

M. A. DEGREE END SEMESTER EXAMINATION - JULY 2021**SEMESTER 2 : SOCIOLOGY****COURSE : 15P2SOCT10 : STATISTICS FOR SOCIOLOGY***(For Regular - 2020 Admission & Supplementary - 2019/2018/2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

PART A**Answer any 8 (2 marks each)**

1. Define Cartogram
2. Define Primary data
3. Describe Median class
4. Define Average. What are its advantages in statistical calculation?
5. For the distribution given below:

Size	3	5	7	9	11	13	15
Frequency	6	4	13	27	10	6	9

Find the median.

6. Write any two demerits of Rank Correlation.
7. Write any two points on when to use Rank Correlation Coefficient
8. Describe Nonsensical Correlation
9. What is a Multiplication Theorem?
10. Define Type II Error
11. Write any two applications for T-distribution
12. Mention what is One tailed test

(2 x 8 = 16)**PART B****Answer any 7 (5 marks each)**

13. The following is the distribution of total household expenditure (in Rs.) of 202 workers in a city

Expenditure (in Rs.)	100-150	150-200	200-250	250-300	300-350	350-400	400-450	450-500
No. of workers	25	40	33	28	30	22	16	8

Draw a histogram and a frequency polygon of the above data.

14. What do you mean by an Inclusive Series? How can an Inclusive Series be converted in to an Exclusive Series? Illustrate with the help of an example
15. Ten students of the B.Com class of a college have obtained the following marks in statistics out of 100 marks. Calculate the standard deviation.

Sl.no	1	2	3	4	5	6	7	8	9	10
Marks	5	10	20	25	40	42	45	48	70	80

16. Calculate mode from the following data:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	4	10	16	22	20	18	8	2

17. Find the regression equation of y on x from the following data :

Age of husband(x)	18	19	20	21	22	23	24	25	26	27
Age of wife(y)	17	17	18	18	19	19	19	20	21	22

18. Calculate Karl Pearson's coefficient of correlation from the data given below:

Age of husband (X)	25	26	27	28	30	32	35
Age of wife (Y)	20	22	24	25	26	27	34

19. The following table gives the two kinds of assessment in practical classes of 10 post graduate students

Students	1	2	3	4	5	6	7	8	9	10
Internal assesment	45	62	66	32	12	38	47	67	42	85
External assesment	39	48	65	32	20	35	45	77	30	62

Find Spearman's Rank Correlation coefficient and interpret the result.

20. Write down the important properties of Binomial Distribution
21. Distinguish between large sample and small sample test of significance

22. What do you mean by sample space? Write down the sample space in the following cases:
- Tossing a coin twice
 - Tossing three unbiased coins
 - Throwing a die
 - Drawing a card from a pack of cards
 - Selecting a number from the set of positive integers less than 1

(5 x 7 = 35)

PART C

Answer any 2 (12 marks each)

23. Explain with suitable illustrations the functions and limitations of statistics
24. Compute mean, median and mode from the following data:

Age at last birthday	15-19	20-24	25-29	30-34	35-39	40-44
Number	4	20	38	24	10	9

25. Calculate Pearson's coefficient of correlation from the following data and interpret the result

A	104	111	104	114	118	117	105	108	106	100	104	105
B	57	55	47	45	45	50	64	63	66	62	69	61

26. In a sample study of tea habit in two towns, following data are observed in a sample size of 100 each:
- Town A: 51 persons were males, 31 were tea drinkers and 19 were male tea drinkers
 - Town B: 46 persons were males, 17 were male tea drinkers and 26 were tea drinkers
- Is there any association between gender and tea habits? If so, in which town is it greater?

(12 x 2 = 24)