

# UNIVERSITY OF CALICUT

(G & A - IV - B)

No. 14361/GA - IV - B1/2013/CU

Calicut University.P.O

Dated: 26.02.2026

## U.O. NOTE

Sub:- Approval of the Revised Syllabus and Model Question Paper of Paper I – Research Methodology for the Ph.D. Programme in Library and Information Science - Recommendation of the Board of Studies in Library and Information Science (SB) - Approved by exercising the powers of the Academic Council -Intimating -reg

Ref:- 1. Minutes of the meeting of the Board of Studies in Library and Information Science SB held on 17.02.2026 (Item No 2).  
2. Remarks of the Dean, Faculty of Humanities dated 23.02.2026.  
3. Orders in the file of even No and dated 25.02.2026.

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With reference to (1) above, the Board of Studies in Library and Information Science (SB) held on 17.02.2026 resolved to approve the revised Syllabus and Model Question Paper of "Paper I – Research Methodology" for the Ph.D. Programme in Library and Information Science, applicable to the Ph.D. Preliminary Qualifying Examination from July 2026 onwards.

The Dean Faculty of Humanities, vide reference cited (2) above, approved the above recommendation of the Board of Studies in Library and Information Science (SB).

The Vice Chancellor has approved the item No 2 of the minutes of the meeting of the Board of Studies in Library and Information Science SB held on 17.02.2026, by exercising the powers of the Academic Council conferred under section 10.13 of the Calicut University Act 1975.

Hence, the revised Syllabus and Model Question Paper of Paper I – Research Methodology for the Ph.D. Programme in Library and Information Science, applicable to the Ph.D. Preliminary Qualifying Examination from July 2026 onwards, is forwarded herewith for further necessary action.

Arsad M  
Deputy Registrar

To

The Deputy Registrar, Directorate of Research.

Forwarded / By Order

Section Officer

# Ph.D. COURSE WORK EXAMINATION

Library and Information Science

## Paper I – Research Methodology

Time: Three Hours

Maximum: 70 Marks

### I. Write short essays on any *eight* of the following

1. Explain the concept of research design and illustrate its role in ensuring systematic and scientific research.
2. Identify and describe commonly used data analysis software packages and explain their major features and applications.
3. Explain the interview method as a research tool and evaluate its effectiveness in data collection.
4. Describe the purpose of style manuals and demonstrate the application of standard style guidelines in academic writing.
5. Differentiate between applied research and action research with appropriate examples.
6. Explain the concept of online surveys and assess their advantages and limitations in research studies.
7. Explain and interpret the correlation coefficient and analyze its significance in data analysis.
8. Demonstrate the steps involved in conducting an effective literature search using appropriate information sources.
9. Explain and illustrate the concepts of mean, median, and mode with suitable examples.
10. Explain the concept of hypothesis testing and apply appropriate testing procedures to given research problems.
11. Classify and explain the different types of interviews used in research, with suitable illustrations.
12. Explain the concept of stratified sampling and **demonstrate** its application in research design.

(8×5=40 marks)

### II. Answer any *two* of the following:-

1. Explain the concept of sampling techniques and analyze their importance in the conduct of social science research.
2. Critically examine the current trends in Library Science research in India, highlighting their implications for professional practice and future research.
3. Analyze and discuss the key factors influencing the selection of a research problem, with appropriate illustrations.
4. Explain and apply the standard format and layout of a research report in the preparation of scholarly research work.

(2 × 15 = 30 marks)

# DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE UNIVERSITY OF CALICUT

Doctor of Philosophy (Ph.D.) Programme in Library and Information Science  
Ph.D. Preliminary Qualifying Examination- Syllabus

## Paper 1 - RESEARCH METHODOLOGY

### Course Objectives (COBJs)

| COBJ No. | Course Objective                                                                                              |
|----------|---------------------------------------------------------------------------------------------------------------|
| COBJ1    | To impart knowledge on the fundamentals, types, and ethics of research including Open and Citizen Science.    |
| COBJ2    | To develop skills for research problem formulation, hypothesis building, and literature review.               |
| COBJ3    | To enable students to choose and apply appropriate research methods for various types of studies.             |
| COBJ4    | To train students in using research tools and sampling techniques, including digital and participatory tools. |
| COBJ5    | To equip students with the ability to analyze data, interpret findings, and prepare ethical research reports. |

### Course Outcomes (COs)

| CO Code | Course Outcome                                                                                             | Mapped Modules |
|---------|------------------------------------------------------------------------------------------------------------|----------------|
| CO1     | Describe and differentiate the types, process, and ethical aspects of research.                            | Module 1       |
| CO2     | Identify research problems, conduct literature reviews, and formulate/test hypotheses.                     | Module 2       |
| CO3     | Select and apply suitable research methods for disciplinary and interdisciplinary research problems.       | Module 3       |
| CO4     | Employ appropriate techniques, tools, and sampling strategies including digital tools for data collection. | Module 4       |
| CO5     | Analyze, interpret data and construct well-structured research reports with proper citation and ethics.    | Module 5       |

