UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination – May, 2017

Program/course: MBA (BA/ET) **Semester – II**
Subject: Business Research Methods **Max. Marks : 100**
Code : MBCQ 732 **Duration : 3 Hrs**
No. of page/s: 6

Section A

1. Select most appropriate answer. **(2x10)**

I. Mode is suitable measure of central tendency if data is measured on

(a) Nominal scale
(b) Ordinal scale
(c) Interval scale
(d) Ratio scale

II. Temperature is suitable example of

(a) Nominal data
(b) Ordinal data
(c) Interval data
(d) Ratio data

III. A Sampling frame is

(a) A summary of the various stages involved in designing a survey
(b) An outline view of all the main clusters of units in a sample
(c) A list of all the units in the population from which a sample will be selected
(d) None of these

IV. A new assessment survey is to be distributed to faculty. A random sample of departments is selected and everyone in the department is included in the sample. This scenario is an example of which sampling design?

(a) stratified sampling
(b) multi-stage sampling
(c) cluster sampling
(d) systematic sampling

V. With regard to hypothesis testing, Type II Error is

(a) Probability of Rejecting the Null Hypothesis When it is True
(b) Probability of accepting the Null Hypothesis When it is True
(c) Probability of Accepting the Null Hypothesis When it is False
(d) None of these.

VI. A study is conducted to determine whether the average blood pressure for Americans has increased over the past 10 years. A simple random sample (SRS) of 50 people is selected and their average blood pressure is calculated. The average blood pressure for the 50 people is a _____. The true unknown mean blood pressure for all Americans is a _____.

(a) statistic , parameter
(b) parameter, statistics
(c) parameter, estimate
(d) None of these

VII. A sample of 900 items is taken from a population with S.D.15. The mean of the sample is 25. Test whether the sample has come from a population with mean 26.8. Which test should be applied for testing process in this situation?

(a) t-test
(b) Z-test
(c) $\chi 2$ test
(d) None of these

VIII. The alternative hypothesis is "that more than 80% of the students know driving" is an example of

(a) One-tailed test
(b) Two-tailed test
(c) Type 1 error
(d) Type 2 error

IX. The t distribution could be used

(a) When sample size is small ($n < 30$)
(b) Sample is drawn from a normal population
(c) Population variance is unknown
(d) All the above statements are correct.

X. If the confidence level increases from 90 to 95%, it will

a. Decrease the sample size.
b. Increase the sample size.
c. The sample size would decrease by 5%.
d. The sample size would increase by 5%.

Section B

Attempt all questions. **(5x4)**

3. Distinguish between Applied and Fundamental Research with suitable example.

4. For the population of size 5 with unit numbers as 1, 2, 3, 4, 5 select all possible samples suing simple random sampling without replacement.

5. Interpret the table given below :

	Gender			
	Male		Female	
	Low Income	High Income	Low Income	High Income
High Consumption	30%	38%	20%	60%
Low Consumption	70%	62%	80%	40%
Column Total	100%	100%	100%	100%
No. of respondents	400	180	200	220

6. Identify with brief reasoning each of the following sampling methods:

(a) The population of interest is in the alphabetical order. Starting with 8^{th} name, every 9^{th} member thereafter was selected as a member of sample. The sample therefore, consisted of numbers 8, 17, 26, 35 and so-on.

(b) A large precinct was subdivided into 25 smaller areas, then five of these areas were selected at random and residents in these five areas were interviewed.

Section-C

Answer any three questions. **(10 x 3)**

7. Describe any two methods of primary data collection along with their merits and demerits.

8. An economist is interested in estimating the average monthly household expenditure on food items by the households of a town. Based on past data, it is estimated that the standard deviation of the population on monthly expenditure on food items is £30 with allowable error set at £7, estimate the sample size required at a 95% confidence.

9. The price of shares of a company on the different days in a month were found to be 66, 65, 69,70,69,71,70,63,64 and 68. Discuss whether mean price of shares in the month is 65.

10. Following questions were asked in a questionnaire. Are the following questions are correct? If not write the correct form of questions :

(a) Do you think MBA and MCA have good prospective of getting job?
(b) Have you ever cheated on your spouse?
(c) Do you take dowry when you get married?
(d) Do you think that thermal wear provides you the protection from the cold?
(e) When did you last visit the town ?

Section-D

Answer both the questions. **(30)**

11. Mr. Mohan Mehta has a chain of restaurants in many cities of northern India and was interested in diversifying his business. His only son, Kamal, never wanted to be in the hospitality line. To settle Kamal into a line which would interest him, Mr. Mehta decided to venture into a garment manufacturing. He gave this idea to his son, who liked it very much. Kamal had already done a course in fashion designing and wanted to do something different for the consumers of this industry. An idea struck him that he should design garments for people who are very bulky but want a lean look after wearing readymade garments. The first thing that came to his mind was to have an estimate of people who wore large sized shirts (40 size and above) and large sized trousers (38 size and above) A

meeting was called of experts from the garment industry and a number of fashion designers to discuss on how they should proceed. A common for many of them was to know the size of such a market. Another issue that was bothering them was how to approach the respondents, It was believed that asking people about the size of their shirt or trouser may put them off and there may not be any worthwhile response. A Suggestion that came up was that they should employ some observers at entrances of various malls and their jobs would be to look at people who walked into the malls and see whether the concerned person was wearing a big size shirt or trouser. This would be a better way of approaching the respondents .This procedure would help them to estimate in a very simple way the proportion of people who wore a big sized garments.

Answer the following questions:

(a) Name the sampling design that is being used in the study. (5)

(b) What are the limitations of the design so chosen? (5)

(c) Can you suggest a better design? (5)

(d) What method of data collection is being employed? (5)

12. Since I have joined this organization, many accidents have taken place and due to that we have lost many lives specially the young generation's life that is the future of this nation. I have also observed the different age group have different approaches towards following safety measure /precaution while riding bikes. Many a time accidents occur but the effect is not that huge since the precaution has been taken. So out of curiosity I wanted to test (using 5% level of significance) whether the accidents occur uniformly over week days or not on the basis of the following information:

Days of the week:	Sun	Mon	Tue	Wed	Thu	Fri	Sat
No. of accidents:	11	13	14	13	15	14	18

Test the problem and give your conclusion. (10)

Appendix-1

Test	Level of Significance	Tailed	Degree of Freedom	Value
Z	5%	Two	-	1.96
Z	5%	One	-	1.64
Z	1%	Two	-	2.58
t	5%	two	5	2.571
t	5%	Two	6	2.447
t	5%	Two	7	2.365
χ^2	5%	-	3	7.815
χ^2	5%	-	5	11.071
χ^2	5%	-	6	12.592
χ^2	5%	-	7	14.067
χ^2	5%	-	8	15.507