



**UNIVERSITY OF PETROLEUM & ENERGY STUDIES
DEHRADUN**

End Term Examination – May, 2017

Program/course: MBA (LSCM)

Subject: Business Research Methods

Code : MBCQ 723

No. of page/s: 04

Semester – II

Max. Marks : 100

Duration : 3 Hrs

Section-A

1. Answer the following.

(10x1)

1. a) The degrees of freedom for strata “k” is given by:
 - a. $k-1$
 - b. n
 - c. $n - 1$
 - d. $(r-1) (c-1)$

2. TOMA stands for:
 - a. Top of Mind Awareness
 - b. Top Operating Market Agency
 - c. Top Operating Market Association
 - d. None of the above

3. Chi-square test is also known as:
 - a. Test of Determination
 - b. Test of Association
 - c. Test of Validation
 - d. Test of Reliability

4. SPSS stands for.....
 - a. Statistical Package for Social Science
 - b. Standard Package for Social Science
 - c. Standard Package for Secondary Science
 - d. Statistical Package for Scientific Research

5. Higher is the value of COV,is the consistency.

6. Expected frequency in Chi-square test is calculated as.....
7. Alpha is also known aserror.
8. Cronbach alpha is used for testing theof questionnaire.
9. KMO test is used for testing the sample.....
10. F Ratio is calculated as.....

2. Define the following: (5x2)

- a) Enumerate any two multi-variate techniques.
- b) Define the formula for sample size determination
- c) Discuss the significance of one tail test.
- d) Which test is appropriate for nominal scale?
- e) Differentiate Stratified sampling from Judgement sampling?

Section-B

Attempt any four questions. (4x5)

3. Write down the steps involve in the testing of hypothesis procedure for Chi-square test
4. Differentiate Exploratory research design from descriptive research design?
5. Why sampling is used in market research? Discuss the significance of sampling frame.
6. Differentiate SCT from BFT.
7. The mean & variance of a binomial distribution are 4 and $\frac{4}{3}$ respectively. Find (i) $P(X=0)$,
(ii) $P(X=6)$.

Section-C

Answer any three questions. (3x10)

8. Define measurement? Discuss various types of scales of measurement and how they are applied in market research? Develop 2 questions each for Nominal, Ordinal and interval scales.
9. You are supposed to launch a sports newsletter for the university highlighting various sports activities at university level, national and international level. Make necessary assumptions, if required. Describe the following:

- a) Research Problem
- b) Source of data
- c) Method of data collection
- d) What variables/factors would you keep in mind for successfully launching the newsletter?
- e) Tools of analysis to be used

10. Two scientists adopted different sampling techniques while investigating the same group of respondents to find the number of employees falling in different intelligence levels. The results are as follows:

Scientists	No. of employees in each level				Total
	Below Average	Average	Above Average	Genius	
X	86	60	44	10	200
Y	40	33	25	2	100
Total	126	93	69	12	300

Would you say that the sampling techniques adopted by the two scientists are significantly different? Use appropriate test. Assume alpha as 0.05.

11. A time study engineer developed a new sequence of operation elements that he hopes will reduce the mean cycle time of a certain production process. The results of a time study of 20 cycles are given below:

12.25,11.97,12.15,12.08,12.31,12.28,11.94,11.89,12.16,12.04,12.09,12.15,12.14,12.47,11.98,12.04,12.11,12.25,12.15,12.34

If the present mean cycle time is 12.5 minutes, should he adopt the new sequence?

Section-D

Attempt the following questions:

12. Suppose you are serving as a Manager – Supply Chain with a reputed consumer FMCG company dealing in Chocolate and confectionery items in NCR. You have observed that complaints such as wastage, delay in execution of orders etc. have increased in last 12 months and no physical verification/proper quality audit of inventory has been carried out for last one year. You have decided to hire Nitin Sharma, an MBA –LSCM student for the Summer Internship on “Optimizing warehousing cost for consumer durables”. He is required to submit a synopsis

for carrying out the research for 8 weeks and at the end needs to submit the report. The student submits the synopsis to you and you are supposed to evaluate his Synopsis.

What points would you consider while evaluation to test the accuracy of the synopsis. Give brief outline of the same. (Make appropriate assumptions, if required). What steps/measures would you take to get accurate results and producing a good report at the end? **15**

13. A trainer observed that the trainees in his program were better at their job in the Morning than the Evening. He decided to test this out by using a quantitative test as this required the participants to concentrate. If there was a dip in performance in Evening the test should pick it up. He chose a random sample of 8 trainees and gave them two tests matched on their difficulty. The samples were balanced on the two versions of the test, and at what time they were tested first, to control for carry-over effects. The tests gave a score out of 20, the higher the score the better the performance. The results were as follows: Test the significance of belief of teacher at 5% level of significance. What would be the change in decision if level of significance is 1%.

<i>Participant</i>	Morning	Evening
1	16	14
2	14	12
3	13	14
4	15	14
5	17	13
6	16	14
7	15	15
8	16	11