

Code: 0129 ~~XI~~ RICO120(Time: $2\frac{1}{2}$ hours)

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
 (2) Make suitable assumptions wherever necessary and state the assumptions made.
 (3) Answers to the same question must be written together.
 (4) Numbers to the right indicate marks.
 (5) Draw neat labeled diagrams wherever necessary.
 (6) Use of Non-programmable calculator is allowed.

1. Attempt any two of the following: 12
 - a. Explain Vector and List with example
 - b. Explain basic methods of research.
 - c. Types of Ethical Misconduct in Research
 - d. Explain semantic and behavior differential

2. Attempt any two of the following: 12
 - a. What is Factor? Explain with example
 - b. Explain the steps of the well-planned experiment
 - c. What is the scale of measurement? Explain their types
 - d. What are the types of Validity in experimentation? Explain Internal validity

3. Attempt any two of the following: 12
 - a. Define the business research and their types
 - b. What is Data frame in R programming? Explain with example.
 - c. Explain the following:
 - a. Ordinal scale
 - b. Nominal scale
 - c. Interval/ratio scale
 - d. Explain Types of observed phenomena

4. Attempt any two of the following: 12
 - a. Explain Types of Vectors
 - b. Explain Attitude measuring process
 - c. How to CSV and JSON file explain with example and required package
 - d. What are the types of observation

5. Attempt any two of the following: 12
 - a. What is attitude measurement? explain the component of Attitude
 - b. Explain srt (), rbind() and summery() function with example.
 - c. What is a field experiment? Explain the Types of field experiments.
 - d. How to measure Attitude? Explain

(Time: $2\frac{1}{2}$ hours)

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculators is allowed.

1. Attempt any two of the following: 12
 - a. As a reputed airlines BINGO wants to conduct performance monitoring research. Describe what aspects will BINGO take into account and how will it conduct the research
 - b. How does data end up in a data warehouse where it can be used by a decision support system?
 - c. Why verification of theory followed by theory building are done? Explain with an example
 - d. Describe the organization of a marketing research department in a larger firm.
2. Attempt any two of the following: 12
 - a. Describe the major components of a research proposal
 - b. What are the risks associated with exploratory research.
 - c. Describe the various channels used to distribute secondary data
 - d. Explain Push Technology
3. Attempt any two of the following: 12
 - a. What are the common objectives of cross sectional surveys?
 - b. What measures will you adapt for increasing the response rates for mail questionnaire?
 - c. State the advantages and disadvantages of observation studies
 - d. How to minimize demand characteristics? Explain with an example
4. Attempt any two of the following: 12
 - a. Compare discrete and continuous measures
 - b. What is a graphic rating scale? Describe the ladder scale with an example.
 - c. Compare Open-Ended Response and Fixed-Alternative Questions.
 - d. Researcher often are particularly interested in the subset of a market that contributes most to sales (for example, heavy beer drinkers or large-volume retailers). What type of sampling might be best to use with such a subset? Why?
5. Attempt any two of the following: 12
 - a. What is the purpose of editing? Provide some examples of questions that might need editing.
 - b. Write a note on quadrant analysis.
 - c. Describe Type I and Type II Errors
 - d. Determine a hypothesis that the following data may address and perform a χ^2 test on the survey data. Indian Idol should be broadcast on weekends.

Agree	45
Neutral	30
Disagree	25
Total	100

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculator is allowed.

1. Attempt any two of the following: 12

- Define Business Research. Discuss the considerations while determining the need to conduct a Business Research.
- Explain the characteristics of useful and valuable information for Business Research.
- Define the term theory. Explain the process of theory building, stating its goals.
- Describe the importance of Business Ethics highlighting various obligations of a Researcher with respect to confidentiality.

2. Attempt any two of the following: 12

- Explain the importance of Problem Definition and briefly explain the steps of Problem-definition Process.
- Compare the approaches of Qualitative and Quantitative Research.
- Discuss the advantages and disadvantages of a Focus Group Interview.
- Describe the common research objectives of secondary data study using appropriate examples.

