QP CODE: 25804515

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Reg No : .....

Name : .....

INTEGRATED M.Sc DEGREE EXAMINATION, OCTOBER 2025

Ninth Semester

INTEGRATED MSC BASIC SCIENCE-PHYSICS

CORE - IPH9CR01 - RESEARCH METHODOLOGY IN PHYSICS

2021 ADMISSION ONWARDS

CB86B9C7

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. What is meant by technological determinism?
2. What is historical research?
3. What is a research problem?
4. Define research design.
5. Why is a working hypothesis important in research?
6. Define the method of difference in inductive reasoning.
7. List characteristic of primary data.
8. What is discussed in the discussion section?
9. What is the purpose of footnotes?
10. List three ethical oversight measures undertaken when research experiments involve animals.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Explain the role of research in decision-making and problem-solving.
12. Explain the steps involved in conducting a critical literature review.
13. Describe the steps of the inductive logical process.
14. List two examples and three advantages and disadvantages of direct studies.
15. Discuss the importance of preparation for delivering an effective oral presentation.

16. Explain the importance of visual aids in making an effective presentation.

17. Describe the role of rationale and objectives in guiding a project.

18. Briefly discuss copyrights.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Discuss the strategies for critically analyzing literature and integrating sources to develop a research framework.

20. Explain the modeling process.

21. Examine in detail the types of scientific reports, focusing on technical reports and theses, and discuss their significance in research and knowledge dissemination.

22. Discuss in detail reproducibility and accountability in research.

(2×5=10 weightage)