



MBA DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2022)

Second Semester

MASTER OF BUSINESS ADMINISTRATION

P22MPB2911: Research Methodology

COURSE OUTCOMES

CO1: Explain the principles of research and its role in supporting decision making.

CO2: Formulate the foundations for carrying out research

CO3: Display ability to perform various statistical tools on Research.

Time: Three Hours

Maximum Marks: 100

PART A (20 Q x 1 Mark = 20 Marks)

- 1 Why do we undertake problem identification research? CO1 [K₁]
 - a) To help solve specific research problems
 - b) To help identify problems that are not apparent on the surface and yet exist or may exist in the future
 - c) To establish a procedure for development of a primary research plan
 - d) To develop clear, concise marketing segments
- 2 What type of variables are manipulated by the researcher and effects are measured and compared? CO1 [K₁]
 - a) Independent variables
 - b) Dependent variables
 - c) Extraneous variables
 - d) Measuring Variables
- 3 _____ research is appropriate, when proof is sought that certain variables affect other variables in some way. CO2 [K₁]
 - a) Empirical
 - b) Descriptive
 - c) Causal
 - d) Analytical
- 4 Which of the following best defines a research design? CO2 [K₁]
 - a) A framework or blueprint for conducting the marketing research project
 - b) An outdated method
 - c) NOT formulated to specify the details of the procedures necessary for obtaining the information needed to structure and/or solve marketing research problems
 - d) Only composed of one type
- 5 If you are asking the question “Which gender, do you belong?”, the answer results in _____ data. CO2 [K₂]
 - a) Interval
 - b) Ordinal
 - c) Ratio
 - d) Nominal

- 6 Which of the following is a seven-point scale with bipolar labels? CO2 [K₁]
a) Stapel scale
b) Continuous rating scale
c) Semantic differential scale
d) Likert scale
- 7 Which sampling technique allows one to estimate rare characteristics? CO2 [K₁]
a) Snowball sampling
b) Quota sampling
c) Convenience sampling
d) Simple random sampling
- 8 What is “Step 1” in the sample size determination for mean and proportion? CO2 [K₁]
a) Specify the confidence level
b) Determine the z values associated with the confidence level
c) Specify the level of precision
d) Determine the standard deviation of the population
- 9 What refers to whether the cause-and-effect relationships found in the experiment can be generalized? CO2 [K₁]
a) Internal validity
b) Result validity
c) Causal validity
d) External validity
- 10 Which one among the following is used to measure validity? CO2 [K₁]
a) Test –retest evaluation
b) Alternate form evaluation
c) Content evaluation
d) Split half evaluation
- 11 High systematic error and low random error would lead to _____. CO2 [K₂]
a) Valid and reliable measurement
b) Not valid and not reliable measurement
c) Valid but not reliable measurement
d) Not valid but reliable measurement
- 12 Equally dividing the items in the scale and correlated the resulting scores of both is called _____. CO2 [K₂]
a) Test –retest evaluation
b) Alternate form evaluation
c) Content evaluation
d) Split half evaluation
- 13 You would like to conduct an interview with Open Ended Questions. Choose the appropriate data collection instrument for the said purpose. CO2 [K₃]
a) Questionnaire
b) Schedule
c) Google Form
d) Survey Monkey Form
- 14 Primary data would result in _____. CO2 [K₂]
a) Low cost
b) More accurate measurement
c) Less time for analysis
d) Less resources utilization
- 15 Secondary data refers to _____. CO2 [K₁]
a) Data collected through personal interview
b) Data collected through telephone interview
c) Data those are already available
d) Data collected through mail survey

