



विश्वजीवनमृतं ज्ञानम्

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

ENXXX: Art of Engineering Research

Major Examination (Session 2024–25)

Maximum Time: 3 Hours

Max Marks: 45

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

1. (a) Explain different types of research (exploratory, descriptive, experimental). (b) Discuss which type is most suitable for engineering innovation. (7 Marks)
2. (a) What is research hypothesis? Explain null and alternative hypotheses with examples. (b) Why is hypothesis testing important in scientific studies? (8 Marks)
3. (a) Discuss the structure of a research paper (IMRaD format). (b) Explain how the abstract differs from the introduction. (8 Marks)
4. (a) Explain data collection techniques used in engineering research. (b) Discuss the reliability and validity of such data. (7 Marks)
5. (a) What is research ethics? Explain its importance in engineering projects. (b) Give two real-world cases of ethical misconduct in research. (8 Marks)
6. Write short notes on any two: (i) Impact factor and journal ranking (ii) Open-source research platforms (iii) Importance of collaborative research (7 Marks)