### Mapping of Course Outcomes (COs) to Bloom's Taxonomy

| CO  | Bloom's Taxonomy Level          | Verbs / Competencies                                                  |
|-----|---------------------------------|-----------------------------------------------------------------------|
| CO1 | Remembering, Understanding      | Define, describe, explain, differentiate, outline                     |
| CO2 | Applying, Analyzing             | Identify, formulate, analyze, synthesize, search                      |
| CO3 | Applying, Evaluating            | Choose, apply, compare, evaluate, justify                             |
| CO4 | Applying, Creating              | Design, select, construct, organize, implement                        |
| CO5 | Analyzing, Evaluating, Creating | Interpret, report, structure, reference, synthesize, avoid plagiarism |

**Module 1 Research**

Concept, meaning, need and functions of research  
Types of research-fundamental, applied including Inter-disciplinary and multi-disciplinary research, individual and collaborative research, conceptual and empirical research, quantitative and qualitative research  
Process of research, Ethical aspects of research  
Responsible Research and Innovation, Open Science, Citizen Science

**Module 2 Research Design**

Types of research design  
Identification and formulation of research problem  
Literature search: print, non-print and electronic sources  
Review of related literature, Open Peer Review  
AI-driven Literature Search  
Hypothesis: concept, functions, formulation, types and testing  
Research synopsis: concept and essential components

**Module 3 Research Methods**

Scientific method, Historical method, Descriptive method  
Survey method, Case study method, Experimental method  
Exploratory method, Delphi method, Brainstorming method,  
Mixed Methods Research, Participatory Action Research

**Module 4 Research Techniques and Tools**

Questionnaire, Interview, Observation  
Content analysis, Sentiment Analysis  
Scales and scaling techniques  
Records, reports and checklists  
Online research tools, Online survey platforms  
Sample and sampling techniques

**Module 5 Data Analysis, Interpretation and Report Writing**

Processing data: editing, coding and analyzing data  
Descriptive and inferential data analysis  
Presentation of data- tables and graphs  
Techniques of interpretation  
Structure, style and contents of research report  
Style manuals- APA, MLA and Chicago Manual of Style  
E-citation and reference management tools – Zotero, EndNote  
How to avoid plagiarism- best practices and methods  
Artificial Intelligence Applications in Research - Tools and Ethics  
Trends in Library and Information Science research

**Suggested Class Room Activities**

- Assignments and seminar presentation on selected topics
- Quizzes and discussions

**Summary Table – Mapping of COs to Bloom’s Levels**

| CO  | Remember                            | Understand                          | Apply                               | Analyze                             | Evaluate                            | Create                              |
|-----|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| CO1 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     |                                     |                                     |
| CO2 |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     |
| CO3 |                                     |                                     | <input checked="" type="checkbox"/> |                                     | <input checked="" type="checkbox"/> |                                     |
| CO4 |                                     |                                     | <input checked="" type="checkbox"/> |                                     |                                     | <input checked="" type="checkbox"/> |
| CO5 |                                     |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

### Learning Resources

1. Bazeley, P. (2018). *Integrating analyses in mixed methods research*. SAGE Publications.
2. Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
3. Busha, C. T. & Harter, S. P. (1980). *Research methods in librarianship*. New York: Academic Press.
4. Connaway, L. S., & Powell, R. R. (2010). *Basic research methods for librarians*. ABC-CLIO.
5. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
6. Flick, U. (2018). *An introduction to qualitative research* (6th ed.). SAGE Publications.
7. Kothari, C. R., & Garg, G. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International Publishers.
8. Krishan Kumar (1999). *Research methods in library and information science*. (Rev. ed.). New Delhi: Har-Anand Publications.
9. Kumar, P S G. (2004). *Research methods and statistical techniques*. New Delhi: B. R. Publications.
10. Martyn, J., & Lancaster, F. W. (1981). *Investigative methods in library and information science*. Arlington, VA: Information resources press.
11. Powell, R. R. & Silipigni, C. L. (2004). *Basic research methods for librarians*. (4<sup>th</sup> ed.). Westport: Libraries Unlimited.
12. Slater, M. (1990). *Research methods in library and information studies*. London: Library Association.
13. Trochim, W. M.K. (2003). *Research Methods* (2nd ed.). New Delhi: Biztantra.
14. Williamson, K. (2002). *Research methods for students, academics and professionals: Information management and systems*. Elsevier.



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