



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

U.G. DEGREE EXAMINATION – ALLIED

THIRD SEMESTER – APRIL 2023

CS 3204 – STATISTICAL METHODS

Date: 13-05-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART - A

Answer ALL the questions:

(10x2=20 Marks)

1. Define Statistics.
2. Define Sampling with example.
3. Give the properties of a good average.
4. Calculate range and coefficient of range for the given data. 27, 32, 16, 15, 10, 30, 15, 29, 19, 35
5. Give the formula for Karl Pearson's coefficient of Skewness and Kurtosis.
6. What is meant by curve fitting? List some methods of curve fitting.
7. Give the properties of Correlation.
8. Explain Rank correlation.
9. Define Consistency of data.
10. What is meant by Association of Attributes?

PART - B

Answer any FIVE questions:

(5x8=40 Marks)

11. (i) Give the difference between Classification and Tabulation. (ii) Distinguish Diagrammatic and Graphical representation of data.
12. Calculate Median.

C.I	120-150	150-180	180-210	210-240	240-270	270-300	300-330	330-360
F	25	65	135	430	320	175	79	21

13. Fit a straight line trend for the following series and estimate the value for 1985. What is the monthly increase in production?

Year	1978	1979	1980	1981	1982	1983	1984
Production of steel (in million tonnes)	125	128	133	135	140	141	143

14. Calculate Correlation Coefficient from the following data:

X	9	8	7	6	5	4	3	2	1
Y	15	16	14	13	11	12	10	8	9

15. Calculate Rank correlation.

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

16. Calculate Regression equations from the following data:

X	6	2	10	4	8
Y	9	11	5	8	7

17. (i) Explain Independence of Attributes with example.

(4+4)

(ii) What are classes and class frequencies? Explain.

18. (i) Find Yule's coefficient of association, $N=1482$, $(A)=368$, $(B)=343$ and $(AB)=35$. (5+3)

(ii) Give the merits and demerits of Mean and Median.

PART - C

Answer any TWO questions:

(2x20=40 Marks)

19. (i) What is meant by Census? Explain in detail.

(5+7+8)

(ii) Explain Nominal, Ordinal and Interval scaling with examples.

(iii) For the following data draw Histogram and Frequency Curve.

C.I	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
F	5	10	15	17	20	24	16	8

20. (i) From the following data calculate Quartile deviation and its coefficient.

(10+10)

1490, 692, 777, 335, 582, 488, 753, 384, 407, 672, 522.

(ii) Find Standard deviation and its Coefficient of variation.

x	20	22	19	23	16
Y	10	20	18	12	15

21. Fit a Second degree parabola $y=a+bx+cx^2$ to the data given below.

x	0	1	2	3	4
y	1	1.8	1.3	2.5	6.3

22. (i) Explain Yule's Coefficient of Association and Coefficient of Colligation.

(7+7+6)

(ii) Elucidate Linear, Non-Linear and Exponential curves.

(iii) Compute First four central moments for the following data. 8,10,11,12,14.
