

M.A. 1st Semester Examination, 2024**SOCIOLOGY****PAPER – SOC-104***Full Marks : 50**Time : 2 hours***Answer all questions***The figures in the right hand margin indicate marks**Candidates are required to give their answers in their own words as far as practicable***GROUP—A****Answer any two questions : 10 × 2**

1. Write the different levels of measurements with suitable graphical techniques. Draw a polygon from the following data. 5 + 5

Class Interval	10-19	20-29	30-39	40-49	50-59	60-69
Frequency	15	24	36	79	46	67

(Turn Over)

2. What are the measures of central tendency ?
For the given data, choose the appropriate measure of central tendency and state the reason.

Class Interval	10-20	20-30	30-40	40-50	50-60	60 and above
Frequency	30	25	15	20	18	10

3 + 7

3. The data in the following table represent scores obtained by ten students on a statistics examination and their final grade point average. Prepare a scatter diagram and calculate Pearson's r for these data.

3 + 7

Student	Score on Statistics Exam, X	Grade Point Average, Y
A	90	2.50
B	85	2.00
C	80	2.50
D	75	2.00
E	70	1.50
F	70	1.00
G	70	1.00
H	60	0.50
I	60	0.50
J	50	0.50

4. Following table shows an opinion on strike on the basis of age. Calculate X^2 and state the relationship between age and opinion where the level of significance is 0.05.

Opinion \ Age	Yes	No Opinion	No	Total
15-30	110	20	50	180
30-45	40	20	50	110
Above 45	50	40	120	210
Total	200	80	220	500

GROUP-B

Answer any four questions : 5 × 4

5. Calculate mode from the following table.

Class Interval	50-60	60-70	70-80	80-90	90-100	100-110
Frequency	10	15	25	21	19	2

6. Calculate standard deviation and variance.

Marks obtained	28	30	33	35	38	40	42
Number of students	4	6	8	11	9	7	5

7. (a) Which correlation coefficient below indicates the strongest relationship?

(i) $+0.89$ (ii) -0.55 (iii) -0.92 1

- (b) Percentage the following table down and interpret the data. 4

Drug use	College grade point average		
	Low	Moderate	High
High	0	5	15
Moderate	15	10	10
Low	10	5	5

8. Discuss the following correlation matrix, which is based on interviews with 275 lawyers (hypothetical data).

	1	2	3	4
Size of law firm	1.00			
Salary	0.40	1.00		
Age	-0.11	0.67	1.00	
Education	0.03	0.00	0.07	1.00

9. Find the equation of the regression line for the following data.

X	1	2	3	4	5
Y	5	3	4	2	1

10. Define dependent and independent variable with example.

[Internal Assessment — 10 Marks]

