NEP 2020 based Syllabus for
Master's in Library and Information Science

Department of Library and Information Science
University of Kashmir, Hazratbal, Srinagar
NAAC Accredited A^{++}

CONTENTS

Introduction to the Two Years Integrated Master's in Library & Information Science (MLIS)

The Master's in Library and Information Science (MLIS) at the University of Kashmir is designed to equip students with the knowledge, skills, and critical understanding required to thrive in today's information-driven society. As the role of information continues to evolve in the digital age, professionals in this field are expected to manage, curate, and facilitate access to vast and diverse forms of information in both physical and digital environments. The programme amalgamates traditional disciplinary foundations with the current trends and techniques training the students for careers in academia, research institutions and industry.

Established in the year 1970, the Department of Library and Information Science has a remarkable bequest of academic excellence and public relevance. The Library and Information Science curriculum is now restructured to be in tune with the **National Education Policy (NEP)** 2020. This metamorphosis signifies interdisciplinary, flexibility, and outcome based education.

The Master's Programme is offered in the following format:

2-Year Postgraduate Programme

The format follow a dual –structured academic model, comprising:

1st year: Course Work + Course Work (CW +CW)

2nd year: Course Work + Course Work (CW+CW) or Course Work + Research (CW + R)

This structure ensures that all students, irrespective of entry route, engage in a rigorous union of coursework and research. The curriculum is expanded over four semesters and comprises of balanced mix of core and elective courses in areas such as Knowledge Discovery and Organisation, Library Operations, internship, Library Management, Preservation and Conservation, Scholarly Communication and Publishing Ethics etc. More emphasis is placed on developing analytical reasoning, critical thinking and practical exposure via internship.

In the initial semesters, students build a strong base in foundations of library and information science, knowledge organisation and discovery (classification), library operations, coupled with information technology basic skills, and internship. The subsequent semesters provide a great

understanding of the different facets of the subject like Library Management, Information Sources, Digital Library Technology, Citation and Reference Management, Information Processing and Retrieval, Library Automation and Networking, Information Services and Systems, and Information Technology-Advanced Skills.

In the fourth semester students are given the option to pursue either for course work or research project, the students opting for course work have to pursue **5 papers** viz., Scholarly Communication and Publishing Ethics, Open Educational Resources, Open Access Environment, Research Methodology, and Web 2.0 & Advanced technologies **each comprising of 4 credits.** While as, the students opting for research component have to complete a **research project** comprising of **16 credits** besides one theory paper 'Research Methodology' comprising of **4 credits.** The programme follows a well-defined credit and assessment structure, with continuous internal assessments and end – semester examinations ensuring academic rigour and accountability. Properly tuned with National Education Policy (NEP) 2020, the programme stresses interdisciplinary, flexibility, outcome – based learning, ethical reasoning and sustainability.

Importance of the CLO-PLO Matrix in the light of NEP 2020

The CLO-PLO mapping matrix for each course is a very important instrument in Outcome Based Education (OBE) that perfectly tunes Course Learning Outcomes (CLOs) with broader Programme Learning Outcomes (PLOs). It guarantees that each course comprehensively contributes to overall educational goals of a program, advocating coherence, clarity and continuity in curriculum design. This matrix allows educators to track how specific course objectives help develop knowledge, skills and values expected of postgraduates while at the same time also serving as a basic ingredient for assessment, feedback and uninterrupted improvement. By making learning outcomes quantifiable and clear, the matrix improves academic quality and makes the institutions capable to meet internal benchmarks and external accreditation standards effectively.

It is paramount to mention the CLO-PLO mapping matrix totally lines up with the vision of NEP-2020, which strongly recommends competency based, multidisciplinary and student centric learning. NEP-2020 endorses an educational framework that is far ahead of mere memorization as it recommends critical thinking, problem solving attitude, ethical reasoning and holistic learning outcomes. The matrix supports NEP-2020 goals of

quality assurance, curriculum flexibility and institutional accountability by ensuring that learning is intentional, outcome driven and totally relevant to both academic and societal requirements.

Course Categorization

The Master's in Library and Information Science at the University of Kashmir is structured across four semesters and designed to offer a comprehensive mixture of theoretical foundations, applied skills and perfect exposure to research. In total, the first track of Programme consisting of CW+CW in 1st Year and 2nd Year includes **92 credits** comprising core papers (56 credits), discipline centric elective (8 credits), skill enhancement (16 credits), two internship courses (12 credits).

While as the Second track of the programme consisting of CW+CW in 1st Year and CW+R in 2nd Year includes **92 credits** comprising of 44 credits for core papers, 8 credits for discipline centric elective, 12 credits for skill enhancement courses, 12 credits for two internship courses and a very vital component of this programme is project work in the fourth semester with 16 credits. It provides students an opportunity to apply their theoretical knowledge and skills to the real world and thereby enhancing their research aptitude and preparedness for higher education and significant roles in the field.

Programme Learning Outcome (PLO-1)

Aligned with Knowledge, Understanding and its application

The programme aims to equip graduates with a comprehensive and in-depth understanding of core and emerging areas in Library and Information Science, fostering both theoretical insight and practical competence. Through an integrated approach to learning, students develop critical knowledge of information systems, services, user behaviour, and the broader socio-cultural contexts in which information is created, organized, disseminated, and preserved. The programme emphasizes the application of this knowledge to real-world scenarios, enabling students to analyse

complex information environments, assess user needs, and develop effective strategies for information organization, retrieval, management, and dissemination. Graduates will acquire the skills necessary to address contemporary challenges and generate innovative solutions across various professional settings. This holistic educational approach ensures that graduates are well-prepared to contribute meaningfully to the field and adapt to the evolving demands of the information society.

Programme Learning Outcome (PLO-2)

Aligned with Technical skills and its application

The programme fosters the development of essential technical competencies required to manage, organize, retrieve, and disseminate information effectively in an increasingly digital and networked environment. Graduates will demonstrate the ability to apply these skills across diverse information settings, leveraging contemporary tools, systems, and technologies to enhance access, delivery, and preservation of information. By integrating technical expertise with problem-solving abilities, students will be equipped to address complex challenges, support informed decision-making, and contribute to the development and implementation of innovative information solutions. These skills also empower students to conduct rigorous research, adapt to emerging trends, and remain agile in the face of technological advancements within the field of Library and Information Science.

