

M.Com. DEGREE EXAMINATION APRIL 2009
COMMERCE
SECOND SEMESTER

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

SECTION – A

ANSWER ANY FIVE QUESTIONS: (5 x 8 = 40)

1. Discuss the general principles governing the framing of Questionnaire.
2. What are Type I error and Type II error?
3. Distinguish between experimental approach and case study approach to research.
4. What is the meaning of measurement in research? What difference does it makes whether we measure it in terms of different scales? Explain giving examples.
5. Two independent samples of 8 and 7 items gave the following values:

Sample A	9	11	13	11	15	9	12	14
Sample B	10	12	10	14	9	8	10	

Examine whether the difference between the means of the two samples is significant at 5% level?

6. Thousand families were selected at random in a city to test the belief that high income families usually send their children to public schools and the low income families often send their children to government schools. The following data were obtained:

Income	Public	Govt.	Total
Low	370	430	800
High	130	70	200
Total	500	500	1000

Test whether income and type of schooling are independent.

7. The mean life times of sample of 400 fluorescent light bulbs produced by a company is found to be 1,570 hours with a standard deviation of 150 hours. To test the hypothesis that the mean life time of the bulbs produced by the company is 1600 hours at 1% level of significance.

8. One thousand articles from a factory are examined and found to be 3% defective. Fifteen hundred similar articles from a second factory are found to be only 2% defective. Can it reasonably be concluded that the product of the first factory is inferior to the second?

SECTION – B

ANSWER ANY THREE QUESTIONS:

(3 x 20 = 60)

9. Examine the process involved in formulating a research project.
10. Why probability sampling is generally preferred in comparison to non-probability sampling? Explain the procedure of selecting a simple random sample.
11. Explain the general format of a research report.
12. The following data represent the number of units of production per day turned out by 5 different workers using 4 different types of machines:

Workers	Machine type			
	A	B	C	D
1	44	38	47	36
2	46	40	52	43
3	34	36	44	32
4	43	38	46	33
5	38	42	49	39

- a) Test whether the mean productivity is the same for the different machine types
- b) Test whether the 5 men differ with respect to mean productivity.
13. Two random samples were drawn from two normal populations and their values are

A	66	67	75	76	82	84	88	90	92		
B	64	66	74	78	82	85	67	92	93	95	97

Test whether the two populations have the same variance at 5% level of significance ($F=3.36$) at 5% level for $v_1=10$ and $v_2=8$.
