



M.E /M.TECH DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

First Semester

PHYSICS

P18PHT0001: Research methodology science and humanities

COURSE OUTCOMES

CO1: To understand the requirements to pursue research.

CO2: To write a research paper accordingly to the data collection and documentation.

CO3: To solve research problems based on the necessary requirements.

Time: Three Hours

Maximum Marks: 100

Answer any ALL Questions PART A (10 x 1 = 10 Marks)

1. Assertion (A): Clear research objectives play a crucial role in guiding the entire research process. CO1 [K₂]

Reason (R): Objectives provide a roadmap for the study, helping researchers stay focused on the intended outcomes.

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| a) Both A and R are true,R is the correct explanation of A | b) A is true ,R is false |
| c) Both A and R are false | d) Both A and R are true,R is not the correct explanation of A |

2. Why are clear research objectives important? CO1 [K₁]

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| a) They provide a summary of the literature. | b) They guide the entire research process. |
| c) They determine the study's conclusion. | d) They are optional in research. |

3. . What do criteria of good research focus on? CO1 [K₂]

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|-------------------------------|--------------------------------------|
| a) Quantity of data collected | b) Relevance and validity |
| c) Speed of data analysis | d) Personal biases of the researcher |

4. Matching type item with multiple choice code CO2 [K₂]

List I	List II
A Collection of Primary Data	i. Assessing the credibility
B. Collection of Secondary Data	ii. First hand information from

	participants
C. Interview Method	iii. Gathering literature relevant
D. Evaluating Sources	iv. Gathering new data

A B C D

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|----|---|---|---|---|
| a) | 4 | 3 | 2 | 1 |
| b) | 2 | 3 | 4 | 1 |
| c) | 1 | 2 | 3 | 4 |
| d) | 1 | 4 | 3 | 2 |

5. Assertion (A): Proper spelling is crucial in written communication. CO2 [K₂]
Reason (R): Spelling errors can affect the clarity and professionalism of a document.
- a) Both A and R are true,R is the correct explanation of A b) A is true ,R is false
- c) Both A and R are false d) Both A and R are true,R is not the correct explanation of A
6. Which of the following statements is correct regarding the use of abbreviations in formal writing? CO2 [K₂]
- a) Abbreviations should be avoided entirely. b) Abbreviations can be used liberally for brevity.
- c) Abbreviations should be used judiciously, with proper explanation on first use. d) Abbreviations are only suitable for informal documents.
7. Which of the following methods is typically used to provide detailed information about the sources cited in a document, often arranged alphabetically at the end? CO3 [K₂]
- a) Citing Sources in the text b) Parenthetical Reference
- c) Endnotes and Footnotes d) Preparing the list of works cited
8. Assertion (A): Preparing the list of works cited is essential in academic writing. CO3 [K₂]
Reason (R): : It provides a detailed compilation of all the sources cited in the document, offering comprehensive information about each source.
- a) Both Assertion and Reason are true, and Reason is the correct explanation for Assertion. b) Both Assertion and Reason are true, but Reason is not the correct explanation for Assertion.
- c) Assertion is true, but Reason is false. d) Assertion is false, but Reason is true.
9. Unintentional plagiarism is best described as CO3 [K₂]

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|----|---|----|--|--|--|
| a) | Deliberately presenting others' work as your own. | b) | Accidentally including someone else's work without proper attribution. | | |
| c) | Using your previous work in a new project. | d) | Quoting sources extensively in a research paper. | | |
10. Sequencing type item CO3 [K₂]
1. Citing Sources in the text
 2. Preparing the list of works cited
 3. Parenthetical Reference
 4. Endnotes and Footnotes
- | | | | |
|----|---------|----|---------|
| a) | 1-3-4-2 | b) | 2-3-4-1 |
| c) | 2-3-1-4 | d) | 1-2-3-4 |

Answer any ALL Questions PART B (10 x 2 = 20 Marks)

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| 11. | Define research methods and methodology. | CO1 | [K ₂] |
| 12. | Infer the role of research methods in a study. | CO1 | [K ₂] |
| 13. | Define secondary data and discuss its significance in research | CO1 | [K ₂] |
| 14. | What is the purpose of compiling a working bibliography in the research process? | CO1 | [K ₂] |
| 15. | Differentiate between headings and titles in a document. | CO2 | [K ₂] |
| 16. | Why is it essential to include page numbers in a document? | CO2 | [K ₂] |
| 17. | Define parenthetical references and explain when they are typically used. | CO2 | [K ₂] |
| 18. | List out the advantages and disadvantages of using endnotes versus footnotes. | CO3 | [K ₂] |
| 19. | What are the best practices for giving credit to contributors in collaborative projects to avoid plagiarism? | CO3 | [K ₂] |
| 20. | How can collaboration be distinguished from plagiarism in a group project or collaborative work? | CO3 | [K ₂] |

Answer any ALL Questions PART C (10 x 5 = 50 Marks)

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| 21. | Explain the role of research methods in a study. How does methodology guide the research process? | CO1 | [K ₂] |
| 22. | Discuss the key characteristics of quantitative and qualitative research. | CO1 | [K ₂] |
| 23. | Explain the interview method in research. What are its advantages and disadvantages? | CO1 | [K ₂] |
| 24. | Provide examples of methods used for collecting primary data. | CO1 | [K ₂] |
| 25. | What standard guidelines are typically followed for setting margins and spacing? | CO2 | [K ₂] |
| 26. | Explain the importance of consistent margins and spacing in a document. | CO2 | [K ₂] |

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|-----|---|-----|-------------------|
| 27. | What is the purpose of a "Works Cited" or "Bibliography" section in a research paper? | CO2 | [K ₂] |
| 28. | Why is it important to cite sources within the text of a document? | CO3 | [K ₂] |
| 29. | Why is avoiding plagiarism important in scholarly and creative works? | CO3 | [K ₂] |
| 30. | What steps can individuals take to avoid unintentional plagiarism in their work? | CO3 | [K ₂] |

Answer any TWO Questions, PART D (2 x 10 = 20 Marks)

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| 31. | Discuss various forms of plagiarism, including verbatim copying, paraphrasing without attribution, and self-plagiarism. | CO1 | [K ₃] |
| 32. | Discuss strategies for making corrections in a document without compromising its readability. | CO2 | [K ₃] |
| 33. | Explain the difference between direct and indirect citations and how they are formatted. | CO3 | [K ₃] |