

(6 pages)

Reg. No. :

Code No. : 5038

Sub. Code : ZPHM 43

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2025.

Fourth Semester

Physics — Core

RESEARCH METHODOLOGY

(For those who joined in July 2021-2022 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is a common format used for reporting research findings?
 - (a) APA (American Psychological Association) style
 - (b) MLA (Modern Language Association) style
 - (c) Chicago style
 - (d) Harvard style

2. In research reporting, the "Abstract" typically provides a brief summary of
 - (a) The entire study, including objectives, methods, results and conclusions
 - (b) The methodology used in the study
 - (c) The statistical tests conducted
 - (d) The limitations of the study
3. In research reporting, the "Introduction" section usually includes
 - (a) The research question, objectives and context of the study
 - (b) Detailed methodology and data analysis
 - (c) The results and findings of the study
 - (d) The limitations and future recommendations
4. In research reporting, the "Discussion" section is focused on
 - (a) Summarizing the study's objectives
 - (b) Interpreting the results and comparing them to existing literature
 - (c) Presenting the raw data and figures
 - (d) Describing the research methods used in the study

5. Which section of a research report is dedicated to acknowledging individuals or organizations that contributed to the study?
 - (a) Acknowledgments (b) Abstract
 - (c) Introduction (d) Conclusion
6. In research reporting, the "Literature Review" section typically focuses on
 - (a) Presenting the raw data collected in the study
 - (b) Acknowledging the limitations of the study
 - (c) Describing the research methods used in the study
 - (d) Previous research relevant to the current study
7. What is the meaning of display which is used plotter in defining plot area?
 - (a) Chooses the entire drawing even if it is outside the specified limit
 - (b) Plots the drawing falling within specified limit
 - (c) Plots whatever is displayed on the screen
 - (d) Allows choosing a specified area within window on the screen

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8. The property or rule in which in which we select the or choose the scale for plotting is called as
 - (a) plot scale (b) scale
 - (c) reduced scale (d) increase scale
9. The property in which the drawing which are not properly aligned is goes to the middle is known as
 - (a) plot scale (b) centering the plot
 - (c) drawing orientation (d) previewing
10. LATEX was created by
 - (a) Alexia Gaudoul (b) Edward
 - (c) Leslie Lamport (d) Donald E.Knuth

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are the types of research? Explain.
Or
(b) Mention any three significance of research.
12. (a) What are the concepts behind research design?
Or
(b) Explain variables in research.

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[P.T.O.]

13. (a) How to materialize the report writing? Explain.

Or

- (b) Mention the basic format of report writing.

14. (a) How do you extract data from a plot in Origin?

Or

- (b) What is masking data in the graph? Explain.

15. (a) What is the input file in LaTeX?

Or

- (b) How do you import the formula in LaTeX?

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What are the good research criteria? Explain.

Or

- (b) Describe the techniques involved in defining a problem.

17. (a) Explain experimental research in detail.

Or

- (b) Explain with example the concept of cause and effect.

18. (a) What is the present scenario in research papers in India? Justify.

Or

- (b) Describe the important points of research report.

19. (a) How do you mark data point in Origin? Explain.

Or

- (b) Explain dynamic data masking.

20. (a) Explain the operation of section heading with examples.

Or

- (b) How do you type LaTeX overhead? Explain.