# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI - 600 034



**B.Sc.**DEGREE EXAMINATION – **STATISTICS** 

## FIRST SEMESTER – APRIL 2019

## 16/17/18UST1MC01 / ST 1502 -STATISTICAL METHODS

Date: 03-04-2019 Time: 01:00-04:00

Dept. No.

Max.: 100 Marks

#### SECTION – A ( $10 \times 2 = 20 \text{ MARKS}$ ) **Answer All questions**

- 1. What is the importance of Pilot Survey?
- 2. Distinguish between the ordinal and nominal scaling method.
- 3. What are the pre-requisites of an ideal measures of central tendancy.
- 4. Discuss any 2 difference between dispersion and skewness.
- 5. What do you mean by curve fitting?
- 6. Write down the equation for fitting of an exponential curve.
- 7. What are Regression lines?
- 8. Write down the properties of Correlation.
- 9. Explain Yule's Coefficient of association.
- 10. When do you say that the attributes are consistent?

#### **SECTION – B** ( $5 \times 8 = 40 = 40 \text{ MARKS}$ ) Answer any FIVE questions :

- 11. What are the various sources of collecting Secondary data?
- 12. Explain the essential parts of a Table.
- 13. The average wages paid to all workers in a factory was Rs.5,000. The average wages paid to male and female employees were Rs.5,200 and Rs.4,200 respectively. Determine the percentage of males and females employed by the company.
- 14. What is Lorenz curve? How it is useful in measuring the disparities of income distribution between the regions?
- 15. Define skewness. Explain briefly the various tests of skewness.
- 16. Fit a straight line trend to the following data by the least squares method. Also find an estimate for the year 2011.

Year	2003	2004	2005	2006	2007	2008	2009	2010
production	12	13	13	16	19	23	21	23

17. Calculate the coefficient of correlation from the data given below

X	105	111	104	112	118	98	116	103	116	112
Y	62	64	53	60	72	56	68	60	69	65

18. In a co-educational institution, out of 200 students, 150 were boys. In an examination 120 boys and 40 girls passed. Apply Yule's co-efficient to determine the association between sex and success in the examination. Interpret your result.

## SECTION C (2 X 20 = 40 MARKS) Answer any TWO questions

## 19. a) Explain various methods of collecting Primary data

b) Calculate mean, median and mode from the following frequency distribution.

Marks	5	10	15	20	25	30	35	40	45	50
	3	10		20	23	30	35	0	15	50
No. of	20	43	75	76	72	45	39	9	8	6
students										

# 20. a) Distinguish between mean deviation and standard deviation

b) Find out which of the following batsmen is more consistent in scoring. Would you also accept him as a better run getter?why?

Batsman A	12	115	76	42	7	19	49	80
Batsman B	47	12	76	73	24	51	63	54

21. a). Explain the difference between Correlation and Regression analysis.

b). Calculate Spearmans Rank correlation Coefficient from the following data.

X	52	63	45	36	72	65	47	25
Y	62	53	51	25	79	43	60	33

22. a. Construct two regression equations for the following data

Х	23	43	53	63	73	83
Y	5	6	7	8	9	10

b). Distinguish between the statistical concepts of the term Association and Correlation.

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