



Dezyne École College

Bachelor of Computer Application (B.C.A.) Second Year-6th Semester

Research Methodology

Part A: Short Answer Questions

(10 Compulsory Questions × 2 Marks = 20 Marks)

(Answer in about 50 words)

1. Define research.
2. What are the objectives of engineering research?
3. Mention any two types of engineering research.
4. Define ethical research practice.
5. What is meant by “research misconduct”?
6. State two ethical issues related to authorship.
7. What is a literature review in research?
8. Name two bibliographic databases used in research.
9. What is technical reading?
10. Define conceptualizing research.
11. Mention two skills needed for critical reading.
12. What is a datasheet?
13. Define synthesis of prior art.
14. Mention any two online research tools.
15. What are keywords in a research paper?
16. Define citation.
17. What is knowledge flow through citation?
18. What is meant by "giving credit" in citations?
19. Mention two types of citation styles.
20. What should be acknowledged in research?
21. Define intellectual property (IP).
22. What is the role of IP in economic development?
23. What is IP governance?
24. Mention any two types of intellectual property rights.
25. Define Google Scholar.
26. State one benefit of the chalk-and-talk method.
27. State one benefit of PowerPoint in research teaching.
28. Define Web of Science.

29. What is a research problem?
30. Mention one reason for taking notes while reading.

Part B: Long Answer Questions

(Attempt any 5 out of 10 × 10 Marks = 50 Marks)
(Answer in about 400 words)

Unit I – Research Foundations & Ethics

31. Define research. Explain its meaning, need, and scope in engineering.
32. Discuss the various types of engineering research with examples.
33. What are the essential objectives and motivations for conducting research?
34. Discuss the types of ethical issues in engineering research and authorship.
35. What is research misconduct? Discuss different types with examples.

Unit II – Teaching and Technical Reading

36. Define literature review. Explain how to conduct an effective review using online tools.
37. Explain the concept of technical reading and its relevance in research.
38. How can a researcher analyze and synthesize prior art effectively?
39. Discuss critical and creative reading with examples and techniques.
40. What are the best practices for taking research notes while reading?
41. Explain how to read mathematical and algorithmic content in research.
42. Write a detailed note on bibliographic databases with suitable examples.
43. Compare Google Scholar and Web of Science in terms of research value.

Unit III – Citations and Intellectual Property

44. What is citation? Explain types, attributes, and importance of citation in research.
45. Discuss knowledge flow through citation and citing datasets.
46. Explain what should be acknowledged in a research paper or thesis.
47. Discuss the styles of citation with examples (APA, MLA, IEEE, etc.).
48. What is the role of title and keywords in increasing citations?
49. Explain IP as a global indicator of innovation.
50. Define IP and explain its importance in the cultural development of society.
51. Discuss the origin and history of IP in India.
52. What are the different types of IP rights? Give examples.
53. Explain the need for IP governance and policy reforms.
54. Describe major amendments in IP laws and acts in India.
55. Compare chalk-and-talk vs PowerPoint methods in teaching research.
56. What are the ethics in citing and acknowledging others' work in dissertations?
57. Explain the process of using a datasheet while working on a research project.
58. How do critical reading and mathematical reasoning contribute to effective research?
59. What is the impact of acknowledgment in books and dissertations?
60. Discuss the importance of originality and integrity in academic research.