UNIT I: Introduction to Research

□ Long-Answer Questions

1. Define research. Explain its meaning and significance in decision-making.
2. Discuss the various objectives of research with examples.
3. Describe the types of research and differentiate between basic and applied research.
4. Explain the research process in detail.
5. What is a research problem? How do you formulate a research problem?
6. Define research design. What are the essential features of a good research design?
7. Compare and contrast exploratory and descriptive research designs.
8. Explain the different types of errors in research measurement.
9. Describe the sources of data used in research.
10. Analyze the role of research design in the success of a research project.

□ Short-Answer Questions

1. What is applied research?
2. List any two objectives of research.
3. Define research problem.
4. What is a hypothesis?
5. Name two features of a good research design.
6. What is descriptive research?
7. What do you mean by measurement error?
8. Name two primary data sources.
9. Define quantitative research.
10. What is data classification?

□ MCQs

1. The first step in research is:
    - A. Data analysis

- B. Formulating hypothesis
- C. Identifying a problem ☒
- D. Report writing

2. Applied research aims at:
   - A. Developing new theory
   - B. Solving practical problems ☒
   - C. Enhancing memory
   - D. Improving grammar
3. A good research design should be:
   - A. Rigid
   - B. Costly
   - C. Flexible and reliable ☒
   - D. Unstructured
4. Exploratory research is used when:
   - A. The problem is well-defined
   - B. No hypothesis is required ☒
   - C. Data is missing
   - D. Reports are available
5. Secondary data is collected from:
   - A. Interviews
   - B. Experiments
   - C. Journals and reports ☒
   - D. Surveys
6. Descriptive research deals with:
   - A. What is ☒

- B. Why it is
- C. What will be
- D. What can’t be measured

7. Measurement error arises due to:
   - A. Faulty instruments ☒
   - B. Time lag
   - C. High costs
   - D. Advertising
8. A research design is a:
   - A. Statement of facts
   - B. Blueprint for conducting the study ☒
   - C. Theory
   - D. Result summary
9. A well-defined research problem includes:
   - A. Confusion
   - B. Objectives ☒
   - C. Random facts
   - D. Bias
10. Research is considered scientific if it is:
    - A. Biased
    - B. Systematic ☒
    - C. Imaginary
    - D. Speculative

UNIT II: Sampling Design

□ Long-Answer Questions

1. Define sampling. What is the difference between census and sample surveys?
2. Describe the steps involved in the sampling design process.
3. Compare probability and non-probability sampling with examples.
4. Explain the different types of probability sampling methods.
5. Discuss the advantages and limitations of non-probability sampling.
6. What are the characteristics of a good sample?
7. How do you determine the appropriate sample size?
8. What are the common errors in sampling, and how can they be avoided?
9. Differentiate between stratified and cluster sampling.
10. Evaluate the role of sampling in social science research.

□ Short-Answer Questions

1. Define census method.
2. What is sampling frame?
3. Name two probability sampling methods.
4. What is quota sampling?
5. What do you mean by sampling error?
6. Give one advantage of using samples over census.
7. Define stratified sampling.
8. What is convenience sampling?
9. List one limitation of non-probability sampling.
10. What is systematic sampling?

□ MCQs

1. In probability sampling, every unit has:
    - A. Different chance
    - B. No chance
    - C. Equal chance ☒
    - D. Zero chance

2. Census refers to:
    - A. Part of population
    - B. Entire population ☒
    - C. Biased sampling
    - D. Convenient sampling
3. Which of the following is a non-probability sampling method?
    - A. Simple random sampling
    - B. Cluster sampling
    - C. Convenience sampling ☒
    - D. Systematic sampling
4. Quota sampling is based on:
    - A. Random number tables
    - B. Interviewer's convenience
    - C. Predefined group characteristics ☒
    - D. Lottery system
5. In stratified sampling, the population is divided into:
    - A. Random zones
    - B. Equal clusters
    - C. Homogeneous groups ☒
    - D. Random samples
6. The sample size depends on:
    - A. Advertising budget
    - B. Population size ☒
    - C. Time of day
    - D. Layout design
7. Systematic sampling involves:

- A. Selecting every nth item ☒
- B. Volunteer selection
- C. Dividing randomly
- D. Selecting by color

8. Sampling error occurs due to:
   - A. Precise measurement
   - B. Use of full population
   - C. Incomplete or biased sample ☒
   - D. High budget
9. Non-probability sampling is suitable when:
   - A. Time is unlimited
   - B. Full list of population is available
   - C. Quick results are needed ☒
   - D. Large sample size is used
10. Which of the following is a probability sampling technique?
    - A. Snowball sampling
    - B. Judgement sampling
    - C. Cluster sampling ☒
    - D. Quota sampling

UNIT III: Data Processing & Hypothesis Testing

□ Long-Answer Questions

1. Define data processing and explain its key operations.
2. Describe the common problems faced in data processing.
3. Explain the types of data analysis used in research.
4. What is hypothesis testing? Explain its steps.

