties of regression coefficients.
9. Distinguish between correlation and attributes.
10. From the following data, find out the missing frequencies, (AB) = 50, (   ) = 25, (   ) = 100, N = 250.

PART – B

Answer any **FIVE** questions: (5 x 8 = 40 marks)

11. Define the term Statistics and discuss its limitations.
12. Define the following (i) Grouped Data (ii) Class Interval (iii) Class Limits (iv) Inclusive and Exclusive Series (v) Frequency And (vi) Tally Mark.
13. Explain the advantages of graphic representation of statistical data.
14. Explain why standard deviation is regarded as superior to other measures of dispersion.
15. Calculate standard deviation and coefficient of variation for the following data:

Class interval	10-30	30-50	50-70	70-90	90-110	110-130	130-150
frequency	14	59	101	61	28	17	4

16. Fit a second degree parabola to the following data:

X	1	2	3	4	5
Y	1090	1220	1390	1625	1915

17. Define regression co-efficient and state its properties.

18. (a) From the following data find out whether the data is consistent or not

   (A) = 40, (B) = 60, (AB) = 56, N = 200

(b) Define (i) Positive association and (ii) Negative association.

PART – C

Answer any TWO questions: (2 x 20 = 40 marks)

19. What do you mean by tabulation of data? State the objectives of tabulation.

20. Following are the marks obtained by two students A and B in 10 sets of examination.

Sets	1	2	3	4	5	6	7	8	9	10
A's mark	44	80	76	48	52	72	68	56	60	64
B's mark	48	75	54	60	63	69	72	51	57	56

   If the consistency of performance is the criterion for awarding the prize, who should get the prize?

21. (a) Discuss the merits and drawbacks of fitting a curve by the principle of least squares.

(b) Below are given the figures of production (in thousand tones) of a fertilizer factory

Year	2005	2006	2007	2008	2009	2010	2011	Total
Production ('000 tonnes)	77	88	94	85	91	98	90	623

   Fit a straight line to the above data.

22. (a) Establish the relationship between Yule's coefficient of association and coefficient of colligation.

(b) Explain the methods of finding coefficient of skewness.

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