

Ph.D. COURSEWORK EXAMINATION, AUGUST 2025**Course I—RESEARCH METHODOLOGY**

(I—Common to the Stream : Science, Technology and Applied Sciences and Engineering Technology)

(2020 Admission onwards)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any ten of the following questions.

Each question carries 4 marks.

1. Differentiate between the verification principle and the falsification principle in science.
2. Distinguish between facts, theories, and concepts with examples.
3. Define epistemology and explain its relevance to scientific research.
4. Explain in brief, any five characteristics of good research.
5. Compare qualitative and quantitative research approaches.
6. Explain the key components involved in developing a research plan.
7. Explain different sources of Secondary data for research. What are the precautions to be taken while using secondary data ?
8. Mention the significance of correlation in research.
9. Explain the standard formats for writing references.
10. Write a short note on the need for ethical clearance in research studies.
11. Explain, how the Impact factor of a journal is calculated.
12. Write a note on INFLIBNET.

(10 × 4 = 40 marks)

Turn over

Part B

*Answer any **one** question from the following.*

The question carries 10 marks.

13. Write a detailed note on the steps involved in the preparation of project proposal.
14. Discuss the major steps involved in analysing existing literature for a research project.

(1 × 10 = 10 marks)

Ph.D. COURSEWORK EXAMINATION, AUGUST 2025**Course I—RESEARCH METHODOLOGY**

(II-Common to the Stream : Social Sciences, Management, Commerce, Law and
Behavioural Sciences)

(2020 Admission onwards)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any ten of the following questions.

Each question carries 4 marks.

1. Write a brief note on the historical development of social research.
2. What is the transformative paradigm ? State its main focus and purpose.
3. List and briefly explain any four major types of research.
4. What is the survey method ? Mention its advantages and limitations.
5. Differentiate between primary, secondary, and tertiary data with examples.
6. Differentiate between nominal and ordinal scales with examples.
7. What are controlled variables ? Why are they important in experiments ?
8. Write a short note on the importance of charts and graphs in research.
9. What is regression analysis ? State its applications.
10. Differentiate between MLA and APA citation styles.
11. What are the essential components of a research paper prepared for a journal ?
12. Discuss the usefulness of various software's in research.

(10 × 4 = 40 marks)

Turn over

Part B

Answer any **one** question from the following.

The question carries 10 marks.

13. Explain the structure and components of a research report.
14. The following data gives the age (X) and Blood Pressure (Y) of 8 persons :

X :	52	63	45	36	72	65	47	25
Y :	62	53	51	25	79	43	60	33

Obtain the regression lines of X on Y and Y on X and hence find the expected B. P of a person having 50 years old.

(1 × 10 = 10 marks)

Ph.D. COURSEWORK EXAMINATION, AUGUST 2025**Course I—RESEARCH METHODOLOGY**

(III—Common to Stream : Languages)

(2020 Admission onwards)

Time : Three Hours

Maximum : 50 Marks

Part A*Answer any ten of the following questions.**Each question carries 4 marks.*

1. Briefly explain the contribution of logical positivism to literary research.
2. Differentiate between ontology and epistemology in research.
3. Explain the nature and types of research with examples.
4. What is the relevance and scope of research in the field of languages ?
5. Define hypothesis. What are the steps in designing a hypothesis ?
6. Explain the steps involved in selecting a research topic.
7. Explain the importance of conference proceedings and unpublished theses in research.
8. Distinguish between historic and comparative research methods.
9. Briefly explain the case study method in research.
10. Write short notes on the nature and scope of a thesis draft.
11. Differentiate between literary criticism and literary research.
12. Briefly explain the importance of E-Journal and E-Library in research.

(10 × 4 = 40 marks)

Turn over

Part B

*Answer any **one** question from the following.*

The question carries 10 marks.

13. Explain the purpose and importance of a literature survey.
14. Write a detailed note on the steps involved in the preparation of research proposal.

(1 × 10 = 10 marks)

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Reg. No.....

Name.....

Ph.D. COURSEWORK EXAMINATION, AUGUST 2025

Course I—RESEARCH METHODOLOGY

(Prior to 2019 Admissions)

[I—Common to Stream : Science, Applied Science and Engineering]

Time : Three Hours

Maximum : 80 Marks

Part A

Answer any twelve of the following questions.

Each question carries 5 marks.

1. Define the philosophy of science and explain its relevance to research methodology.
2. Define epistemology and explain its role in understanding scientific knowledge.
3. What are the key steps involved in the selection and formulation of a research problem ?
4. Discuss the essential components of a research plan.
5. Describe the different types of hypotheses with examples.
6. Explain the meaning of a critical literature review and its role in formulating a research problem.
7. Differentiate between categorical, nominal and ordinal data with suitable illustrations.
8. What is sampling ? Explain the different sampling methods used in research.
9. Explain the process of correlation analysis and its significance in research.
10. Describe the steps involved in the preparation of a scientific report.
11. Define and explain impact factor, citation index, ISBN and ISSN.
12. Explain the steps involved in preparing a project proposal.
13. What are ethical issues in research ? Explain with suitable examples.
14. Define plagiarism. Explain the different forms of plagiarism and how it can be prevented.

Turn over

15. Discuss the applications of MS Office tools in research activities.
16. What is an E-library ? How does it help researchers access information efficiently ?

(12 × 5 = 60 marks)

Part B

*Answer any **two** questions from the following.*

Each question carries 10 marks.

17. Discuss the role and importance of literature review in identifying research gaps and formulating research hypotheses.
18. Explain in detail the various methods of collecting data.
19. Write detailed notes on the steps involved in the preparation of research papers for journals.
20. Discuss the importance of Intellectual Property Rights (IPR) and Patent Law in protecting research innovations.

(2 × 10 = 20 marks)