5. Differentiate between null and alternative hypotheses.
6. Explain the chi-square test and its applications.
7. What is a t-test? When is it used?
8. Describe Z-test and how it differs from t-test.
9. Discuss the F-test and its use in comparing variances.
10. How do you interpret the results of hypothesis testing?

□ Short-Answer Questions

1. What is coding in data processing?
2. Define tabulation.
3. What is hypothesis?
4. Define null hypothesis.
5. What is chi-square test used for?
6. Mention one condition for using t-test.
7. Define statistical significance.
8. What is p-value?
9. What is a one-tailed test?
10. Name one step in data analysis.

□ MCQs

1. Data processing begins with:
    - A. Interpretation
    - B. Editing ☒
    - C. Testing
    - D. Analysis
2. Hypothesis testing is used to:
    - A. Guess results
    - B. Prove wrong data

- C. Make decisions ☒
- D. Change data

3. A null hypothesis is symbolized as:
   - A. H1
   - B. H2
   - C. H0 ☒
   - D. T1
4. t-test is used when:
   - A. Sample size is large
   - B. Sample size is small ☒
   - C. Variables are many
   - D. Population is infinite
5. Chi-square test is used for:
   - A. Ratio testing
   - B. Variance
   - C. Goodness of fit ☒
   - D. Mean comparison
6. Z-test requires:
   - A. Unknown variance
   - B. Small sample size
   - C. Known population variance ☒
   - D. Zero error
7. F-test compares:
   - A. Means
   - B. Proportions

- C. Variances ☒
- D. Medians

8. One-tailed test checks:
    - A. Any deviation
    - B. Specific direction ☒
    - C. All results
    - D. Double effect
9. The final stage in data processing is:
    - A. Editing
    - B. Tabulation
    - C. Interpretation ☒
    - D. Sorting
10. p-value helps in:
    - A. Data cleaning
    - B. Accepting or rejecting hypothesis ☒
    - C. Budgeting
    - D. Writing results

UNIT IV: Report Writing & Presentation

□ Long-Answer Questions

1. Explain the key components of a research report.
2. Describe the types of research reports with examples.
3. Discuss the layout of a typical research report.
4. What are the important diagrams and charts used in report presentation?
5. Explain the precautions to be taken while writing a research report.
6. Describe the role of graphs in presenting research data.

7. What is the significance of visuals in report presentation?
8. Compare technical and popular research reports.
9. What is an abstract? Why is it important?
10. How do you ensure clarity and coherence in a report?

□ Short-Answer Questions

1. What is a research report?
2. Define abstract.
3. Mention one type of report.
4. What is the title page of a report?
5. Name any two types of charts used in reports.
6. What is an appendix?
7. Define bibliography.
8. What is a conclusion in a report?
9. Name one precaution in report writing.
10. What is executive summary?

□ MCQs

1. A research report presents:
    - A. Hypothetical information
    - B. Assumptions only
    - C. Research findings ☒
    - D. Political views
2. A bar graph is used to represent:
    - A. Text
    - B. Numerical data ☒
    - C. Sounds
    - D. Abstracts

3. The abstract is written:
    - A. At the end
    - B. Before the title page
    - C. After the title page ☒
    - D. As appendix
4. A well-structured report is:
    - A. Complex and long
    - B. Illogical
    - C. Clear and organized ☒
    - D. Creative fiction
5. Diagrams help in:
    - A. Confusing readers
    - B. Visualizing data ☒
    - C. Increasing report length
    - D. Hiding facts
6. The appendix includes:
    - A. Main analysis
    - B. Raw data and supplementary info ☒
    - C. Executive summary
    - D. Abstract
7. The list of sources is called:
    - A. Index
    - B. Table of contents
    - C. Bibliography ☒
    - D. Title
8. A pie chart is ideal for showing:

- A. Time trend
- B. Part-to-whole relationships ☒
- C. Text
- D. Survey questions

9. A report title should be:
    - A. Long and decorative
    - B. Misleading
    - C. Clear and concise ☒
    - D. In paragraph form
10. A common mistake in report writing is:
    - A. Overuse of visuals
    - B. Poor organization ☒
    - C. Summarizing findings
    - D. Providing references