Programme Learning Outcome (PLO-3)

Aligned with Critical Thinking and Creativity

The programme nurtures critical thinking and creative problem-solving abilities by encouraging students to question assumptions, evaluate information sources, and explore innovative approaches to information management. Graduates will be able to analyze complex issues within the information landscape, synthesize diverse perspectives, and generate original ideas and solutions tailored to dynamic user needs and evolving

technological environments. By fostering intellectual curiosity and reflective thinking, the programme empowers students to design and implement effective strategies, develop research-informed practices, and contribute to the advancement of the discipline with creativity and insight. These competencies prepare graduates to navigate uncertainty, lead change, and drive innovation in diverse professional and academic contexts within the field of Library and Information Science.

Programme Learning Outcome (PLO-4)

Aligned with Communication Skills

The programme develops effective communication skills essential for professional practice in Library and Information Science. Graduates will be able to articulate ideas, present information clearly, and engage meaningfully with diverse audiences through oral, written, visual, and digital mediums. Students will cultivate the ability to communicate complex concepts, research findings, and service strategies with clarity and precision, both independently and in collaborative settings. Emphasis is placed on the ethical and responsible exchange of information, interpersonal communication, and the use of appropriate technologies to support information dissemination. These skills ensure that graduates are prepared to lead, advocate, and contribute effectively in academic, institutional, and community-based information environments.

Programme Learning Outcome (PLO-5)

Aligned with Ethics and Lifelong learning

The programme instils a strong foundation in professional ethics, integrity, and a commitment to the continuous pursuit of knowledge. Graduates will demonstrate an understanding of ethical principles in information creation, access, use, and dissemination, ensuring responsible and equitable information practices. The programme also fosters a spirit of lifelong learning, encouraging students to remain informed about advancements in the field, adapt to emerging trends, and continuously upgrade their skills. This outcome ensures that graduates not only uphold the highest standards of

professional conduct but also actively engage in ongoing personal and professional development to contribute meaningfully to the evolving landscape of Library and Information Science.

Programme Learning Outcome (PLO-6)

Aligned with Research and Problem-Solving Aptitude

The programme equips students with strong research capabilities and analytical skills necessary for identifying, investigating, and solving complex problems in the domain of Library and Information Science. Graduates will demonstrate the ability to formulate research questions, design appropriate methodologies, critically evaluate information, and apply evidence-based approaches to address real-world challenges. This outcome fosters intellectual rigor and a systematic approach to inquiry, enabling students to contribute to scholarly knowledge, support informed decision-making, and implement innovative solutions in diverse professional contexts. It prepares graduates to not only conduct meaningful research but also to apply their findings effectively in practice and policy development within the information sector.

Course Structure of Two-Year Integrated Master's in Library & Information Science (MLIS) with (CW+CW) and (CW+CW/R)
(Programme Code: MLIS25)

Semester	Core Papers (Core Course/Elective)		Course Type	No. of Credits	Total Credits	Max. Marks			Contact Hour
	Course Title	Course Code				Internal	End Sem	Total	
1st Semester	Foundation of Library and Information Science	MLISCFL125	C	4	**Core=12; DCE=4; Skill=4; Internship=4; Total =24 Credits**	28	72	100	60
	Knowledge Organisation and Discovery (Theory & Practice)	MLISCKO125	C	4		28	72	100	60
	Library Operations	MLISCLO125	C	4		28	72	100	60
	DCEs (Students have to opt any of the below two courses) Public Library System / Preservation and Conservation	MLISDPL125 / MLISDPC125	D	4		28	72	100	60
	Information Technology – Basic Skills	MLISSIT125	S	4		28	72	100	60
	Internship- Basic	MLISIIB125	I	4		100			60
2nd Semester	Library Management	MLISCLM225	C	4	**Core=16; DCE=4; Skill=4; Total =24 Credits**	28	72	100	60
	Knowledge Representation and Discovery (Theory & Practice)	MLISCKR225	C	4		28	72	100	60
	Information Sources	MLISCIS225	C	4		28	72	100	60
	Citation and Reference Management	MLISCCM225	C	4		28	72	100	60
	DCEs (Students have to opt any of the below two courses) Disaster Management & Cyber Security in Libraries / Information Literacy	MLISDDM225/ MLISDIL225	D	4		28	72	100	60
	Digital Library Technology	MLISSDL225	S	4		28	72	100	60
Total Credit (First Year)					48	**Total Hours (First Year)**			**720**

- Student can opt for an **exit after one year** with Post Graduate Diploma in Library & Information Science (PGDLIS) / Bachelors in Library & Information Science (BLIS) on completion of course equal to **48 credits** with Course Work and Course Work (CW + CW)
- Student with **48 credits** in Library & Information Science subject can opt for **Lateral Entry** to the final year of Master's in Library & Information Science (MLIS) equal to **44 credits** with Course Work & Course Work or Course Work & Research (CW+CW or CW + R)

Semester	Core Papers (Core Course/Elective)		Course Type	No. of Credits	Total Credits	Max. Marks			Contact Hour
	Course Title	Course Code				Internal	End Sem	Total	
3rd Semester	Information Processing & Retrieval	MLISCIR325	C	4	**Core=12; Skill=4; Internship=8; Total =24 Credits**	28	72	100	60
	Library Automation and Networking (Theory & Practice)	MLISCLA325	C	4		28	72	100	60
	Information Services & Systems	MLISCIS325	C	4		28	72	100	60
	Information Technology-Advanced Skills	MLISSIT325	S	4		28	72	100	60
	Internship-Advanced	MILSIIA325	I	8		200			120
4th Semester (CW)	Scholarly Communication & Publishing Ethics	MLISCCS425	C	4	**Core=16; Skill = 4 Total =20 Credits**	28	72	100	60
	Open Educational Resources	MLISCOE425	C	4		28	72	100	60
	Open Access Environment	MLISCOA325	C	4		28	72	100	60
	Research Methodology	MLISCRM425	C	4		28	72	100	60
	Web 2.0 and Advanced Technologies	MLISSWT425	S	4		28	72	100	60
4th Semester (R)	**Students who opt for CW + CW shall have to follow above curriculum for their entire course. However, the students who opt for the CW+ R shall have to follow the above curriculum for the first three semesters and the below curriculum for their 4th Sem**								
	Research Project	MLISPRP425	P	16	**Research=16 Core=4; Total = 20 Credits**	400			240
	Research Methodology	MLISCRM425	C	4		28	72	100	60
Total Credit (2nd Year)					44	Total Hours (2nd Year)			660
Total Credit (Aggregate)					**92**	**Total Hours (Aggregate)**			**1380**
Two year integrated Master's in Library & Information Science with Coursework & Coursework (CW + CW) in 1st Year and Coursework & Coursework/Research (CW + CW/R) in 2nd Year on completion of minimum of **92 Credits** with **1380 hrs.**									

