PhD Course Work in Library and Information Science

SCHEME OF EXAMINATION

(As per formative assessment w.e.f. session 2025-2026)

Programme Specific Outcomes

At the end of course, students will be able to:

PSO 1 : Develop advanced research skills, including problem identification, hypothesis formulation, and statistical analysis.

PSO 2: Utilize digital tools and computer applications to enhance research productivity and communication.

PSO 3: Master scholarly communication principles, including open access publishing and managing publication ethics.

PSO 4: Apply artificial intelligence tools to improve research and library services.

PSO 5 : Provide comprehensive research support services within library settings, utilizing best practices and modern tools.

Course Code	Nomenclature of Course	As per formative Assessment (Written test,MCQs/Group discussion,Mini Project,Seminar/Presentation, Attendance etc.)	Maximum marks	Hours /Week	Credits
25LIBPH11C1	Research Methodology	100	100	4	4
25LIBPH11C2	Computer Applications in LIS	100	100	4	4
25LIBPH11C3	Emerging Trends in LIS	50	50	2	2
23CCPH11C1	Research and Publication Ethics (RPE)	50	50	2	2
Total marks/Credits			**300**		**12**

Pattern for formative assessment in Ph.D. coursework vide letter no. ACS-I/II/III2025/45680-750, Dated:19.02.2025 & approved in PGBOS-23.02.2026

For four credits theory

	Marks Distribution
Written test (2X15) Marks distribution	30
MCQs/Quizzes/Group Discussion (2X10)	20
Case study/Mini project (1X25)	25
Seminar/Presentation (2X10)	20
Attendance	05
Total	100

For two credits theory:

	Marks Distribution
Written test (2X5) Marks distribution	10
Peer discussion/Debate/Extempore speech (2X10)	20
Role Play	05
Essay/Article Report writing	10
Attendance	05
Total	50

Name of the Program	Ph.D. Course work in Library and Information Science	**Program Code**	LIBPH
Name of the Course	Research Methodology	**Course Code**	25LIBPH11C1
Hours/Week	4	**Credits**	4
Max. Marks.	100 (As per formative Assessment)	**Time**	3 Hours

Note:.
30 Marks: Written test (2X15) Marks distribution
20 Marks: MCQs/Quizzes/Group Discussion (2X10)
25 Marks: Case study/Mini project (1X25)
20 Marks: Seminar/Presentation (2X10)
05 Marks: Attendance

Course Learning Outcomes (CLO):
The course will enable the students to learn:

CLO1: the basics of research and research methodology in terms of types, forms
CLO2: the formulation of research questions including objectives and hypotheses.
CLO3: data collection methods and analyzing through different statistical techniques
CLO4: the data representation through tabular and graphical form
CLO5: the skill of telling the world about the research results through report

Unit I: Research

- Research: Meaning, Definition, Importance, Characteristics
- Types of Research: Pure, Applied and Action Research
- Research Problem Identification
- Literature Search and Review
- Systematic Literature Review
- Research Ethics

Unit II: Research Design

- Research approach: qualitative- narrative, phenomenology, ethnography, discourse; quantitative-experimental and non-experimental (survey, historical, descriptive)
- Research Design: Concept, Need, Purpose and Types
- Designing Research Proposal
- Research objectives, questions and hypothesis formulation

Unit III: Research Methods, Tools and Techniques

- Research Methods: Historical, Case Study, Survey, Experimental

- Research Tools: Questionnaire, Interview, Schedule, Observation
- Population and Sample
- Sampling Methods
- Scaling Techniques

Unit IV: Statistical Techniques

- Measures of Central Tendency: Mean, Median, Mode
- Measures of Dispersion, Variance and Covariance
- Standard Deviation, Chi-square, t-test
- Presentation of Data: Tabular, Graphic, Bar Diagram, Pie Chart, etc.
- Data Analysis: Use of SPSS and Web based Statistical Analysis Tools

References:

1. Busha, C.H & Harter, S.P. (1980). *Research methods in librarianship: Techniques and interpretation*. New York: Academic Press.
2. Goode, W.J. & Hatt, P.K. (1986). *Methods in social science research*. New Delhi: McGraw Hill.
3. Krishan Kumar. (1992). *Research methods in library and information science*. New Delhi: Vikas Publishing House.
4. Kumar, P.S.G. (2004). *Research methods and statistical techniques*. Delhi; B. R. Publishing Corpn.
5. Leddy, Paul D. (1980). *Practical research: Planning design*. London, Clive Bingley.
6. Pickard, A.J. (2013). *Research Methods in Information*. London: Facet Publishing.
7. Rao, I. K. Ravichandra. (1983). *Quantitative methods in library and information science*. New Delhi: Wiley Eastern.
8. Slater, Margaret, ed. (1990). *Research methods in library and information studies*. London: Library Association.
9. Stevens, R.E. Ed. (1971). Research *methods in librarianship*. London, Clive Bingley.

