(2 ½ Hours)   Total Marks: 75

N.B.:   **(1)**   **All questions are compulsory subject to internal choice.**
              (2)   **Figures to the right indicate full marks.**

Q.1.A) Choose the correct answer for the following questions: **(Any 8)**   **(08)**

1. What is the primary goal of research in academic settings?

   a) Memorization   b) Knowledge application

   c) Problem-solving and innovation   d) Socializing

2. Which type of research involves investigating fundamental principles and theories underlying computer science concepts?

   a) Applied Research   b) Theoretical Research

   c) Experimental Research   d) Developmental Research

3. What does experimental research primarily involve?

   a) Building software   b) Conducting experiments and analyzing data

   c) Literature review   d) Memorization of facts

4. What type of research involves investigating cause-and-effect relationships and often includes manipulation of variables?

   a) Descriptive Research   b) Exploratory Research

   c) Correlational Research   d) Experimental Research

5. What type of research aims to identify relationships between two or more variables without manipulating them?

   a) Descriptive Research   b) Exploratory Research

   c) Correlational Research   d) Experimental Research

6. What is the first step in the research process, where the researcher identifies the research problem and formulates a research question?

   a) Data Collection   b) Data Analysis

   c) Problem Identification   d) Literature Review

7. In the research process, what comes after the formulation of a research question, involving a comprehensive examination of existing literature related to the topic?

   a) Literature Review   b) Data collection
   c) Data Analysis   d) Hypothesis Testing

8. What comes after data collection in the research process, where the researcher examines and interprets the collected data?

   a) Data Collection   b) Data Analysis   c) Literature Review   d) Problem Identification

38893   **Page 1 of 3**

9. What type of sampling technique involves selecting a sample based on the convenience and accessibility of subjects?

    a) Stratified Sampling   b) Purposive Sampling

    c) Convenience Sampling   d) Random Sampling

10. In which sampling technique does every member of the population have an equal chance of being selected for the study?

    a) Stratified Sampling   b) Purposive Sampling

    c) Convenience Sampling   d) Random Sampling

Q.1.B) State 'True' or 'False for the following: **(Any 7)**   **(07)**

1. Convenience sampling involves selecting a sample based on the convenience and accessibility of subjects

2. Purposive sampling intentionally selects participants who possess certain characteristics or meet specific criteria.

3. Correlational research aims to identify relationships between two or more variables.

4. The first step in the research process is data collection.

5. Data collection involves only the gathering of information and does not include analysis.

6. Surveys and interviews are common methods of qualitative data collection.

7. Stratified sampling ensures that every member of the population has an equal chance of being selected for the study.

8. Sampling is the process of analyzing and interpreting data

9. A hypothesis is a tentative explanation for an observed phenomenon that can be tested through experimentation or research.

10. The literature review in a research report is usually placed at the end to provide a summary of the study.

Q.2 A) Explain the steps of research process?   **(15)**

OR

Q.2 B) Define Research? Explain the objectives of research?   **(08)**

Q.2 C) Differentiate between Quantitative and Qualitative research?   **(07)**

Q.3 A) What is meant by research design and explain the essentials of a good research design? **(15)**

OR

Q.3 B) Define Sampling and explain the Simple random sampling and stratified sampling with suitable example? **(08)**

Q.3.C) Explain different types of survey method with suitable examples? **(07)**

Q.4 A) What is meant by Questionnaire and explain the different types of Questions? **(08)**

Q.4 B) Explain the different types of reports in brief? **(07)**

OR

Q.4 C) What is primary data? Explain the difference between primary and secondary data? **(08)**

Q.4 D) What is meant by coding and explain the different ways of coding that we use it for data processing? **(07)**

Q.5 A) Define data? Explain the purposes of data processing? **(08)**

Q.5 B) Define Report writing and explain the essentials of a good report? **(07)**

OR

Q.5) Write the short notes for the following: (**Any 3**): **(15)**

a) Hypothesis

b) Snowball sampling

c) Personal Interview

d) Experimental Research

e) Secondary data

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