MLIS
1ST SEMESTER

Semester			**First**		
Course Title			**Foundation of Library and Information Science**		
Course Code	**MLISCFL125**		Contact Hrs	**60**	
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28	**Summative Assessment: 72**		**Pass Percentage: 40**		

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Explain** the concept, historical evolution, and societal role of libraries and classify different types of libraries based on their distinguishing features, functions, and target user groups. Students will **analyze** the impact of the information society on library services and user expectations in contemporary contexts. **Design innovative** library services that address the evolving needs of an information society.
2. **Interpret** the Five Laws of Library Science and their implications for modern library practices and summarize the key features of library legislation in India and their impact on library development. Students will **apply** the principles of intellectual property rights (IPR) to library resource management and user services.
3. **Articulate** the attributes of librarianship as a profession and its evolution in India and **Critique** ethical dilemmas in librarianship, such as user privacy and intellectual freedom, using professional codes of conduct. Students will **compare** the roles and activities of national and international library associations in advancing librarianship.
4. **Describe** the roles of international and national promoters (e.g., UNESCO, IFLA, RRRLF, INFLIBNET) in library development and evaluate the contributions of organizations like RRRLF and INFLIBNET to library networking and resource sharing. Students **apply** the principles of extension services to design community outreach programs for libraries and develop innovative library extension service models to engage underserved populations.

Unit I: Introduction to Libraries **(15 Hours)**

1.1 Library: Concept and Historical Foundation
1.2 Types of libraries and their distinguishing features
1.3 Library: Role in Contemporary Society
1.4 Information Society: Genesis, Characteristics and Implications

Unit II: Laws and Legislation **(15 Hours)**

2.1 Five Laws of Library Science: Foundation and Implications
2.2 Library development in India with particular reference to the post-Independence period
2.3 Library legislation—Need and purpose
2.3.1 Library legislation in India
2.4 Intellectual Property Rights: Basic Concept and Types

Unit III: Librarianship as a Profession **(15 Hours)**

3.1 Profession: Concept and attributes
3.2 Librarianship: Professional ethics
3.3 Professional Associations: Role and Activities
3.3.1 National Associations in India: ILA, IASLIC, IATLIS
3.3.2 International and other important Associations: IFLA, CILIP (UK), ALA (USA)
3.4 Library and information Science education and research in India

Unit IV: Promoters of Library & Information Services (15 Hours)

4.1 Role of International Promoters for the Development of Libraries:
- 4.1.1 United Nations Educational, Scientific and Cultural Organisation (UNESCO)
- 4.1.2 International Federation of Library Associations and Institutions (IFLA)

4.2 Role of National-level promoters
- 4.2.1 Raja Rammohun Roy Library Foundation (RRRLF)
- 4.2.2 University Grants Commission (UGC, New Delhi)
- 4.2.3 Information and Library Network (INFLIBNET)
- 4.2.4 Developing Library Network (DELNET)

4.3 Extension Services: Concept and Methods

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	1	2	1	1.83
CLO 2	3	2	2	2	2	2	2.16
CLO 3	3	2	2	1	3	2	2.16
CLO 4	3	2	1	2	1	2	1.83
Average (PLO)	3	2	1.75	1.5	2	1.75	2

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	Interactive lectures with examples and discussions- Group discussion on different types of libraries. Field Visit to libraries in order to identifying special features of libraries	Written assignments- Oral presentations- short quizzes
CLO2	Lectures with Demonstrations on Laws of Library and Information Science. Seminars and group Discussions on Intellectual Property Rights and Library Legislations.	Written assignments, Seminar evaluation -Quiz on IPR
CLO3	Interactive lectures with examples on Professional nature of Librarianship- Group Discussion on Professional Ethics and quizzes on profession Associations.	Written assignments- Oral presentations- short quizzes
CLO4	Lectures with Demonstrations on the roles of international and national library promoters. Field Visit to libraries in order to identifying extension services.	Written assignments, Seminar evaluation -Quiz Assessment

Suggested Readings

Atkinson, F. (1974). *Librarianship: An introduction to the profession.* Bingley.

Bhatt, R. K. (1995). *History and development of libraries in India.* Mittal Publications.

Cawkell, A.E. (Ed.). (1987). *Evolution of an information society*. ASLIB.

Chowdhury, G. G., Burton, P. F., McMenemy, D., & Poulter, A. (2008). *Librarianship: An introduction*. Facet Publishing.

Feather J. (2008). *The information society: A study of continuity and change* (5th ed.). Facet Publishing.

Gates, J K. (1968). *Introduction to librarianship*. McGraw Hill.

Khanna, J.K. (1987). *Library and society.* Research Publisher.
Kumar, P.S.G. (2003). *Foundations of library and information science: Paper I of UGC model curriculum.* Manohar.
Ranganathan, S.R. (1999). *The five laws of library science* (2nd ed.). Sarada Ranganathan Endowment for Library Science.
Rubin, R. E. (2016). *Foundations of library and information science.* Facet Publishing.
Shera, J. H. (1972.) *The foundation of education for librarianship.* Becker and Hayer.
Singh, S.P. (2005). *Special libraries in the electronic environment.* Bookwell.
Venkatappaiah, V. (1990). *Indian library legislation* (Vol. 2). Daya.
Venktappaiah, V & Madhusudhan, M. (2006). *Public library legislation in the new millennium.* Bookwell.

