



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com.DEGREE EXAMINATION – CORPORATE SECRETARYSHIP

FIRSTSEMESTER – APRIL 2018

17/16UST1AL02- FUNDAMENTALS OF STATISTICS

Date: 30-04-2018
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

SECTION - A

Answer ALL questions

(10X 2 = 20 Marks)

1. Define Statistics
2. How does a systematic sample differ from a simple random sample?
3. What is Histogram?
4. What are the various methods of measuring central tendency?
5. The mean of 200 items was 50. Later on it was discovered that two items were misread as 92 and 8 instead of 192 and 88. Find out the correct mean.
6. Define range and its coefficients.
7. Define kurtosis
8. What are the limitations of regression analysis?
9. Write the various methods of measuring the trend.
10. What is index number?

SECTION - B

Answer any FIVE questions:

(5X 8 = 40Marks)

11.a) Explain the Limitations and Misuses of Statistics. (4+4) Marks

b) Explain the various sampling methods.

12.Explain the various Measures of Dispersion.

13. 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	67	50	65	58	27	30

14. The following are the details of two shares. Comment on the consistency of the two shares.

Share X	36	55	52	53	58	60	48	50	40	49
Share Y	108	107	105	105	102	108	104	103	107	101

15. Calculate Quartile Deviation and its coefficient for the following data:

X	22	25	20	18	30	36	24
f	4	7	6	3	5	2	10

16.Calculate co efficient of correlation for the following data.

AGE	43	21	25	42	57	59
GLUCOSE LEVEL	99	65	79	75	87	81

17.Explain the various components of time series.

18. Calculate the trend values using the method of least squares for the following data

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No.Of Accidents	370	330	280	350	300	170	180	150	200	50

SECTION - C

Answer any TWO questions

(2 X 20 = 40 Marks)

19 (a) Explain the types of diagrams to study the categorical data.

(b) Calculate Mean, Median and Mode from the following.

Wages in rupees	Less than 10	Less than 20	Less than 30	Less than 40	Less than 50
No. of workers	5	17	20	22	25

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

Annual Income (Rs. in lakhs)	70 – 80	80 – 90	90 – 100	100 -110
No. of companies	12	18	35	42

21. In a partially destroyed laboratory record of an analysis of correlation data, the following results were obtained.

$$\text{Variance of } X = 9$$

$$\text{Regression Equations } 8X - 10Y + 66 = 0; \quad 40X - 18Y = 214$$

Find (i) the mean values of X and Y (ii) the coefficient of correlation between X and Y (iii) the variance of Y

22. Verify the Time reversal test and Factor reversal test for the below data.

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	7	17	13	25
B	6	23	7	25
C	11	14	13	15
D	4	10	8	8