

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 2013
COMMERCE
SECOND SEMESTER

COURSE : CORE
PAPER : RESEARCH METHODOLOGY
TIME : 3 HOURS **MAX. MARKS : 100**

SECTION A

ANSWER ALL QUESTIONS:

10 x 2 = 20

1. What is Descriptive research?
2. In what way, formulating hypothesis is advantageous in a research study?
3. Give any four reasons for using sampling in research work?
4. What are the characteristics of a good abstract?
5. What criteria should a research problem satisfy?
6. From the following data, find the value of median:

Income (Rs.)	1,000	1,500	800	2,000	2,500	1,800
No. of persons	24	26	16	20	6	30
7. A noted social psychologist surveyed 150 top executives and found that 42% of them were unable to add fractions correctly.
 - a) Estimate the standard error of the proportion.
 - b) Construct a 99% confidence interval for the true proportion of top executives who cannot correctly add fractions.
8. In 600 throws of a six-faced die, odd points appeared 360 times. Would you say that the die is fair at 5% level of significance?
9. A sample of 500 persons of a city showed a mean income of Rs. 120 per month with standard deviation of Rs. 10. Another sample of 1,000 persons from another city showed a mean income of Rs. 123 per month with standard deviation of Rs. 12. Is the difference between the two means statistically significant at 5% level?
10. In checking its cars for adherence to emissions standards set by the government, an auto-maker measured emissions of 30 cars. The average number of particles of pollutants emitted was found to be within the required levels, but the sample variance was 50. Find a 90% confidence interval for the variance in emission particles for these cars.

SECTION B**ANSWER ANY FIVE QUESTIONS:****5 x 8 = 40**

11. What is a research design? What are the various steps involved in its preparation?
12. What is a pilot survey? Discuss its usefulness in the context of social research.
13. Processing of data implies editing, classification, coding and tabulation. Describe these four operations, pointing out the significance of each in context of research study.
14. The procedure of testing hypothesis requires a researcher to adopt a number of steps. Describe these steps.
15. Ms. Anu, a researcher, is interested in determining the rate of coffee usage per household in a city. She believes that yearly consumption per household is normally distributed with an unknown mean and a standard deviation of about 1.25 pounds. How large a sample must she take in order to be 98% certain that the sample mean is within one-half pound of the population mean?
16. Ms. Radha is interested in purchasing a used-vehicle. She randomly selects 125 advertisements and finds that the average price of a vehicle in the sample is Rs. 3,250. She knows that the standard deviation of used vehicle prices in this city is Rs. 615.
 - a) Establish an interval estimate for the average price of a vehicle so that Ms. Radha can be 68.3% certain that the population mean lies within this interval.
 - b) Establish an interval estimate for the average price of a vehicle so that Ms. Radha can be 95.5% certain that the population mean lies within this interval.
17. A television documentary on over-eating claimed that Americans are about 10 pounds overweight on average. to test this claim, 18 randomly selected individuals were examined. Their average excess weight was found to be 12.4 pounds, and the sample standard deviation was 2.7 pounds. At a significance level of 0.01, is there any reason to doubt the validity of the claimed 10-pound value?
18. In 4 parallel experiments the correlations between X and Y are as follows 0.6, 0.2, 0.7 and 0.4. The N's are 26, 31, 42 and 35. What is the weighted mean of these r's? Use Z transformation.

SECTION C**ANSWER ANY TWO QUESTIONS:****2x 20 = 40**

19. Give a brief account of the guidelines for designing a good questionnaire.
20. Explain the significance of a Research Report and narrate the various steps involved in writing such a report.

21. A music system has been introduced in a factory hoping that this would lead to greater productivity. a researcher sample weekly production for the same six workers before and after the installation of music. His data is given below. At $\alpha = 0.02$, has the average production changed at all?

Employees	1	2	3	4	5	6
Week without music	219	205	226	198	209	216
Week with music	235	186	240	203	221	205

22. Six beauty contestants have been assigned ranks by three judges as under. Is there significant agreement in rankings given by these judges? Test at 5% level.

Contestant	Ranking given by judge		
	No.1	No. 2	No. 3
A	5	2	4
B	4	3	1
C	1	1	6
D	6	5	3
E	3	6	2
F	2	4	5