Online Sources:

American Library Association. Available at http://www.ala.org
Information Library Network. Available at http://www.inflibnet.ac.in

Semester			**First**		
Course Title			**Knowledge Organisation and Discovery (Theory & Practice)**		
Course Code	**MLISCKO125**		Contact Hrs	**60**	
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Analyse** terminology, purpose, and species of library classification systems. **Identify and analyze** the main attributes of knowledge such as subject, form, time, and language. **Compare and contrast** the structures, approaches, and applicability of various schemes of classification. **Understand and explain** Ranganathan's Five Fundamental Categories (PMEST). **Identify** PMEST framework in various compound and complex titles.
2. **Analyze** the processes of subject formation and notational systems. **Evaluate** the principles of helpful sequence, and analyse emerging trends like ontology, folksonomy, and linked data in organizing knowledge.
3. **Synthesize** Dewey Decimal Classification numbers for both simple and compound subjects by applying knowledge of standard subdivisions (Tables 1–7), thereby **demonstrating an understanding** of the structure, logic, and practical application of the DDC system in organizing library resources ethically and creatively.
4. **Apply multiple synthesis techniques** in DDC and derive accurate book numbers using the Cutter Three-Figure Author Table, demonstrating classification competence, analytical thinking, and ethical classification practices.

Unit I: Fundamentals of Classification (15 Hours)

1.1 Classification: Terminology, Purpose and Species
1.2 Universe of Knowledge: Attributes
1.3 Major Schemes of Classification: An Overview
1.4 Five Fundamental Categories, Rounds and Levels

Unit II: Subject Formation, Notation and Current Trends (15 Hours)

2.1 Modes of Formation of Subjects
2.2 Notation: Purpose, qualities, and capacity increasing devices
2.3 Principles of helpful sequence (An Overview)
2.4 Current trends in library classification: Ontology, Folksonomy and linked data

Unit III: DDC: Introduction and Practical Applicability (Latest Edition) (15 Hours)

3.1 Introduction to Dewey Decimal Classification (DDC) with special reference to Standard Subdivisions (Table 1), Areas (Table 2), Subdivisions of Individual Literature (Table 3)
3.2 Description of Subdivisions of Individual Languages (Table 4), Racial, Ethnic and National Groups (Table 5), Languages (Table 6) and Persons (Table 7)
3.3 Synthesis of numbers for simple and compound subjects using DDC

Unit IV: Dewey decimal classification for Multiple Synthesis and Cutter's Table (15 Hours)

4.1 Multiple syntheses using DDC
4.2 Derivation of Book Number Using Cutter Three-Figure Author Table

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	3	2	2	2	2.33
CLO 2	3	2	3	2	2	2	2.33
CLO 3	3	3	3	2	2	2	2.5
CLO 4	3	3	3	2	2	2	2.5
Average (PLO)	3	2.5	3	2	2	2	2.4

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	- Interactive lectures with examples and discussions, Concept mapping, Group discussion on classification species, Case-based analysis of classification schemes, Exercises on identifying PMEST in titles.	- Written assignments, Oral presentations, Short quizzes, Assignment submission, Analytical essay on classification schemes
CLO2	- Lectures with digital examples (e.g., linked data demos) - Demonstrations and workshops on notation, Comparative group projects on classification trends, Seminars on emerging knowledge organization tools	- Group projects, Quiz on notation systems, Reflective journal on emerging trends
CLO3	- Hands-on sessions in lab/library - Guided classification exercises using DDC schedules, - Step-by-step walkthroughs of DDC Tables 1–7, - Scenario-based problem-solving - Ethical case studies in classification	- Practical test - DDC exercise worksheets, Evaluation of classification accuracy, Workbook submissions
CLO4	- Practice-based training- Peer learning activities - Tutorial sessions on Cutter Table usage	Practical exam on synthesis and Cutter numbers, Workbook submissions - Spot test on synthesis rules, Viva voce.

Suggested Readings

Dwivedi, M. K. (2025). *Dewey Decimal Classification in Library Science*. Arcler Education Inc. https://public.ebookcentral.proquest.com/choice/PublicFullRecord.aspx?p=31986710

Gopinath, M.A. (1987). *Colon Classification.* (7th ed.).Sarada Ranganathan Endowment.

Hamid, S., and Chaudhry, A S. (2002). Using Dewey decimal classification scheme (DDC) for building taxonomies for knowledge organization. *Journal of Documentation, 58*(5), 575-583.

Hunter, E. (2002). *Classification made easy.* Ashgate Publications.

Kemp, D.A. (1976). *Nature of knowledge: An introduction to libraries.* Clive Bingley.

Khanna, J.K. & Vashisht, K.K. (1985). *Knowledge, evolution, structure and research methodology.* Ess Ess Publications.

Krishan, K. (1980). *Theory of classification* (2nd ed.). Vikas Publishing House.

Meadow. J. (2001). *Understanding information.* K.G. Saur.

Prasad, A. (2005). *Colon Classification.* Shree Publishers.

Ranganathan, S. R. (1965). *Prolegomena to library classification* (2nd ed.). Library Association.

Ranganathan, S. R. (1964). *Colon Classification* (6th ed.). Asia Publishing House.

Ranganathan, S.R. (1989). *Descriptive account of colon classification.* Sarada Ranganathan. Endowment for Library Science.
Rita, M., & Arthur, M. (2000). *Future of classification.* Gower Publishing.
Rowley, J.F. (1987). *Organizing knowledge: An introduction to information retrieval.* Power Publishing.
Roy, S., Mallikraj, S. V., Moradia, S., Shantha, G., Aravind, S., & Shivaprakash, S. (2024). The Impact of Artificial Intelligence on Cataloging and Classification Systems in Modern Libraries. *Library of Progress-Library Science, Information Technology & Computer, 44*(3).
Salaba, A., & Chan, L. M. (2023). *Cataloging and classification: An introduction.* Rowman & Littlefield.
Satija, M.P. & Aggarwal, S.P. (1990). *Book number: Some Indian methods.* Concept Publishing.
Satija, M.P. & Kyrios, A. (2023). *A handbook of history, theory and practice of the Dewey Decimal Classification*. Facet Publishing.
Sayers, W.C.B. (1975). *Manual of classification for librarians.* Andre Duetsch.
Shabahat, H. (1993). *Library classification: Facets and analyses.* B.R. Publishing.
Sharma, P S.K. (1990). *Universe of knowledge and research methodology.* Ken Publications.
Srivastava, A P. (1993). *Theory of knowledge classification in libraries.* Sage Publications.

