



## Term Evaluation (Odd) Semester Examination September 2025

Roll no.....

Name of the Course: M.Tech. CSE

Semester: III

Name of the Paper: Introduction to Research Methodology

Paper Code: MRD-302

Time: 1.5 hour

Maximum Marks: 50

**Note:**

- (i) Answer all the questions by choosing any one of the sub-questions
- (ii) Each question carries 10 marks.

Q1.

(10 Marks)

a. Critically analyze the process of formulating a research problem. How do socio-economic, cultural, and disciplinary factors influence this formulation? CO1

OR

b. Discuss the major errors in selecting a research problem with real-world academic/industry case studies. How can these be systematically avoided? CO1

Q2.

(10 Marks)

a. Propose a framework for data collection and instrumentation design for investigating interdisciplinary research problems. CO1

OR

b. Compare and contrast qualitative vs quantitative approaches to research problem analysis. Illustrate with an example where a hybrid approach is most effective. CO1

Q3.

(10 Marks)

a. Evaluate the scope and objectives of research problems in cutting-edge domains like AI or Biotechnology. How should researchers ensure feasibility and originality? CO1

OR

b. What are the advanced strategies for conducting a systematic literature review (SLR)? Develop a structured methodology for conducting SLR in Computer Science. CO1

Q4.

(10 Marks)

a. Examine plagiarism detection techniques. Compare their effectiveness against emerging issues like AI-generated text. CO2

OR

b. Discuss ethical dilemmas faced by researchers when publishing results that may have dual-use implications. Suggest a code of conduct. CO2

Q5.

(10 Marks)

a. Critically evaluate the role of bibliometric analysis in identifying research gaps. How does it differ from traditional literature review approaches? CO2

OR

b. "Ethics is not just about plagiarism but about integrity in the entire research lifecycle." Justify this statement with examples from multiple disciplines. CO2

