



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.B.A. DEGREE EXAMINATION – BUSINESS ADMINISTRATION

FIRST SEMESTER – NOVEMBER 2016

16UST1AL01 - INTRODUCTION TO STATISTICS

Date: 09-11-2016
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

SECTION - A

Answer ALL questions.

(10 x 2 = 20 marks)

1. What are the limitations of Statistics?
2. Define classification.
3. State the merits and demerits of mean.
4. Calculate median for the following data: 37, 46, 48, 38, 45, 46, 50, 65, 50, 66
5. What do you understand by Standard deviation?
6. Define the positive skewness.
7. Differentiate between positive and negative correlation.
8. What are regression equations?
9. Describe the semi average method of measuring trend.
10. What is link relative method?

SECTION - B

Answer any FIVE questions

(5 X 8 = 40 Marks)

11. Explain the scope of statistics in business studies.
12. Represent the following data by suitable two-dimensional diagram:

Price of commodity	A Rs.2 per unit	B Rs.3 per unit
No. of unit sold	40	20
Value of raw material	Rs.26	Rs.24
Other expenses	Rs.32	Rs.12
Profits	Rs.22	Rs.13

13. Compute median from the following data:

Mid-value	Frequency	Mid-value	Frequency
115	6	165	60
125	25	175	38
135	48	185	22
145	72	195	3
155	116		

14. From the under mentioned details, calculate Standard Deviation:

Marks	10	20	30	40	50	60
No. of students	8	12	20	10	7	3

15. Calculate Spearman's Rank Correlation for the following data:

Ranks of X	1	8	3	8	10	5	4	7	7	3
Ranks of Y	6	5	9	3	6	3	4	1	9	10

16. Calculate the coefficient of correlation between demand and cost from the following data:

Demand	6	4	5	9	8	10
Cost	7	5	6	10	12	6

17. What is ratio-to-trend method? State its merits and limitations.

18. Calculate Seasonal Indices from the following data using simple average method:

Year \ Quarter	1974	1975	1976	1977
I	72	76	74	76
II	68	70	66	74
III	80	82	84	84
IV	70	74	80	78

SECTION- C

Answer any TWO questions

(2 X 20 = 40 Marks)

19.(a) Calculate Mean, Median and Mode and verify empirical relation:

Class Interval	1 – 10	11 – 20	21 – 30	31 – 40	41 - 50	51 – 60	61 – 70	71 – 80
Frequency	9	10	12	15	8	6	6	5

(b) A train runs 25 kilometers at a speed of 30 km. p.h., another 50 km. at a speed of 40 km. p.h., then due to repairs of the track travels for 6 minutes at a speed of 10 km. p.h. and finally covers the remaining distance of 24 kilometers at a speed of 24 km. p.h. What is the average speed in kilometers per hour?

(15+5)

20. Calculate Bowley's coefficient of skewness for the following data:

Variable	0 -10	10-20	20-30	30-40	40-50	50-60
No of persons	15	17	25	18	16	14

(20)

21. From the following data obtain the two regression equations. Calculate the coefficient of correlation and estimate the sales when purchase is 100:

Sales	94	97	103	124	67	124	54	73	111
Purchases	97	78	69	98	76	91	39	61	80

(20)

22.(a) Fit a straight line trend by the method of least squares to the following data. Estimate the earnings for the year 2010.

Year	2001	2002	2003	2004	2005	2006	2007	2008
Earnings	38	40	65	72	69	60	87	95

(b) Calculate the trend values by the method of moving averages, assuming a four-yearly cycle, from the following data relating to sugar production in India.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Production	45	48	46	47	50	48	49	46	52	54	46

(10+10)
