LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034
U.G.DEGREE EXAMINATION – **ALLIED**
FIRST SEMESTER – **APRIL 2019**
16/17/18UST1AL02– FUNDAMENTALS OF STATISTICS

Date: 09-04-2019   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

SECTION – A

Answer ALL the question   **(10 x 2 = 20)**

1. What is Classification and Tabulation?
2. What is the difference between Probabilistic and non-Probabilistic Sampling?
3. What is Histogram?
4. What is co-efficient of Range? Give example.
5. The mean of the numbers a, b, c, d is 8 and the mean of the numbers a, b, c, d, e, f, g is 11. What is the mean of the numbers e, f, g?
6. Write the relative measure of quartile deviation and mean deviation.
7. What is the relationship between correlation coefficient and regression coefficient?
8. How will you identify the relationship between two variables using statistical techniques?
9. What are the various methods involved in identifying the Seasonality?
10. State any two formulae in the constructions of weighted index numbers.

SECTION – B

Answer any FIVE from the following questions   **(5 x 8 = 40)**

11. Describe in detail the various methods of Sampling.
12. Draw a cumulative frequency polygon.

Age group	0 – 9	10 – 19	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69	≥ 70
Population ('000)	676	885	1000	1267	1208	677	503	499

13. Draw a cumulative frequency polygon.

Age group	0 – 9	10 – 19	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69	≥ 70
Population ('000)	676	885	1000	1267	1208	677	503	499

14. PROB and STAT are two stocks traded on the New York Stock Exchange. For the past nine weeks you recorded the Friday closing price (dollars per share): Comment on the performance of the stocks..

PROB	26	31	33	27	21	25	26	24	29
STAT	78	77	75	77	76	79	77	74	77

15. Calculate the coefficient of mean deviation about median of the following data.

Height (cm)	160 – 164	165 – 169	170 – 174	175 – 179	180 – 184	185 – 189
Frequency	8	12	14	7	6	3

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

X	0-10	10-20	20-30	30-40	40-50
f	15	17	25	18	16

17. Calculate the Rank correlation coefficient of the following data.

HOURS	(X)	1	1	3	4	6	7	8	8
SCORE	(Y)	1	3	2	5	4	5	7	8

18. Fit the regression equations of the following data.

X	10	9	8	6	4
Y	5	5	4	4	3

SECTION – C

Answer any TWO from the following   **(2 x 20 = 40)**

19. (a) Describe in detail the scope and mis uses of Statistics.

    (b) Find Mean, Median and Mode from the data given below.

Class	10 - 14	15 - 19	20 - 24	25 - 29
Frequency	2	8	7	3

20. Calculate Karl Pearson's coefficient of Skewness.

Marks	Below 20	Below 40	Below 60	Below 80	Below 100
No. of Students	8	20	50	70	80

21. (a) Given the following data : Variance of X = 9 and the Regression equations are 4X-5Y+33=0 and
    20X-9Y-107=0. Find (i) the mean values of X and Y (ii) Find S.D. of Y
     (iii) coefficient of correlation between X and Y.

    (b) Calculate Correlation coefficient of the following data.

Age x	43	21	25	42	57	59
Glucose Level y	99	65	79	75	87	81

22. Calculate Laspeyre's index number, Paasche's index number and Marshall – Edgeworth index   and
verify whether they satisfy Time reversal test and factor reversal test.

Items	2006		2007	
	p_0	q_0	p_1	q_1
A	10	40	12	45
B	11	50	11	52
C	14	30	17	30
D	8	28	10	29
E	12	15	13	20

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