VPM's
DR VN BRIMS, Thane
Programme: MMS (2016-18)
Second Semester Examination April 2017

Subject	**Business Research Methods**		
Roll No.		**Marks**	**60 Marks**
Total No. of Questions	**7**	**Duration**	**3 Hours**
Total No. of printed pages	**2**	**Date**	**24.04.2017**

Note: Q.1 is compulsory . Attempt any FOUR from remaining.
Use of statistical calculators and Normal,T, Chisquare and F tables is allowed.

Q. 1 A management graduate is assigned with a research to study if coaching classes have a positive effect on performance of students in a competitive exam like CET (Common entrance test) in Maharashtra. The opinion of students has to be studied about the above hypothesis. The actual exam scores of the students can be tested with the number of coaching hours undergone by the students in preparation for the test to find out if there is any relationship among the above two variables.

(a) Design a study with attention to variables, sample, population, sampling process. **(10)**

(b) Design null and alternate hypotheses, statistical methods to be used for the above study. **(10)**

Q2.Answer in Brief (Any two)----------(2 *5 = 10Marks)

a) What are different methods of sampling ?Explain with examples
b) Explain scientific and application research. Explain with examples
c) What is primary and secondary data source? Explain with examples.

Q 3. Answer in Brief (Any two)----------(2 *5 = 10Marks)

It was decided to examine if 3 salesmen of a Tea Marketing firm had the same sales effectiveness based on weekly performance.

Sample weeks	Salesman-1	Salesman-2	Salesman-3
1	33	23	34
2	30	26	29
3	23	36	31
4	22	23	35
5	29		26

a) When ANOVA is to be used
b) What is meant by degrees of freedom in ANOVA?
c) Examine if the salesmen have equal sales effectiveness.

Q 4. Answer in Brief (Any two)----------(2 *5 = 10Marks)

a) Explain different tests of hypothesis, their features and significance.
b) Compare exploratory and descriptive research. Explain with examples
c) Distinguish between interval and ratio scales. Explain with examples.

Q 5. Answer in Brief (Any two)----------(2 *5 = 10Marks)

Newly launched hair oil claims that it reduces hair fall. It was given on free trial to 100 new customers. Another 100 customers were given conventional hair oil with same colour and flavour. After one month the customers were asked about their experience. The replies are tabulated below:

Hair Oil	Effect			Total
	Improvement	No change	Deterioration	
New	37	48	15	
Conventional	27	60	13	
Total				

a) Which test of hypothesis will you use and why.
b) How to find degrees of freedom in Chi- Square Test.
c) Find if new oil is effective in reducing hair fall at 5% level.

Q 6. Answer in Brief (Any two)----------(2 *5 = 10Marks)

In a class two examinations were conducted and marks obtained by students are given.

Student →		1	2	3	4	5	6	7	8	9
Marks in test I		49	53	51	52	47	50	52	53	59
Marks in test II		52	55	52	53	50	54	54	53	78

Assume that the two samples have been drawn from a normal population.

a) What kind of analysis will you use for this data?
b) Comment on applications of T-test.
c) Is there any significant difference in the marks scored in two tests? Test at 5%level of significance.

Q7. Answer in Brief (Any two)----------(2 *5 = 10Marks)

Consider dataset of performance appraisal scores and amount of training undergone by 8 employees of a company.

Performance appraisal score	44	68	32	78	93	52	83	44
Training hours	5	8	3	7	8	7	8	5

a) Explain kind of test to be used for analysis of data above.
b) Explain regression and correlation coefficients.
c) Find regression equation of Appraisal score on training hours.