Online Sources

Egyankosh. (2018). *Library classification theory.* https://egyankosh.ac.in/handle/123456789/32993
Lovely Professional University.(2025). *Library classification and cataloguing theory.*
https://ebooks.lpude.in/library_and_info_sciences/BLIS/year_1/DLIS103_LIBRARY_CLASSIFICATION_AND_CATALOGUING_THEORY.pdf
OCLC. (2012). *Dewey Decimal Classification.* http://www.oclc.org/dewey/
OCLC. (2012). Web Dewey. http://www.oclc.org/dewey/resources/tutorial/

Semester			**First**		
Course Title			**Library Operations**		
Course Code			**MLISCLO125**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Demonstrate** knowledge of library operations and collection development by analysing different principles, policies, resource selection tools, acquisition methods, and associated financial rules and **their application** in different settings, while critically **evaluating** challenges and proposing effective solutions in library resource management.
2. **Illustrate** knowledge and understanding of key technical concepts and their **utility** in libraries with a focus on **analysing** the trends and technicalities in skilled tasks including accessioning, classification, cataloguing, and use of library management systems for efficient resource organisation, labelling, shelving, and maintenance.
3. **Exhibit** understanding of serials management, including selection, procurement, and control of print and electronic serials, and **apply** knowledge of automated systems and emerging trends in electronic resource management, with **awareness** about evolving trends like ONOS and inclusive access.
4. **Understand** and **apply** principles and practices of circulation, preservation (print and digital), stock verification, and collection evaluation using both traditional methods and modern standards like GFR 2017

Unit I: Collection Development and Acquisition **(15 Hours)**

1.1 Library Operations: Concept, Importance and Components
1.2 Collection Development: Purpose and Policy
1.3 Resource Selection: Principles and Tools (Print, Digital and Open Access)
1.4 Acquisition: Methods of procurement (Tendering and Expression of Interest) and related functions
1.4.1 General Financial Rules (GFR) for acquisition of Information sources
1.5 Challenges in Collection Development

Unit II: Technical Processing and Resource Organisation **(15 Hours)**

2.1 Technical Processing: concept and importance
2.2 Accessioning and Record Creation
2.3 Classification and Cataloguing Process: Importance and Procedure
2.4 Library Management Systems: Overview and functions
2.5 Labelling, Shelving and Maintenance

Unit III: Serials Management and Resource Automation **(15 Hours)**

3.1 Serials: Concept and types
3.2 Selection and procurement of print and electronic serials
3.3 Traditional and Automated Serial Control Systems
3.4 Electronic Resource Management Systems (ERMS)
3.5 Current Trends: Online Journals, Databases, Open Access Platforms
3.5.1 e-consortium and One Nation One Subscription (ONOS)

Unit IV: Circulation, Preservation and Evaluation **(15 Hours)**

4.1 Circulation: Concept and Importance

4.2 Charging and Discharging Systems: Traditional and Modern
4.3 Care and Preservation of Library Materials
4.4 Digital Preservation: Concept, importance and strategies
4.5 Stock Verification: Tools and Techniques
4.5.1 GFR 2017 for stock verification
4.6 Collection Evaluation and Weeding

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	3	2	2	2	2.33
CLO 2	3	2	3	2	2	2	2.33
CLO 3	3	3	3	2	2	2	2.5
CLO 4	3	3	3	2	2	2	2.5
Average (PLO)	3	2.5	3	2	2	2	2.4

Pedagogy and Assessment Methods

CLOs	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	-Interactive lectures on collection development and acquisition policies. -Concept explanation by tutor. - Group discussions on procurement scenarios (Tendering, GFR, etc.). -Expert Talks	- Written assignments - Presentations - Short quizzes - Demo Collection planning task.
CLO2	- Concept explanations by tutor - Interactive lectures on classification and cataloguing procedures. - Live demonstrations - Peer learning and group tasks	- Written assignments. - Quiz/ Brainstorming sessions. - Presentations. - Group Discussions.
CLO3	- Interactive Lectures on Serials management. - Demo of ERMS and ONOS - Group work /workshops on e-resource and ONOS. - Talks by guest/library expert	- Presentations - Quiz on trends - Group presentation -Written Assignments
CLO4	- Interactive lectures /Demonstrations of traditional and modern Circulation systems. - Practice tasks on preservation - Workshop on stock verification	- Demo Preservation Projects. - Quiz - Group task on weeding - Short Assignment report.

Suggested Readings

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Fasick, A. M., & Holt, L. E. (2013). *Managing children's services in libraries* (4th ed). Libraries Unlimited.

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Kadam, U. R., & Bamane, D. S. (2024). *Library stock verification & collection management*. Shubham Publications.