3. Attempt any two of the following: 12

- State and explain the major sources of Errors in Survey Research.
- What are the advantages of Mail Surveys? Discuss the efforts to be made to increase the response rates for mail surveys.
- Describe various techniques of Mechanical Observations used for measuring Physiological Reactions.
- Explain the purpose of the following Experimental Design for research with suitable examples:
 - Static Group Design
 - One-Shot Design

4. Attempt any two of the following: 12

- Suppose that following is the rainfall (in centimetres) recorded in your city on a certain day:

Time during the day	Amount of Rain Fall in Centimetres
12:00 am	32
03:00 am	28
6:00 am	30
9:00 am	27
12:00 noon	28
03:00 pm	33
06:00 pm	34
09:00 pm	28

[Turn over]

- i. Calculate the mean, median and mode for the above temperatures.
 - ii. Prepare frequency distribution for the above data.
 - iii. Calculate standard deviation for the above data.
 - iv. Why is standard deviation rather than average deviation typically used?
- b. Define Validity. Discuss various components of construct validity.
 - c. Discuss the types of Fixed-Alternative Questions stating their purpose. How do the Fixed-Alternative Questions differ from Open-Ended Response Questions?
 - d. Describe the significance of Probability Sampling. Explain any 4 techniques of Probability Sampling stating their advantages and disadvantages.

5. Attempt any two of the following:

- a. Describe the different types of hypothesis commonly tested for research. Differentiate between Type I and Type II errors.
- b. Explain the purpose of Factor Analysis and give its broad classification. How does Factor Analysis help for data reduction?
- c. What is Multivariate Statistical Data analysis? What are the steps of interpreting a multiple Regression Analysis results?
- d. A WELLNESS health centre believes that the proportions of births in a certain country on each day of the week are equal. A random sample of 700 birth records from a recent year is selected for study. The results of the study are recorded in the following table:

Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Birth Frequency	65	103	114	115	116	112	75

As a research consultant suggest if there is enough evidence to support the Health Centre's claim at a significance level of 0.01.

12

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculator is allowed.

1. Attempt any two of the following: 12
 - a. Define the term 'Business Research'. Explain managerial value of Research.
 - b. What do you mean by scientific method and explain.
 - c. Define the following: Concept, Proposition, Hypothesis, Theory, Decision Support System
 - d. Define ethics and explain the importance of ethics in business research with suitable examples.
2. Attempt any two of the following: 12
 - a. Define Problem Definition. Enumerate the steps of the research process
 - b. Explain the following terms w.r.t research:
Phenomenology, Ethnography, Grounded theory, Case studies
 - c. What is a Focus Group Interview? Explain its advantages and disadvantages.
 - d. Define qualitative and quantitative research. Compare and contrast the two approaches.
3. Attempt any two of the following: 12
 - a. Explain Categories of Survey Errors.
 - b. List and Explain different types of observation techniques
 - c. Explain steps in experimental research
 - d. Explain the following types of surveys: Telephone Survey, Internet Survey, Mall intercept Survey, Email Questionnaire Survey
4. Attempt any two of the following: 12
 - a. Explain the following w.r.t sampling:
Simple Random Sampling, Stratified Sampling, Systematic Sampling, Cluster Sampling, SnowBall Sampling
 - b. Describe the various steps which are used in designing a questionnaire. Indicate its advantages and limitations
 - c. What is measurement in research? List different types of scales. Explain giving examples
 - d. What is hypothesis testing? Explain steps in it.
5. Attempt any two of the following: 12
 - a. Explain stages of Data Analysis.
 - b. Distinguish between Type I and Type II error
 - c. Explain chi square test with example. Hence write steps in it.
 - d. A sample of 400 male students is found to have a mean height 67.47 inches. Can it be reasonably regarded as a sample from a large population with mean height 67.39 inches and standard deviation 1.30 inches? Test at 5% level of significance.