

STELLA MARIS COLLEGE (AUTNOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2011– 2012)

SUBJECT CODE: 11SC/MC/SS 44

B.A. DEGREE EXAMINATIONS, APRIL 2013
BRANCH III – SOCIOLOGY
FOURTH SEMESTER

COURSE : MAJOR – CORE
PAPER : SOCIAL STATISTICS
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

ANSWER ALL QUESTIONS. EACH ANSWER NOT TO EXCEED 50 WORDS **(10 x 2 = 20)**

1. Define statistics.
2. What are the different scales of measurement?
3. Distinguish between classification and tabulation.
4. What are the different types of bar diagrammes?
5. Find the range and co-efficient of range for the following data:
28 37 46 49 60 68 70 78
6. Find out the median for the data given:
5 7 3 9 6 4 2 1 8
7. Find the quartiles and its co-efficient of quartiles for the following data:
65 70 82 59 81 76 57 60 55 50
8. Following are the marks score by 7 students. Find out arithmetic mean marks:
45 32 18 57 65 28 46
9. Given $b_{xy} = 0.81$ and $b_{yx} = 0.59$, Find r
10. Given $X = 0.91Y - 41.35$, find the value of X when $Y = 75$

SECTION - B

ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 300 WORDS: **(5 x 8 = 40)**

11. Discuss the importance of statistics in social sciences.
12. Discuss the various levels of measurement with suitable examples.
13. Following are the number of items of similar type produced in a factory during the last 50 days:

21	22	17	23	27	15	16	22	15	23
24	25	36	19	14	21	24	25	14	18
20	31	22	19	18	20	21	20	36	18
21	20	31	22	19	18	20	20	24	35
25	26	19	32	22	26	25	26	27	22

Arrange these observations into a frequency distribution taking class interval 14 – 18, 19 – 23, 24 – 28 and so on.

14. The following data represent the income of two families A and B. Construct a percentage bar diagram:

Items of expenditure	Family A	Family B
Food	2500	2000
Clothing	2000	1000
House rent	1000	800
Fuel and Light	500	400
Miscellaneous	2000	800
TOTAL	8000	5000

15. The following distribution gives the pattern of overtime work done by 100 employees of a company. Calculate the average overtime work done by per employee:

Overtime hours	10-15	15-20	20-25	25-30	30-35	35-40
No. of employees	11	20	35	20	8	6

16. Determine the quartiles and median for the following distribution:

Marks	No. of Students
10 – 15	4
15 – 20	12
20 – 25	16
25 – 30	22
30 – 40	10
40 – 50	8
50 – 60	6
60 – 70	4

17. Distinguish between:

- Positive and Negative correlation
- Linear and Non-linear correlation
- Simple, Partial and Multiple correlations

18. Given the following information obtain the two regression equations:

	X	Y
Arithmetic Mean	47	96
Variance	64	81
Correlation coefficient	0.36	

SECTION – C

ANSWER ANY TWO QUESTIONS:

(2 x 20 = 40)

19. Calculate Mean, Median and Mode for the following data:

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
No. of Students	7	18	50	18	17

20. Compute the standard deviation and mean deviation from the following data:

Wages (Rs.)	10 -20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 - 80
No. of Persons	8	12	17	13	9	7	4

21. Find the co-efficient of correlation with the help of Karl Pearson's method.

MARKS IN STATISTICS	MARKS IN ECONOMICS				
	10	20	30	40	50
5	2	4	1	4	1
10	8	2	5	1	
15		3	2	1	
20		1	3	2	4
25			4	2	

22. The following table gives the aptitude test scores and productivity indices of 10 workers selected at random:

Aptitude Scores (X)	60	62	65	70	72	48	53	73	65	82
Productivity Index (Y)	68	60	62	80	85	40	52	62	60	81

Calculate the two regression equations and estimate (a) Productivity Index of a worker whose test score is 92, (b) the test score of worker whose productivity index is 75.
