STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600086 (For candidates admitted during the academic year 2011-2012 \& thereafter)

SUBJECT CODE: 11SC/MC/SS 44

## B.A. DEGREE EXAMINATIONS, APRIL 2016 <br> 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

$(10 \times 2=20)$

1. Define Social Statistics.
2. The salary of 50 employees in a firm varied between Rs. 5000 and Rs 35,000 . Calculate the class interval with the number of classes as 10 .
3. Calculate the arithmetic mean of income of the 5 employees of X co.ltd. Rs. 4780, Rs 5760, Rs 6690, Rs7750 and Rs. 4840.
4. State the difference between simple table and complex table.
5. Depict the growth of production of fish for the period 2005-06 to 2009-10 on a sub-divided bar diagram.

Growth of production of fish for the period 2005-06 to 2009-10 (lakh tones)

| Year | $\mathbf{2 0 0 5 - 0 6}$ | $\mathbf{2 0 0 6 - 0 7}$ | $\mathbf{2 0 0 7 - 0 8}$ | $\mathbf{2 0 0 8 - 0 9}$ | $\mathbf{2 0 0 9 - 1 0}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Marine | 26.96 | 28.52 | 28.11 | 28.30 | 29.90 |
| Inland | 26.02 | 28.23 | 28.45 | 31.20 | 32.1 |

6. What is a Median?
7. Define a mode. Calculate the modal value from the following data:

| 22 | 24 | 25 | 22 | 21 | 22 | 34 | 22 | 35 | 36 | 35 | 24 | 22 | 21 | 34 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

8. What is a range? Calculate the absolute range in the series $20,21,22,32,47,6570$.
9. What quartile deviation?
10. State the different types of correlation.

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## ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 300 WORDS: <br> $(5 \times 8=40)$

11. Discuss the functions of statistics.
12. What is a pie diagram?

Draw a pie diagram for the following data on household expenditure ( $\mathrm{Rs}^{\prime} 00$ )

| Food | Health | Education | Rent | Miscellaneous |
| :---: | :---: | :---: | :---: | :---: |
| 35 | 12 | 13 | 17 | 24 |

13. Given below are the marks obtained by 50 students appearing for an admission test:

| Marks | $0-10$ | $10-20$ | $20-30$ | $30-40$ | $40-50$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. of <br> Students | 6 | 8 | 20 | 9 | 7 |

if cutoff point was 34 , find the percentage of students scoring more than 34 marks.
14. Find the median and mean deviation of the following data:

| Size | $0-10$ | $10-20$ | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency | 1 | 12 | 18 | 25 | 16 | 14 | 8 |

15. What is a frequency distribution? State the two types of frequency distribution.

Prepare a frequency distribution for the following 50 observations with class intervals of 10 .

| 15 | 45 | 40 | 42 | 50 | 60 | 62 | 68 | 70 | 42 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 75 | 75 | 80 | 81 | 25 | 26 | 31 | 32 | 78 | 45 |
| 31 | 45 | 42 | 43 | 55 | 56 | 78 | 80 | 81 | 62 |
| 60 | 62 | 58 | 69 | 70 | 45 | 50 | 56 | 72 | 58 |
| 75 | 62 | 65 | 62 | 60 | 70 | 35 | 37 | 40 | 55 |

16. Explain the different types of table.
17. Examine the difference between correlation and regression?
18. Write a note on levels of measurement.

## SECTION - C

## ANSWER ANY TWO QUESTIONS:

19. Define Social Statistics. Explain the importance and relevance of statistical reasoning in Social Sciences.
20. a) Define Standard Deviation. Explain the merits and demerits of Standard deviation.
b) Calculate standard deviation and the coefficient of variation from the following data.

| items | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| frequency | 2 | 7 | 11 | 15 | 10 | 4 | 1 |

21. a) What is correlation? Explain the different types of correlation.
b) Using the Karl Pearson's method calculate the coefficient of correlation from the below data:

| X | 10 | 6 | 9 | 10 | 12 | 13 | 11 | 9 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Y | 9 | 4 | 6 | 9 | 11 | 13 | 8 | 4 |

22. Calculate the regression equation of $X$ on $Y$ and $Y$ on $X$ from the following data and Estimate e X when $\mathrm{Y}=28$, and when $\mathrm{X}=14$. Take the assumed mean of $\mathrm{X}=18$ and $\mathrm{Y}=12$.

| X | 10 | 12 | 13 | 17 | 18 | 20 | 24 | 30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Y | 5 | 6 | 7 | 9 | 13 | 15 | 20 | 21 |