- 16 Mr. Ram, Researcher assistant @ Renault R&D would like to measure the variance of two variables. For the said purpose he is seeking help from you. Suggest a suitable one for his purpose. CO3 [K₃]
- Co-Variance
 - Correlation
 - Standard Deviation
 - Variance
- 17 _____ is a measure of the tailedness of a distribution. CO3 [K₁]
- Kurtosis
 - Skewness
 - Dispersion
 - Central Tendency
- 18 For a 5% level of significance, identify the confidence level. CO3 [K₃]
- 99%
 - 95%
 - 90%
 - 85%
- 19 Find out the required items given below to construct a box and whisker plot outliers. CO3 [K₂]
- Minimum value (Q 0 or 0th percentile)
 - First quartile (Q 1 or 25th percentile)
 - Median (Q 2 or 50th percentile)
 - Third quartile (Q 3 or 75th percentile)
 - Maximum value (Q 4 or 100th percentile)
 - Interquartile range
- Item 1 to 3 are required
 - Item 1 to 4 are required
 - Item 1 to 5 are required
 - Item 1 to 6 are required
- 20 For the project review meeting, the Project Manager has asked you to consider the extreme value (Outlier) of Cost incurred for a project to calculate the measures of central tendance (Average Cost Incurred). Indicate an appropriate measure of central tendency. CO3 [K₄]
- Mean
 - Median
 - Mode
 - Geometric Mean
- PART B (5 Q x 8 Mark = 40 Marks) Answer Any Five Questions only**
- 21 Pictorially present the Research Process Steps and exemplify the different steps involved in it. CO1 [K₂]
- 22 Outline, how do probability-sampling techniques differ from non-probability sampling techniques? Indicate, what factors should be considered in choosing between probability and non-probability sampling? CO2 [K₂]
- 23 Compare and contrast the relationship between Reliability & Validity. CO2 [K₄]
- 24 Illustrate, why is it important to obtain Secondary Data before going in for Primary Data? Explain the various sources of primary data collection and published secondary data. CO2 [K₂]
- 25 Elucidate the various steps involved in the process of Hypothesis testing. CO3 [K₂]
- 26 Compare and contrast the Regression Analysis from Correlation Analysis. CO3 [K₄]

Part – C (2 Q x 20 Mark = 40 marks) Answer Any Two Questions Only

- 27 Samsung's Smart TV market in Tamilnadu has recently become highly competitive by the entry of Mi TV as they provide more features and at a lower price. The company has decided to examine the customer's feeling about their products, through a research study, in comparison with other competitor's brands. CO2 [K4]
- a. Suggest and examine the most appropriate Sampling Design and justify it. (10 Marks)
 - b. Develop a Questionnaire with minimum of 10 questions to do this research. (10 Marks)
- 28 The management of retail stores wants to determine the average monthly amount spent by households in their shop. Some households in the target market do not spend anything at all, whereas other households spend as much as Rs. 600 per month. Management wants to be 95 per cent confident of the findings and does not want the error to exceed plus or minus Rs. 10. CO2 [K4]
- a. Discover, what sample size should be used to determine the average monthly household expenditure? (10 Marks)
 - b. After the survey was conducted, the average expenditure was found to be Rs. 100 and the standard deviation was Rs. 50. Construct a 95 per cent confident interval and analyse the results. (10 Marks)
- 29 An economist wished to compare household expenditure on electricity and gas in four major cities in India. He obtained random samples of 10 two-person households from each city and asked them to keep records of their energy expenditure for a month period. Note that this is an independent groups design because different households are in different cities. CO3 [K4]

Cost of Electricity and Gas Expenditure in Rs.

Month	Chennai	Calcutta	New Delhi	Mumbai
1	545	581	581	640
2	470	500	482	521
3	445	486	501	535
4	574	560	569	651
5	463	505	488	519
6	383	397	397	429
7	452	495	461	457
8	573	570	599	615
9	529	525	549	571
10	471	443	455	476

The economist would like to get your expertise for comparing household expenditure on electricity and gas in four major cities in India. To help the economist, prepare the answers for the following questions.

- a) Formulate a Hypothesis.
- b) Choose an appropriate statistical test.
- c) The economist has suggested Mann-Whitney U Test. Are you agree with his suggestion?
- d) Choose the appropriate level of significance and justify your choice.
- e) Economist has run the test using SPSS and the results have been furnished below. Using the results furnished below, interpret the results.

Ranks

City	N	Mean Rank
Chennai	10	16.90
Calcutta	10	20.10
New Delhi	10	20.30
Mumbai	10	24.70
Total	40	

Test Statistics^{a,b}

Particulars	Cost of Electricity and Gas
Chi-Square	2.254
df	3
Asymp. Sig.	.521

a. Kruskal Wallis Test

b. Grouping Variable: City
