

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.
(For candidates admitted during the academic year 2011-12 & thereafter)

SUBJECT CODE: 11CM/PC/RM24

M.Com. DEGREE EXAMINATION APRIL 2014
COMMERCE
SECOND SEMESTER

COURSE : CORE
PAPER : RESEARCH METHODOLOGY
TIME : 3 HOURS

MAX. MARKS : 100

SECTION A

ANSWER ALL QUESTIONS:

10 x 2 = 20

1. Define research. Why is it necessary?
2. List out factors influencing the research design.
3. What is quota sampling?
4. What is rating scale?
5. What is chi-square test?
6. A random sample of 200 tins of coconut oil gave an average weight of 4.95 kg with a standard deviation of 0.21 kg. Do we accept the hypothesis of net weight 5 kg per tin at 1% level?
7. An automatic machine fills in tea in sealed tins with mean weight of tea 1 kg and 5.0,1 gram. A random sample of 50 tins were examined and it was found that their mean weight was 999.5 grams. Is the machine working properly?
8. Can vaccination be regarded as preventive measure of small-pox as evidenced by the following data? "Of 1482 persons exposed to small-pox in a locality 368 in all were attacked of these 1482 persons, 343 were vaccinated and of these only 35 were attacked". Given that chi-square value at 5% level of significance for 1 df is 3.84.
9. Two samples of 6 and 5 items respectively gave the following data:
Mean of the first sample = 40
S.D. of the first sample = 8
Mean of the second sample = 50
S.D. of the second sample = 10
Is the difference between the means significant? The value of 't' for 9 df at 5% level is 2.26?
10. A sample of 900 items has a mean 3.4 and S.D. 2.61. Can the sample be regarded as drawn from a population with mean 3.25 at 5% level of significance?

SECTION B

ANSWER ANY FIVE QUESTIONS:

5 x 8 = 40

11. Briefly examine the stages involved in formulation of a research project.
12. What is research design? Explain the basic difference between formulative and descriptive research design.
13. Explain merits and demerits of sampling?
14. Discuss the scaling techniques and their significance in social science research.

15. From the following data obtained from a sample of 1000 persons, calculate the standard error of the mean.

Earnings (in Rs.)	No. of persons
0-10	50
10-20	100
20-30	150
30-40	200
40-50	200
50-60	100
60-70	100
70-80	100

If the average of the population was Rs. 42, what conclusion can you arrive at the reliability of the sample?

16. Certain refined edible oil is packed in tins holding 16 kg each. The filling machine can maintain this but with a standard deviation of 0.5 kg. Samples of 25 are taken from the production line. If a sample mean is (i) 16.35 kg (ii) 15.8 kg, can we be 95% sure that the sample has come from a population of 16 kg tins?
17. Ten students are selected at random from a college and their heights are found to be 100, 104, 106, 110, 118, 120, 122, 124, 126 and 128 cm. In the light of these data discuss the suggestion that the mean height of the students of the college is 110 cm? The table value of t at 5% level for 8 df is 2.306 and for 9 df is 2.262 and df is 2.228 for two-tailed test.
18. A sample of hotels in a particular country was selected. The following table shows the number of hotels in each region of the country and in each of four grades.

Grade	Eastern	Region Central	Western
1 star	29	22	29
2 star	67	38	55
3 star	53	32	35
4 star	11	08	21

Show that there is evidence of a significant association between region and grade of hotel in this country. Use X^2 test.

SECTION C

ANSWER ANY TWO QUESTIONS:

2 x 20 = 40

19. Explain with example-methods of sampling.
20. Describe layout or format of a research report.

21. These are three main brands of a certain powder. A set of 120 sample values is examined and found to be allocated among four groups(A,B,C and D) and three brands(I,II,III) as shown hereunder.

Brands	Groups			
	A	B	C	D
I	0	3	8	15
II	5	8	13	6
III	8	19	11	13

Is there any significant difference in brands preference? Answer at 5% level using one way ANOVA.

22. From the adult male population of seven large cities random samples of married and unmarried men as given below were taken. Can it be said that there is a significant variation among the people of different cities in the tendency to marry?

City	A	B	C	D	E	F	G	TOTAL
Married	170	285	165	106	153	125	146	1150
Unmarried	40	125	35	37	55	35	33	300
TOTAL	210	410	200	143	208	160	179	1510