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Semester			**First**		
Course Title			**Public Library System**		
Course Code			**MLISDPL125**	Contact Hrs	**60**
Course Type: DCE	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Recall and describe** key historical milestones and the evolution of public libraries across civilisations and regions. They will **explain** how public libraries responded to shifts in literacy, education, and governance, adapting their roles to meet emerging societal needs. Learners will **analyse the contribution of public libraries to educational access and cultural development, especially for marginalised** populations. They will **evaluate** the libraries' impact on civic participation, youth development, and the preservation of cultural heritage. Finally, students will **formulate innovative perspectives** on reimagining public library models to address contemporary societal challenges.
2. **Identify and describe** the key architectural and administrative elements utilised in contemporary public libraries. They will **interpret and compare** established standards related to space design, accessibility, and staffing across diverse library systems. They will **analyse** how physical design and administrative planning influence user engagement, service quality, and community participation. They will **evaluate** strategies for collection development, including digital integration, open access resources, and participatory selection approaches. Moreover, students will **design** advocacy campaigns and resource mobilisation plans to strengthen public library infrastructure through public-private partnerships and community involvement.
3. **Identify** and **explain** traditional public library services provided to diverse user groups, including those from underserved and marginalised communities. They will **differentiate** between reactive and proactive service models and **analyse** their effectiveness in meeting the informational, educational, and recreational needs of populations such as rural residents, youth, and the elderly. Students will **evaluate** the inclusivity, scalability, and responsiveness of outreach mechanisms such as mobile libraries, literacy initiatives, and digital access programs. They will **develop** user-centred service plans that respond to local needs through innovative approaches, collaborative partnerships, and community engagement strategies. Besides, students will **design** a model framework for inclusive library services, integrating digital technologies, assistive tools, and culturally relevant resources to promote equitable access and lifelong learning.
4. Identify and explain foundational concepts of library automation, including ILMS, open-source systems like Koha, and digital interfaces such as Greenstone. Students will **analyse** the needs of diverse user groups—such as children, senior citizens, and persons with disabilities—to determine appropriate technologies and accessibility features. They will **evaluate** model digital public libraries based on factors like user engagement, technological inclusivity, and operational efficiency. Finally, learners will **design** a customised digital public library system that incorporates automation, accessibility, and inclusive services for community-wide benefit

Unit I Public Library: Genesis and Growth **(15 Hours)**

1.1 Public Library: Concept, Origin and Growth

1.2 Role of Library Associations and Organisations in the Development of the Public Library System at the National & International Level

1.3 National Library Policy

1.4 Library Legislation

1.5 Public Library system in relation to mass education: Political, industrial, economic life, Cultural advancement and Youth Development

Unit II Public Library Architecture and Standards (15 Hours)

2.1 Development Plans and Resource Mobilisation: Private-Public Partnership.
2.2 Architecture Planning and Administration of Public Libraries
2.3 Collection Development and Management: Emerging Trends: E-Consortia, Free and Open Access Sources.
2.4 Public Library Norms, Standards and Guidelines
2.5 Role of Advocacy and Pressure Groups in Public Library Development.

UNIT IIIPublic Library Services (15 Hours)

3.1 Library Services and Activities: From Reactive to Proactive: Conservative Services, Outreach Services, Online Services, etc.
3.2 Resource Sharing and Public Library Grid
3.3 Public Libraries and Internet Public Access Models
3.4 Public Library 2.0

UNIT IVPublic Library: Automation and Digital Avatar (15 Hours)

4.1 Automation and ICT: Current applications and future trends in public libraries
4.2 Open-Source Software for Public Libraries: Features and Utilities
4.3 Designing a model Digital Public Library for
  4.3.1 Children,
  4.3.2 Young,
  4.3.3 Old and
  4.3.4 Physically Challenged
4.4 Case Study of Digital Services of Model Public Libraries

PLO–CLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	1	2	3	1	2
CLO 2	3	3	1	2	3	1	2.16
CLO 3	2	3	2	2	2	2	2.16
CLO 4	2	3	2	3	3	2	2.5
Average (PLO)	2.5	2.75	1.5	2.25	2.75	1.5	2.2

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Lecture, group discussion, historical case analysis	Written assignments, class presentations, short quizzes and Descriptive tests.
CLO 2	Flipped classroom, case study, collaborative group work	Analytical essay, group project, document analysis and Written tests
CLO 3	Problem-based learning, service design workshops, role play	Field survey report, peer-assessed service models, simulation and descriptive test
CLO 4	Demonstrations, software-based project design and group tasks	Project-based assessment, digital model presentations and descriptive test

Suggested Readings

Adams, H. R. (2005). *Privacy in the 21st century: Issues for public, school, and academic libraries*. Westport, Conn: Libraries Unlimited.

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Casey, M. E., & Savastinuk, L. C. (2007). *Library 2.0: A guide to participatory library service*. Medford, N.J: Information Today.

Chowdhury, G., Poulter, A., &McMenemy, D. (2006). Public Library 2.0: Towards a new mission for public libraries as a network of community knowledge?. *Online Information Review*, 30, 4, 454-460.

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Jones, M., & Brown, C. (2023). Public libraries and mass education: A review of the literature. *Information Research*, 28(2), n28-2.

Kumar, A., & Li, W. (2022). Library legislation and public library development: A comparative study of India and China. *Library Review*, 71(3-4), 213-228.

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Lowe, J. A., & American Library Association. (1928). *Public library administration*. Chicago: American library Association.

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Simpson, M. S., & Duwel, L. I. (2007). *Bringing classes into the public library: A handbook for librarians*. Jefferson, N.C: McFarland & Co.

Titangos, Hui-Lan H., & Mason, Gail L. (2012). Learning Library 2.0: 23 Things @SCPL. *Library Management* 30(1/2), 44-56.

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Yarrow, A., Clubb, B., & Draper, J.-L. (2008). *Public libraries, archives and museums: trends in collaboration and cooperation*. The Hague: International Federation of Library Associations and Institutions.

