

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
CHHATRAPATI SAMBHAJINAGAR.**



Circular / Syll. Sec./ A.C. Res./ Curriculum/ 2026.

It is hereby inform to all concerned that, on the recommendation of Board of Studies; **the Academic Council at it's Meeting held on 28th July, 2026 has accepted the "Curriculum of Pre-Ph.D. Course Work as per Guidelines of University"**.

This is effective from the Academic Year 2026-27 and onwards as per appended herewith.

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and necessary action.

University campus,
Chhatrapati Sambhajanagar-431 004.
Ref. No. Syll. Sec./A.C. Res./
Curriculum/ 2026/ 22-24

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**Deputy Registrar
Syllabus Section**

Date: 31/ 07/ 2026.

Copy forwarded with necessary action to:-

- 1] **The Head, all concerned departments,**
- 2] **The Director, University Network & Information Centre, UNIC, with a request to upload this Circular on University Website.**
- 3] **The Director, Board of Examinations & Evaluation,**
- 4] **Public Relation Officer [PRO],**

Dr. Babasaheb Ambedkar Marathwada University,
Chhatrapati Sambhajanagar.

Dr. Babasaheb Ambedkar Marathwada University



Chhatrapati Sambhajinagar –431 004, Maharashtra, India

Pre Ph.D. Course Work Subject Wise Curriculum List of Under the Faculty Of Interdisciplinary Studies

Sr. No.	Name of the subjects
1.	Performing Arts
2.	Social Work
3.	Education
4.	Physical Education
5.	Fine Art
6.	Library and Information Science
7.	Home Science
8.	Liberal Art
9.	Music

**Dr.Babasaheb Ambedkar Marathwada University ,
Chhatrapati Sambhajinagar**

**Ph.D. Course Work Syllabus
in
Library & Information Science
(16 Credits)
(w.e.f. 2026-2027)**

Course No	Course Name	Credits	Marks
Course-1	RESEARCH METHODOLOGY	04	100
	Unit I: Fundamentals of Research 1.1 Introduction to Research - Meaning, definition and concept of research - Nature and scope of research - Objectives of research - Characteristics of good research - Importance and significance of research - Types of research: - Basic and applied research - Quantitative and qualitative research - Descriptive and analytical research - Experimental research - Historical research - Multidisciplinary and interdisciplinary research 1.2 Research Process - Steps in the research process - Identification of research area - Defining the research problem - Selection and formulation of research problem - Scope and limitations of the study - Research questions and objectives Unit II: Literature Review and Hypothesis 2.1 Literature Review - Meaning and importance of literature review - Sources of literature - Primary and secondary sources - Literature survey - Review of books, journals, research papers, theses and dissertations - Use of digital libraries and online databases - Identification of research gaps - Preparation of review of literature 2.2 Hypothesis - Concept and meaning of hypothesis - Characteristics of a good hypothesis - Types of hypotheses		

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Depaude 1

	- Formulation of hypothesis - Variables and their relationship - Null and alternative hypotheses - Testing of hypothesis - Level of significance - Importance of hypothesis in research and decision-making Unit III: Research Design, Sampling and Data Collection 3.1 Research Design - Meaning and concept of research design - Importance of research design - Types of research designs - Selection of appropriate research methodology - Developing a research plan - Implementation of research plan 3.2 Sampling - Meaning and importance of sampling - Population and sample - Sampling frame - Probability sampling methods - Non-probability sampling methods - Sample size and selection criteria 3.3 Data Collection - Primary and secondary data - Methods of data collection - Questionnaire - Interview - Observation - Schedule - Documentary sources - Fieldwork and field data collection - Pilot study and pre-testing Unit IV: Concept and importance of quantitative research 1. Quantitative Research - Concept, meaning and characteristics of quantitative research - Objectives and importance of quantitative research - Quantitative research design and methodology - Variables, measurement and operationalization - Data collection and quantitative data analysis - Application of quantitative methods in library and information science, and multidisciplinary research - Advantages and limitations of quantitative research 2. Bibliometrics - Concept, meaning and development of bibliometrics - Importance and applications of bibliometric research - Bibliometric laws: - Lotka's Law - Bradford's Law - Zipf's Law - Citation analysis		
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	- Bibliographic coupling - Co-citation analysis - Authorship and collaboration analysis - Productivity analysis of authors, journals and institutions - h-index and other research-impact indicators - Bibliometric databases and tools - Bibliometric analysis using software/tools 3. Webometrics - Concept, meaning and scope of webometrics - Importance and applications of webometric studies - Web-based information measurement and analysis - Web links and link analysis - Web impact factor - Website evaluation and analysis - Search-engine-based research - Applications of webometrics in Library and Information Science and education - Limitations of webometric research 4. Altmetrics and Digital Research Metrics - Concept of altmetrics - Social media and scholarly communication - Online attention and research impact - Comparison of bibliometrics, webometrics and altmetrics - Applications in research evaluation		
Course 3	Recent Trends in Library and Information Sciences	30	50
	Unit 1 : Recent Trends in Library Management and Digitization 1.Digital Transformation in Libraries - Concept and evolution of library digitization - Digitization, digitalization and digital transformation - Need and importance of digital libraries - Traditional library to automated library to digital and smart library - Digital-first library services - Changing role of librarians in the digital environment 2. Emerging Technologies in Library Management - Artificial Intelligence (AI) and Generative AI - Machine Learning and Natural Language Processing - Internet of Things (IoT) - Cloud Computing - Big Data and data analytics - Blockchain technology - Robotics and automation - Mobile technologies and library applications - Virtual and Augmented Reality - Emerging technologies for accessibility and inclusive services 3. Artificial Intelligence in Libraries - Applications of AI in library management - AI-based information discovery and retrieval		