Name of the Program	Ph.D. Course work in Library and Information Science	**Program Code**	LIBPH
Name of the Course	Computer Applications in LIS	**Course Code**	25LIBPH11C2
Hours/Week	4	**Credits**	4
Max. Marks.	100 (As per formative Assessment)	**Time**	3 Hours

Note:
30 Marks: Written test (2X15) Marks distribution
20 Marks: MCQs/Quizzes/Group Discussion (2X10)
25 Marks: Case study/Mini project (1X25)
20 Marks: Seminar/Presentation (2X10)
05 Marks: Attendance.

Course Learning Outcomes (CLO):
The course will enable the students to learn:

CLO1: to discover and evaluate scholarly resources
CLO2: to utilize ICT tools for research
CLO3: to effectively communicate the research findings
CLO4: to enhance research productivity

Unit I: Digital Library

- Digital Library- Genesis, Definition, Need, Objectives and Characteristics
- Design and Development of Digital Library - Planning, Design, Implementation, Evaluation and Management
- Digitization process
- Input Capture Devices, OCR
- Digital Library Software: Greenstone and Dspace

Unit II: Artificial Intelligence and Expert System

- Artificial Intelligence: concept, meaning, advantages, limitations
- Application of AI in libraries
- AI Tools for research
- Expert Systems
- Tools for Building Expert System

Unit III: The Data World

- Big Data: concept, Need
- Big Data Management : Data mining and Data warehouse
- Role of Libraries in Big Data handling
- Data Curation

Unit IV: ICT Tools and Research Communication
• Online Questionnaire (Google forms, survey monkey, question pro etc.) • Writing assistance tools- Grammarly, etc. • Reference Management Tools (Zotero, Mendeley, EndNote etc.) • Academic/Social Networking Tools • Social Networks and Blogs

References:

1. Bala, Krishnan Shyama & Paliwal, P. K., ed. (2001). *Networking and the future of libraries.* New Delhi: Anmol Publishing
2. Cox, A., & Verbaan, E. (2018). Exploring research data management. Facet Publishing.
3. Davenport, Thomas H. (2014). *Big data @work: Dispelling myths, uncovering opportunities*.Boston: Harvard business review Press.
4. Forouzan, B. A., Coombs, Catherine & Fegan, S. C. (2000). *Data communication and networking*. 2nd ed. New Delhi: Tata McGraw-Hill
5. Jeanne, F. M. (2006). *A librarian's guide to the Internet: A guide to searching and evaluating information*. Oxford: Chandos publishing
6. Richardson, W. W. H. (2010). Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms. Thousand Oaks: SAGE Publications
7. Rowley, J. (1998). *The electronic library* (4th ed). London: LA
8. Rydberg-Cox, Jefery A. (2006). *Digital libraries and the challenges of digital humanities.* Oxford: Chandos Publishing
9. Stallings, William. (2001). *Data and computer communications* (6th ed). New Delhi: Pearson Education Asia, 2001
10. Tedd, Lucy, A. (2005). *An Introduction to computer based library system* (3rd ed). Chinchester: Wiley
11. Yadav, D. S. (2006). *Foundations of information technology*. New Delhi: New Age International (P) Ltd, Publishers
12. Zorkoczy, Peter. (2005). *Information Technology: An introduction*. London: Otiman

Name of the Program	Ph.D. Course work in Library and Information Science	**Program Code**	LIBPH
Name of the Course	Emerging Trends in LIS	**Course Code**	25LIBPH11C3
Hours/Week	2	**Credits**	2
Max. Marks.	50 (As per formative assessment)	**Time**	3 Hours

Note:
10 Marks: Written test (2X5) Marks distribution
20 Marks: Peer discussion/Debate/Extempore speech (2X10)
05 Marks: Role Play
10 Marks: Essay/Article Report writing
05 Marks: Attendance

Course Learning Outcomes (CLO):
The course will enable the students to learn:

CLO1: to know the general trends in the study and research in LIS
CLO2: to avoid redundant research activities while highlighting thrust areas
CLO3: to identify major areas in which the researchers are doing research

Unit I: Scholarly Communication

- Evolution of Scholarly Communication
- Open Access and its Development
- Green and Gold Open Access
- OERs