Semester			**First**		
Course Title			**Preservation and Conservation**		
Course Code			**MLISDPC125**	Contact Hrs	**60**
Course Type: DCE	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Demonstrate** conceptual understanding of preservation and conservation practices, **explain** the significance of Oriental libraries, and **evaluate** the role of cultural institutions and national conservation bodies in safeguarding knowledge, thereby fostering **ethical responsibility, cultural sensitivity, and lifelong** learning.
2. **Identify** causes of deterioration, **suggest** appropriate conservation techniques, and **develop** basic preservation plans and budgeting models, reflecting technical proficiency and problem-solving skills.
3. **Critically analyze** digitization strategies and digital preservation practices, assess current initiatives, and propose digital preservation models, thus nurturing research aptitude, creativity, and informed decision-making.
4. **Explore** the role of AI in digital preservation, examine its challenges, and suggest sustainable innovations for the future, demonstrating **adaptability, problem-solving ability, ethical awareness, and readiness for future research**

Unit I: Introduction to Preservation and Conservation **(15 Hours)**

1.1 Preservation and Conservation: Purpose and Components
1.2 Oriental Libraries: Concept and Cultural Significance
1.3 Role of Libraries, Archives, and Cultural Institutions in Preservation of Knowledge
1.4 National Research Laboratory for Conservation of Cultural Property

Unit II: Collection Management and Conservation **(15 Hours)**

2.1 Causes of Damage and Deterioration
2.2 Conservation Techniques for Physical Materials
2.3 Preservation Planning and Budgeting

Unit III: Digitisation and Digital Preservation **(15 Hours)**

3.1 Introduction to Digital Preservation
3.2 Strategies for Digital Preservation
3.3 Digitisation and Preservation Initiatives

Unit IV: AI and Challenges in Digital Preservation **(15 Hours)**

4.1 AI-Based Innovations in Digital Preservation
4.2 Sustainability and Future Challenges

CLO–PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	3	2	3	2	2.5
CLO 2	3	2	2	2	1	3	2.16
CLO 3	3	2	3	2	3	3	2.66
CLO 4	3	2	3	2	3	3	2.66
Average (PLO)	3	2	2.75	2	2.5	2.75	2.5

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	**Interactive lectures** with multimedia and case studies of Oriental libraries- **Virtual or physical tours** of libraries, archives, and cultural institutions, **Guest lecturers (online/offline)** from conservators or cultural historians -**Group discussions** on ethics, cultural heritage, and global preservation practices.	- Reflection journals on field visits - Conceptual quizzes - Presentation on Oriental libraries - Written essay on roles of cultural institutions - Group discussion
CLO2	**Detailed case studies** of libraries, archives, or museums dealing with physical deterioration, Open-source **videos of preservation** of labs from institutions like IFLA, LOC, or UNESCO highlighting cleaning methods, storage conditions, and environmental monitoring. **Assign scholarly articles** to summarize and critically reflect on key concepts. Present hypothetical scenarios (e.g., old manuscripts damaged by mold) and ask students to suggest conservation strategies.	Video Reflection Journal, Video-based Quiz Critical Summary or Review Paper, Group Presentation / Panel Discussion, ask students to identify the problem, suggest suitable conservation methods, and design a basic preservation plan.
CLO3	Lectures with global case studies on digitization projects , Review and critique of digital archives, Guided research assignments on national/international initiatives	Critical review papers, Group presentations on digitization models, Digital preservation case study report.
CLO4	- **Seminar-based discussions** on AI tools in preservation, **Problem-based learning (PBL)** on future challenges, , Ethical debates on AI and automation	- Group presentation on future AI tools, Mini research proposal on AI tools in preservation , Participation in ethical debate, Innovative poster on AI in preservation

Suggested Readings:

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Masenya, T. (2023). *Digital preservation and documentation of global indigenous knowledge systems*. IGI Global. https://doi.org/10.4018/978-1-6684-7024-4

Morello, S. (2020). American studies and digital archives. A Forum on collaborative knowledge preservation, accessibility, and pedagogy. *América Crítica*, *4*(2), 143-155.

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Online Sources

Folger Shakespeare Library. (2011, June 28). *Handling rare materials* [Video]. YouTube. http://www.youtube.com/watch?v=5NWyruNYILw

Hodges, P., Bonn, M., Sandler, M., & Wilkin, J. P. (2003). *Digital Libraries: A Vision for the 21st Century: A Festschrift in Honor of Wendy Lougee on the Occasion of her Departure from the University of Michigan*. University of Michigan. https://doi.org/10.3998/spo books.b bv981 2.0001.001

Indian National Trust for Art and Cultural Heritage. (n.d.). https://www.intach.org/

Kenney, A. R., & McGovern, N. Y. (2003). *Digital preservation management: Implementing short-term strategies for long-term problems* [Online tutorial]. Cornell University Library. http://www.icpsr.umich.edu/dpm/

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Northeast Document Conservation Center. (n.d.). *Preservation leaflets*. http://nedcc.org/resources/leaflets.list.php

Roberts, M. T., & Hetherington, D. (n.d.). *Bookbinding and the conservation of books: A dictionary of descriptive terminology*. http://palimpsest.stanford.edu/don/don.html

Smith, A. (2007). Valuing preservation. *Library Trends, 56*(1), 4–25. http://muse.jhu.edu/journals/library_trends/

The Indira Gandhi National Centre for the Arts. (n.d.). https://ignca.gov.in/

The Signal: Digital Preservation Digital Curation Centre. (n.d.). https://www.dcc.ac.uk/about/digital-curation

UNESCO. (n.d.). *Memory of the world*. https://www.unesco.org/en/memory-world.

Semester			**First**		
Course Title			**Information Technology- Basic Skills**		
Course Code	**MLISSIT125**		Contact Hrs	**60**	
Course Type: Skill	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Demonstrate** knowledge and **explanation** of the core concepts and key components of Information Technology and its **applications**. **Understand** the emerging trends such as Artificial Intelligence and its transformative role in modern library environments, and information services.
2. **Identify** and **utilize** the features of major operating systems (Windows and Linux) and office productivity tools to **perform** library administrative and **technical tasks** efficiently.
3. **Create, format, manage** and **analyze** library-specific documents and statistical reports using word processors and spreadsheet tools for effective **communication** and **data handling**.
4. **Demonstrate** knowledge and **understanding** of key components for **developing** engaging library presentations, feedback forms, and conducting virtual events **utilizing** multimedia tools and collaborative cloud platforms like Google Workspace and video conferencing software.