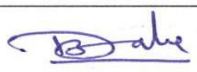

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	- AI-powered chatbots and virtual reference services - Personalized recommendations - Automated metadata generation and validation - AI-assisted cataloguing and classification - AI for research support and information literacy - Generative AI and academic libraries - <i>Ethical</i> issues, bias, privacy and responsible AI use		
	4. Cloud-Based Library Management - Concept of cloud computing - Cloud-based Integrated Library Systems (ILS) - Library Services Platforms (LSP) - Cloud-based cataloguing and circulation - Cloud OPAC and discovery services - Institutional and digital repositories - Advantages and challenges of cloud migration - Data security, privacy and backup - Examples of cloud-based library platforms		
	5. Digitization of Library Resources - Selection and planning of materials for digitization - Scanning and image capture - OCR and full-text conversion - Metadata creation - File formats and storage - Digital collections and digital repositories - Digitization of rare books, manuscripts, photographs and institutional publications - Quality control and authenticity - Copyright and intellectual property issues		
	6. Digital Preservation - Concept and importance of digital preservation - Digital preservation strategies - Backup and disaster recovery - Format migration and emulation - Preservation metadata - Long-term accessibility - Authenticity and provenance of digital objects - Digital preservation repositories		
	7. Smart Library and Automation - Concept and characteristics of a smart library - RFID technology - Barcode and automated circulation - Self-check-in/check-out - Smart inventory management - IoT-enabled library services - Automated shelving and book retrieval - Robotics in libraries - Smart spaces and user analytics		
	8. Open-Source and Next-Generation Library Systems - Open-source library management systems - Koha - Green Stone		


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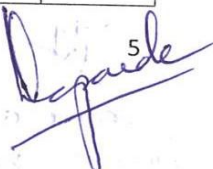

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	- D-Space - FOLIO - Evergreen - Open-source discovery systems - Interoperability and APIs - Advantages and limitations of open-source systems - Migration from legacy ILS to modern platforms 9. Digital User Services - Online Public Access Catalogue (OPAC) - Discovery services - Mobile OPAC and library apps - Virtual reference services - Online reservation and renewal - Remote access to electronic resources - QR-code-based library services - Social media and digital outreach - Personalized library services - Accessibility and universal design 10. Research and Scholarly Communication - Institutional repositories - Open Access - Open Educational Resources (OER) - Research data management - Researcher profiles and ORCID - Bibliometric and scientometric services - Citation analysis - Altmetrics - Research visibility and impact - Digital scholarship and digital humanities 11. Cybersecurity and Digital Ethics - Cybersecurity in libraries - Plagiarism - Patent - Data privacy and protection - Authentication and access control - Digital rights management - Copyright and licensing - Ethical use of AI - Algorithmic bias - Information security - Digital divide and equitable access 12. Future Trends - AI-powered smart libraries - Agentic/automated library workflows - Semantic search and knowledge graphs - Conversational discovery systems - Machine-readable and linked library data - Predictive analytics - Digital twins and immersive library environments - Open science and open knowledge - Sustainable and green digital libraries		
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Dr. Rajendra

	- Human-AI collaboration in library services Practical Component Students may undertake practical exercises such as: 1. Prepare a digitization plan for a small library collection. 2. Scan and OCR selected documents. 3. Create metadata for digitized documents. 4. Create a small digital repository. 5. Demonstrate RFID/barcode-based circulation. 6. Explore an open-source LMS such as Koha. 7. Create a QR-code-based library service. 8. Design a digital library user-service workflow. 9. Prepare a basic digital preservation plan. 10. Demonstrate an AI chatbot/virtual reference workflow. 11. Analyze library usage data using Excel/SPSS. 12. Prepare a comparative study of traditional, digital and smart libraries.		
	Unit:2 Software Used for Managing References in Research 1.Introduction to Reference Management - Meaning and concept of reference management - Need and importance in research - Manual vs. automated reference management - Bibliographic records and metadata - Citation, reference, bibliography and bibliography management - Citation styles: APA, MLA, Chicago, Harvard, Vancouver, IEEE 2. Reference Management Software - Concept, features and functions - Selection criteria for reference-management software - Desktop, web-based and cloud-based reference managers - Importing and exporting bibliographic records - Organizing references using folders, tags and collections - Duplicate detection and removal - PDF management and annotation 3. Major Reference Management Tools - Zotero – collection management, browser connector, PDF management and citation generation - Mendeley – reference management, PDF organization, annotations and collaboration - EndNote – advanced reference management and bibliography generation - RefWorks – web-based reference management and collaboration - Citavi – reference organization, knowledge management and research planning - JabRef – BibTeX-based reference management - Paperpile – web/cloud-based reference management - BibTeX and LaTeX – managing references in scholarly writing		


