GALGOTIAS UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

SEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

RESEARCH METHODOLOGY AND IPR-R1UC701T

ASSIGNMENT-1

1. Briefly describe the different steps involved in a research process.
2. What do you mean by research? Explain its significance in modern times.
3. Distinguish between Research methods and Research methodology.
4. Write short notes on:
   a. Design of the research project;
   b. Motivation in research;
   c. Objectives of research;
   d. Criteria of good research;
   e. Research and scientific method.
5. Briefly describes the meaning of literature surveys and steps to conduct it.
6. Write and explain different segments of technical report.
7. What are the different steps to prepare a technical presentation, explain in details.
8. What is research problem? Define the main issues which should receive the attention of the researcher in formulating the research problem. Give suitable examples to elucidate your points.
9. Write short notes on:
   a. Experience survey;
   b. Pilot survey;
   c. Components of a research problem;
   d. Rephrasing the research problem.
10. Why ethics are important in research? Explain with its advantages and disadvantages
11. Identify the type of research should be used in the following scenario
    a. A particular orthopaedic surgeon has the highest success rate for performing knee surgeries. A lot of other hospitals or doctors have taken up this case to understand and benchmark the method in which this surgeon does the procedure to increase their success rate. Identify which type of research is involved here and why?
    b. A university wants to assess student satisfaction with online learning during the COVID-19 pandemic. They conduct a survey asking students about their experiences, challenges faced, and satisfaction levels with various aspects of online courses. How can descriptive research help the university administration understand the impact of online learning and make improvements to enhance student satisfaction?

c. A city council is concerned about rising crime rates in certain neighborhoods and wants to develop targeted interventions. They analyze crime reports over the past year to identify trends in crime types, frequency, and geographic distribution. How can descriptive research assist the city council in understanding the crime patterns and devising effective strategies to improve public safety?

12. survey handed out to individuals at a major shopping mall in a small Florida city in July asked the following:
   a. gender
   b. age
   c. ethnicity
   d. length of residency
   e. overall satisfaction with city services (using a scale of 1–5, going from poor to excellent)
   f. quality of schools (using a scale of 1–5, going from poor to excellent)

What types of data (categorical, ordinal, interval, or ratio) would each of the survey items represent and why?