Unit II: Library Research Support

- Library Research Support: Concept, best practices
- Library Research Support Services
- RDM: Concepts and components
- Open Data Repositories: Figshare and re3data

Unit III: Trends in Knowledge Organization

- Social tagging, Folksonomy, Ontology
- Federated Search
- MARC 21
- Metadata – Types, Dublin Core
- RDA

Unit IV: Recent Trends

- Recent trends in LIS research
- Cloud computing in libraries

- Bibliometrics, Scientometrics, Webometrics: Concept, Laws and Applications
- Research Metrics

References:

1. Chambers, Sally, ed. (2013). *Catalogue 2.0: The future of library catalogue*. London: Facet Publishing.
2. Chaudhary, G. G. & Chaudhary, Sudatta (2007). *Organizing Information: From the shelf to the web*. London: Facet Publishing.
3. Chowdhury, G.G. (2014). *Sustainability of Scholarly Communication*. London: Facet Publishing.
4. Jaswal, D.S. (2008). *Recent trends in library and information science*. Chandigarh: Arun Publishing House
5. Larsen, A.V., Dorch, B, Nyman, M., Thomsen, K., & Drachen, T.M. (2010). *Analysis of Research Support Services at International Best Practice Institutions*. Retrieved from https://hal.archives-ouvertes.fr/hprints-00516997/
6. Oliver, Chris (2010). *Introducing RDA: A guide to the basics*. London: Facet Publishing.
7. Pawlowski, J. M., & Bick, M. (2012). Open educational resources. *Business & Information Systems Engineering*, *4*(4), 209-212.
8. Ramaiah, L.S, Reddy, Sankara and Hemant Kumar. (2007). *E-libraries: Problems and perspectives*. New Delhi: Allied Publishers.
9. Shorley, Deborah & Jubb, Michael (Eds) (2013). *The Future of Scholarly Communication*. London: Facet Publishing.
10. Siwach, A.K. (2013). An overview of scholarly communication, its evolution and the impact of ICT. *International Journal of Library & Information Management*, 4 (1), 75-81.

Name of the Program	Ph.D. Course work	**Program Code**	LIBPH
Name of the Course	Research and Publication ethics	**Course Code**	23CCPH11C1
Hours/Week	2	**Credits**	2
Max. Marks.	50 (As per formative assessment)	**Time**	3 Hours

Note: Note:
10 Marks: Written test (2X5) Marks distribution
20 Marks: Peer discussion/Debate/Extempore speech (2X10)
05 Marks: Role Play
10 Marks: Essay/Article Report writing
05 Marks: Attendance

Course Learning Outcomes (CLO):
The course will enable the students to learn:

CLO1: Ethics in conduct of scientific research
CLO2: Recognize the importance of intellectual honesty, and detect scientific misconduct like falsification, fabrication, and plagiarism.
CLO3: Identify and avoid predatory journals, and assess research quality using various metrics.
CLO4: Utilize open access resources, and employ plagiarism detection tools effectively.

Unit - I

PHILOSOPHY AND ETHICS

1. Introduction to philosophy: definition, nature and scope, concept, branches
2. Ethics: definition, moral philosophy, nature of moral judgments and reactions

SCIENTIFIC CONDUCT

1. Ethics with respect to science and research
2. Intellectual honesty and research integrity
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
4. Redundant publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

Unit - II

PUBLICATION ETHICS

1. Publication ethics: definition, introduction and importance
2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
5. Violation of publication ethics, authorship and contributorship
6. Identification of publication misconduct, complaints and appeals

7. Predatory publishers and journals

Unit - III

DATABASES AND RESEARCH METRICS

(A) Databases

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

(B) Research Metrics

1. Impact Factor of journal as per Journal Citation Report, SNIP, SIR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics

Unit - IV

Practice

OPEN ACCESS PUBLISHING

1. Open access publications and initiatives
2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggested, etc.

PUBLICATION MISCONDUCT

(A) Group Discussions

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

(B) Software tools (2 hrs.) :Use of plagiarism software like Turnitin, Urkund and other open source software tools

References:

1. Bird, A. (2006). Philosophy of Science, Routledge
2. P. Chaddah (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarised.
3. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019).
4. Beall, J (2012), Predatory publishers are corrupting open access. Nature, 489(7415), 179.
5. National Academy of Sciences, National Academy of Engineering and Institute of Medicine (2009). On being a Scientist: A guide to Responsible Conduct in Research, Third Edition, national Academic press.