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Ad-hoc Board Member


Dr. Dayi Pati
Chairman, Ad-hoc Board


Dr. Rajendra⁶

	4. Citation and Bibliography Generation - Inserting in-text citations - Creating reference lists and bibliographies - Changing citation styles - Editing citation records - Citation style managers - Integration with MS Word and other word processors - Integration with Google Docs and LaTeX 5. Research Databases and Reference Import - Importing references from Google Scholar - Importing records from Scopus, Web of Science and other databases - DOI-based reference retrieval - RIS, BibTeX and other bibliographic formats - Metadata correction and verification - Managing full-text articles and PDFs 6. Advanced Features - Cloud synchronization - Backup and data portability - Sharing references and collaborative research - Group libraries - Notes, annotations and keywords - Research workflow management - Linking references with research projects - AI-assisted features in modern reference-management systems 7. Practical Component Students will practice: - Installing and configuring Zotero/Mendeley. - Creating a personal reference library. - Adding references manually and automatically. - Importing references from Google Scholar and scholarly databases. - Attaching and organizing PDF documents. - Removing duplicate references. - Adding tags, notes and annotations. - Inserting citations in MS Word/Google Docs. - Generating bibliography in APA/MLA/Chicago style. - Changing citation styles within an existing document. - Creating and sharing a group library. - Exporting references in RIS/BibTeX format.		
	Unit -3 : Software Used for Data Analysis 1. Introduction to Data Analysis Software - Meaning and concept of data analysis - Need and importance of data analysis software in research - Manual data analysis vs. computer-assisted data analysis - Types of data analysis software - Quantitative and qualitative data analysis - Data preparation, coding, cleaning and validation 2. Statistical Data Analysis Software - Microsoft Excel		


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	- Data entry and data cleaning - Sorting and filtering - Formulas and functions - Charts and graphs - Pivot tables - Descriptive statistics - Basic statistical analysis - SPSS (Statistical Package for the Social Sciences) - Introduction and interface - Variable and data view - Data coding and transformation - Descriptive statistics - Frequency, percentage, mean, median and mode - Standard deviation and variance - Cross-tabulation - Correlation - Regression - t-test and Chi-square test - ANOVA - Interpretation and presentation of results 3. Open-Source Statistical Software - R and R Studio - Introduction to R - Data import and data management - Basic statistical analysis - Data visualization - Packages and libraries - Descriptive and inferential statistics - Introduction to reproducible research - Python - Introduction to Python for data analysis - Data handling using Pandas - Numerical analysis using NumPy - Data visualization using Matplotlib - Basic statistical analysis - Introduction to Jupyter Notebook - PSPP - Introduction and applications - Data entry and management - Descriptive and basic inferential statistics - SPSS-compatible workflows 4. Qualitative Data Analysis Software - Concept of qualitative data analysis - Importing qualitative data - Coding and categorization - Nodes and themes - Text analysis - Queries and visualization - Interpretation of qualitative findings 5. Data Visualization and Presentation Tools		
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	- Importance of data visualization in research - Tables, graphs and charts - Microsoft Power BI - Data import - Data transformation - Interactive dashboards - Charts and reports - Basic data visualization - Tableau - Data connection - Visualization - Dashboards - Interactive presentation of research findings - Google Sheets and other online spreadsheet tools - Selection of appropriate visualization techniques 6. Data Analysis in Library and Information Science Research - Analysis of library user surveys - Analysis of circulation and usage data - Bibliometric data analysis - Citation analysis - Scientometric analysis - Webometric data analysis - Altmetric data analysis - Analysis of questionnaire and interview data - Visualization of research trends - Interpretation and reporting of findings 7. Practical Component Students will undertake practical exercises using Excel and SPSS, with introductory exposure to R/Python and qualitative analysis software. Practical exercises: 1. Create a research dataset. 2. Code and enter questionnaire data. 3. Clean and validate data. 4. Calculate frequency and percentage. 5. Calculate mean, median, mode and standard deviation. 6. Prepare tables and graphs. 7. Create Pivot Tables in Excel. 8. Perform Chi-square analysis. 9. Perform correlation analysis. 10. Conduct a basic t-test/ANOVA. 11. Import and analyse data in SPSS. 12. Create charts and dashboards. 13. Conduct basic qualitative coding. 14. Analyse a small bibliometric dataset. 15. Interpret statistical output and prepare a research report.		
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Dr. Veena Kamble
Ad hoc Board Member


Dr. Daya Patil
Chairman, Ad-hoc Board

