

Code No: 741AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**MBA I Semester Examinations, June/July-2018****BUSINESS RESEARCH METHODOLOGY****Time: 3hours****Max.Marks:75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**5 × 5 marks = 25**

- 1.a) Explain cross-sectional research design. [5]
- b) Differentiate between internal and external validity. [5]
- c) Discuss the primary scales of measurement with suitable examples. [5]
- d) Discuss “Central limit theorem and finite population correction”. [5]
- e) Discuss multicollinearity with its potential problems. [5]

PART - B**5 × 10 marks = 50**

2. Define and classify various research designs and explain the differences between exploratory and conclusive research. [10]

OR

3. Describe focus groups in detail with emphasis on planning and conducting focus groups, and their advantages, disadvantages, and applications. [10]

4. “Measure of central tendency is the primary tool of research”, discuss this statement taking a suitable example. [10]

OR

5. The campus food service would like to determine how many people eat in the student cafeteria. List the survey methods in which this information could be obtained. Which method is best? [10]

6. Watching television also reduces the amount of physical exercise, causing weight gains. A sample of fifteen 10-year old children was taken. The number of pounds each child was overweight was recorded (a negative number indicates the child is underweight). Additionally, the number of hours of television viewings per weeks was also recorded. These data are listed here.

TV	42	34	25	35	37	38	31	33	19	29	38	28	29	36	18
Overweight	18	6	0	-1	13	14	7	7	-9	8	8	5	3	14	-7

- a) Fit the regression line and describe what the coefficients tell you about the relationship between the two variables.
- b) Also obtain r^2 (coefficient of determination) for the model fitted and comment on its value.
- c) Draw the scatter plot of the data and the fitted line as well. [10]

OR

7. A company is introducing a job evaluation scheme in which all jobs are graded by points for skill, responsibility, and so on. Monthly pay scales (Rs in 1000's) are then drawn up according to the number of points allocated and other factors such as experience and local conditions. To date the company has applied this scheme to 9 jobs:

Job	A	B	C	D	E	F	G	H	I
Points	5	25	7	19	10	12	15	28	16
Pay (Rs)	3	5	3.25	6.5	5.5	5.6	6	7.2	6.1

- a) Find the least squares regression line for linking pay scales to points.
 b) Estimate the monthly pay for a job graded by 20 points.

[5+5]

- 8.a) An auditor claims that 10 per cent of customers' ledger accounts are carrying mistakes of posting and balancing. A random sample of 600 was taken to test the accuracy of posting and balancing and 45 mistakes were found. Are these sample results consistent with the claim of the auditor? Use 5 percent level of significance. **(Draw diagram neatly with a pencil)**
- b) The mean life time of a sample of 400 fluorescent light bulbs produced by a company is found to be 1600 hours with a standard deviation of 150 hours. Test the hypothesis that the mean life time of the bulbs produced in general is higher than the mean life of 1570 hours at $\alpha = 0.01$ level of significance. **(Draw diagram neatly with a pencil)**

[5+5]

Use the table if necessary.

Significance level	Two tail test	One tail test
1%	2.57	2.33
5%	1.96	1.64
10%	1.64	1.28

OR

9. The department store is attempting to determine the effect of in-store promotion (X) on sales (Y). Mean sales for ten stores is given for different levels of in-store promotions (THOUSANDS OF DOLLARS).

Store No.	Level of In-Store Promotion		
	Low	Medium	High
1	5	8	10
2	7	8	9
3	6	7	10
4	4	9	8
5	5	6	9
6	2	4	8
7	3	5	9
8	2	5	7
9	1	6	7
10	2	4	6

- a) Develop the null and alternate hypothesis.
b) Construct the ANOVA Table

Source	SS	D.F	Mean Square	F ratio
Explained				
Unexplained				
Total				

- c) At the 0.025 level of significance, (F table value is 5.10) test whether store sales differ by level of in-store promotions. [10]

10. Define method of least square? Discuss the application of method of least square in research with suitable example. [10]

OR

11. Discuss cluster analysis with its application in marketing research. [10]

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