

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
**(For candidates admitted during the academic year 2009 – 10)**

**SUBJECT CODE: PR/PE/RS33**

**M. A. DEGREE EXAMINATION, NOVEMBER 2010**  
**PUBLIC RELATIONS**  
**THIRD SEMESTER**

**COURSE : ELECTIVE**

**PAPER : RESEARCH METHODOLOGY**

**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION – A**

**Answer all the questions in not less than 50 words**

**(10 × 2 = 20)**

1. What is a research problem?
2. Define a case study.
3. What are secondary data?
4. Find the median from the following : 8, 10, 5, 9, 12, 11.
5. What is a census method? Give the merits and demerits.
6. What is sampling error?
7. What is the necessity of graphical representation?
8. What are the limits of correlation?
9. Write down the equations of regression.
10. Explain type I and type II error.

**SECTION – B**

**Answer any five the questions in not less than 250 words**

**(5 × 8 = 40)**

11. What are the precautions required in framing a questionnaire?
12. What are Primary and secondary data? Distinguish between them.
13. Represent the following data by a pie diagram

Items	Expenditure In Rs
Food	87
Clothing	24
Recreation	11
Education	13
Rent	25
Miscellaneous	20

14. What are the various types of sampling techniques and write a brief note on 3 of them.
15. Two cards are drawn from a pack of cards at random. What is the probability that it will be  
(i) a diamond and a heart (ii) a king and a heart (iii) a king and a queen (iv) two kings?

16. Calculate mode for the following data:

<b>Size</b>	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
<b>Frequency</b>	20	24	32	28	20	16	34	10	8

17. Find the regression of x and y from the following

data:  $\sum x = 24$ ,  $\sum y = 44$ ,  $\sum xy = 306$ ,  $\sum x^2 = 164$ ,  $\sum y^2 = 574$ ,  $N=4$ . Find the value of x, when  $y=6$ .

18. Two salesman A and B are working in a certain district . From a sample survey conducted by the head office , the following results are obtained. State whether there is any significant difference in average sales between the two salesmen at 5% level of significance?

Town	Mean sales	Standard deviation	No. of Sales
A	170	20	20
B	205	25	18

### SECTION – C

Answer any two the questions

(2 × 20 = 40)

19.a. Find the mean , standard deviation for the number of finished articles turned out per day by different number of workers.

No.of Articles	18	19	20	21	22	23	24	25	26	27
No. of workers	3	7	11	14	18	17	13	8	5	4

b. What are the needs and features of a good design ?

20. a. For the following data , calculate the coefficient of Rank Correlation:

X	80	91	99	71	61	81	70	59	
Y	123	135	154	110	105	134	121	106	

b. How do we represent graphs in statistics and how are they used in research?

21a. From the prices of Shares X and Y given below, state which share is more stable in value:

X	55	54	52	53	56	58	52	50	51	49
Y	108	107	105	105	106	107	104	103	104	101

b. What is a normal distribution and state its properties.

22a. A machine is designed to produce insulating washers for electrical devices of average thickness of 0.025cm. A random sample of 10 washers was found to have an average thickness of 0.024 cm with a standard deviation of 0.002cm. Test the significance of the deviation . Value of t for 9 degrees of freedom at 5% level of significance is 2.262

b. In an industry, 200 workers , employed for a specific job, were classified according to their performance and training received or not received to test independence of a specific training and performance.

	Good	Not Good	Total
Trained	100	50	150
Untrained	20	30	50
Total	120	80	200

Use  $\chi^2$  test of independence at 5% level of significance .( data from  $\chi^2$  table : 1 d. f. 5%=3.83).

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