

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86

DEPARTMENT OF PSYCHOLOGY

END SEMESTER EXAMINATION NOVEMBER 2021

STATISTICS IN PSYCHOLOGY

19PY/AC/ST35

Max Marks: 100

Time: 3 HRS

PART A

(5 X 6= 30 marks)

Answer all questions

1. a) Define Statistics.

b) The following table gives the number of female employees in different branches of commercial banks.

2	4	6	1	3	5	3
7	7	1	2	1	8	10
8	4	3	5	2	5	5
6	4	6	7	10	4	6
4	2	4	9	8	0	4

Represent the data in the form of a discrete frequency distribution.

2. Define Standard error and Sampling distribution.

3. Differentiate between parametric and non-parametric tests with examples. Describe any 1 non parametric test.

4. a) Find the quartile deviation for the following data

Marks	10	20	30	40	50	60
Frequency	6	9	17	10	5	4

b) Calculate standard deviation for the following data

X	240	260	290	240	250	280
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5. Describe the different types of correlation with examples.

PART B**(5X 10 =50marks)****Answer any 5 questions**

6. Draw a histogram, frequency polygon and an ogive for the following data.

Marks	0 - 10	10 - 20	20 - 50	50 - 60	60 - 80	80-100	100-130
No of Students	4	6	18	14	8	12	21

7. a) What is mean? Give its mathematical properties

b) Find the mean for the following data.

Class Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
f	5	9	13	21	20	15	8	3

8. A teacher wanted to know the effectiveness of two different training programs. She divided the class into two and the training was given. After completion, the students were given an achievement test, the data collected is as follows:

	Group A- Training A	Group B- Training B
Mean	54	36
Standard Deviation	9	8
No of Students	70	70

What do you concluded about the effectiveness or supremacy of one training program over the other? Was training A more effective than training B?

9. Two hundred adolescents were asked whether they agreed or disagreed on certain aspect of online classes. The sample included students following both State Board and CBSE syllabus. The data collected are as follows.

	Agree	Disagree	Total
CBSE	38	12	50
State Board	84	66	150
Total			200

Is the attitude of these adolescents related to the board (State Board and CBSE) they belong to? Critical values of Chi Square for $df=1$ (3.841), $df=2$ (5.991), $df=3$ (7.815).

10. a) Differentiate between single group & equivalent group method in significance testing.

b) Write a note on ANOVA. What are the different types of ANOVA

11. Calculate Spearman's rank correlation

A	3	5	8	4	7	10	2	3	7	9
B	6	4	9	8	1	2	3	10	5	7

12. Define and explain Kurtosis and Skewness. Illustrate with diagrams.

PART C

(1 X 20= 20 marks)

Answer any 1 question not exceeding 1200 words.

13. a) What is a normal curve?

b) Elaborate on the characteristics and applications of normal curve.

14. Calculate Karl Pearson's coefficient of correlation from the following data

X	44	46	46	48	52	54	54	56	60	60
Y	36	40	42	40	42	44	46	48	50	52