LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com. DEGREE EXAMINATION – **COMMERCE**

THIRDSEMESTER – APRIL 2018

ST 3104/ST 3101 - BUSINESS STATISTICS

Date: 05-05-2018
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

SECTION A

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

1. Describe the Importance of Statistics.
2. What are the advantages of classification of data?
3. State the rules for diagrammatic representations.
4. Calculate mean for the following data:47,36,48,38,35,36,40,55,50,46
5. Define the term harmonic mean.
6. What do you mean by relative measures of dispersion?
7. Find the Range and its coefficient for following data: 25, 35, 48, 60, 45, 20.
8. Write the two regression equations.
9. Define feasible region.
10. State any two merits of Index numbers.

SECTION B   (**5 X 8 = 40 Marks**)

Answer any FIVE questions

11. .(a) Differentiate between classification and tabulation.

   (b) Distinguish between primary data and secondary data.

12. Draw a histogram and frequency polygon on the basis of the following data:

Marks	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
No. ofstudents	6	8	10	14	10	9	7	5

13. Calculate the median for the following data:

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

14. Find the quartile deviation and coefficient of quartile deviation for the following data:

Marks	0-10	10 - 20	20-30	30-40	40-50	50-60	60 -70
Frequency	8	20	34	46	28	14	10

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.What are the limitations of regression analysis?

17. Describe the different methods of measuring Seasonal Variation

18. Construct cost of living index number for the following data

COMMODITY	Base year price	CurrentYear Price	Weight
A	40	50	5
B	35	45	4
C	45	55	10
D	44	52	9
E	30	40	6

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

19. From the following data find mean, median and mode. Verify the empirical relation.

Marks	0 - 10	10 – 20	20 - 30	30- 40	40 - 50	50 – 60	60 – 70	70 – 80	80 – 90
No.of students	2	5	7	8	12	9	5	4	3

20.Find the standard deviation and its coefficient of variation for the given data:

Age(Years)	25-30	30-35	35-40	40-45	45-50	50-55
No. of workers	70	51	47	31	29	22

21. (a)Following are the marks scored by a group of 10 students in Accountancy and Statistics. Calculate
       the coefficient of correlation.

Marks in Accountancy	90	75	63	95	71	75	31	24	40	76
Marks in Statistics	65	62	55	75	55	90	36	32	42	56

  (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)

22. a) Find the initial basic feasible solution by using North-West Corner Rule Method for the following
     Transportation problem:

Source	Destination D_1	D_2	D_3	Supply
S_1	7	9	3	19
S_2	4	8	7	13
S_3	2	5	9	7
Demand	15	13	11	

   b)The head of department has 4 jobs A,B,C,and D and 4 subordinates V,W,X, and Y. The number of
hours

    each man would take to perform each job is as follows:-

	V	W	X	Y
A	12	8	10	9
B	14	15	13	12
C	15	13	12	10
D	9	10	8	13

  How the jobs should be allocated to minimize the total time?

                                                                                   (10 +10)

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