

# Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

## ENXXX: Art of Engineering Research

Major Examination (Session 2023–24)

**Maximum Time: 3 Hours**

**Max Marks: 45**

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*Note: All questions are compulsory. Support answers with suitable examples and arguments.*

1. (a) Define research design. Explain different types with suitable examples. (b) How does research design affect the validity of results? (7 Marks)
2. (a) Explain the process of writing a research proposal. (b) Discuss common challenges faced in proposal preparation. (8 Marks)
3. (a) What is peer review? Why is it important in engineering research? (b) Explain ethical responsibilities of reviewers. (8 Marks)
4. (a) Discuss qualitative data collection methods (interviews, focus groups). (b) Compare them with quantitative methods (surveys, experiments). (7 Marks)
5. (a) What is citation management? Explain different referencing styles (APA, IEEE). (b) Give examples of how improper citation affects research credibility. (8 Marks)
6. Write short notes on any two: (i) Role of conferences in research dissemination (ii) Importance of reproducibility in experiments (iii) Open access publishing (7 Marks)