Unit I: Foundations of Information Technology **(15 Hours)**

1.1 Information Technology-Concept and Components
1.2 IT applications and importance in Library Settings
1.3 Artificial Intelligence: Concept and Importance

Unit II: Operating Systems and Office Applications **(15 Hours)**

2.1 Operating Systems- Concept, and functions
2.2 Operating Systems- Windows, and Linux (features and utilities)
2.3 Web-Enabled Server: Concept and Architecture
2.4 Office Suites MS-Office and Libre-office: Overview

Unit III: Office: Word Processing and spreadsheet Applications **(15 Hours)**

3.1 Word Processing (MS Word/Libre Office Writer)
  3.1.1 Introduction to Word Processing tools
  3.1.2 Library-Specific Document Preparation
3.2 Spreadsheets (MS-Excel/LibreOffice Calc)
  3.2.1 Introduction to Spreadsheets
  3.2.2 Working with Data in Spreadsheets

Unit IV: Multimedia Tools and Google workspace **(15 Hours)**

4.1 Presentation Software (MS PowerPoint/LibreOffice Impress)
  4.1.1 Introduction to Presentation Software
  4.1.2 Creating and Designing Effective Presentations
  4.1.3 Library-Specific Applications
4.2 Google Workspace tools (Forms, Sheets, Docs)
  4.2.1 Introduction to Google Workspace Tools
  4.2.2 Designing feedback forms for library services, surveys for book recommendations, and quiz forms for library orientation programs; collecting and analysing responses in real-time; exporting form data into Google Sheets for further analysis

4.3 Google Meet/Zoom

4.3.1 Overview of Virtual meeting tools: Google Meet/Zoom

4.3.2 Using Virtual Meeting Tools for conducting online library orientations, webinars, workshops, virtual book discussions, and training sessions using Google Meet/Zoom

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	1	2	2	2
CLO 2	3	3	2	2	2	2	2.33
CLO 3	3	3	3	3	2	2	2.66
CLO 4	3	3	3	3	2	2	2.66
Average (PLO)	3	2.75	2.5	2.25	2	2	2.41

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	- Interactive lectures on IT and AI basics. - Concept clarification by tutor using real-life library examples. - Group discussion on AI's impact in libraries. - Multimedia explanations and visual demos.	- Written assignments - Short quizzes - MCQs based on core concepts - Reflection notes on AI applications in libraries
CLO2	- Instructor-led demos of Windows and Linux. - Hands-on exploration in lab sessions. - Small tasks using LibreOffice and MS Office.	- Practical tests (OS and basic tools) - Worksheets - Viva voce on OS - Written assignments
CLO3	- Demonstrations of document creation and spreadsheet functions. - Hands-on lab exercises (e.g., report generation, formatting, data analysis). - Case-based tasks for newsletter/report creation. - Peer review and feedback.	- Practical assignments - Document formatting tasks - Mini project (library notice/report/newsletter)
CLO4	- Interactive lectures and live demonstrations of Google Workspace tools. - Practice-based labs on Google Forms, Slides, Docs. - Mock sessions on Zoom/Meet/Webex. - Student-led mini presentations.	- Design and share live forms (feedback/surveys) - Submit a multimedia presentation - Evaluation of Google Forms & event tools - Peer-reviewed virtual orientation session

Suggested Readings

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Panek, C. (2020). *Windows operating system fundamentals*. Sybex, a Wiley Brand. https://doi.org/10.1002/9781119650645

Pitch, K. (2025). *Microsoft Word Guide for Success: Achieve Efficiency and Professional Results in Every Document* [IV EDITION]. Kevin Pitch. https://ebook.yourcloudlibrary.com/library/oclc/detail/agop1gg9

Simpson, A., & Rathbone, A. (2025). *Windows 11 (2nd edition)*. John Wiley and Sons, Inc.

Sinha, K., & Holland, B. (2024). *Handbook of research on innovative approaches to information technology in library and information science*. IGI Global. https://doi.org/10.4018/979-8-3693-0807-3

Smith, J. M. (2021). *Information technology for librarians and information professionals*. Rowman & Littlefield.

Sterling, R. (2025). *The New Microsoft Office 365 Bible: Achieve Mastery in Just 15 Minutes a Day - Illustrated Guide with Secret Tips and Shortcuts to Excel, Word, PowerPoint, and Impress Your Boss and Colleagues*. Rick Sterling. https://ebook.yourcloudlibrary.com/library/oclc/detail/axpmd1z9

Wilson, K. (2023). *Using Microsoft Word* (2023 Edition). Elluminet Press.

Semester		**First**			
Course Title		**Internship-Basic**			
Course Code		**MLISIIB125**		Contact Hrs	**60**
Course Type: Internship	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**

Course Learning Outcomes (CLOs)

After completing Internship the Students will be able to:

1. **Synthesize** the theoretical foundations of library operations and apply them to **execute** core library functions such as cataloguing, classification, and circulation in a real-world library setting with focus on technical library operations, including shelving, maintenance, preservation etc.
2. **Communicate** effectively with library staff and users to **respond** professionally to the user queries.

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	2	2	2	1	2.16
CLO 2	3	3	2	3	2	1	2.33
Average (PLO)	3	3	2	2.5	2	2	2.24

Pedagogy and Assessment Methods

CLOs	Pedagogy	Assessment Methods
	Supervised Practical Training: Students participate in guided sessions with library staff to learn basic library operations with emphasis on applying theoretical knowledge. **Reflective Journaling:** Students maintain a daily log to document their understanding of library operations and how theoretical concepts translate to practice. **Case Study Discussions:** Group discussions on real library workflows, linking theory to practical applications, facilitated by mentors during library hours. **Hands-On Practice:** Students perform tasks like shelving, assisting users with queries. **Field Observation:** Students observe different operations and analyze workflows, documenting potential improvements.	**Practical Demonstration**: Assess students' ability to perform basic library operations during a supervised session by the concerned library mentor. **Mentor Feedback**: Obtain a detailed evaluation from the library mentor on the student's ability to apply theoretical knowledge in daily tasks. **Written Report**: Analyze a report where students synthesize how library operations are applied in the assigned library by concerned mentor in the parent department. **Viva-Voce**: Grade students on the basis of viva-voce.

MLIS
2ND SEMESTER

Semester			**Second**		
Course Title			**Library Management**		
Course Code			**MLISCLM225**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Describe** fundamental management concepts, explain major schools of thought, and **apply** principles of management to library and information centres.
2. **Interpret** key human resource functions such as recruitment, motivation, and professional development, and **analyse** their implementation in library setting for effective library administration.
3. **Understand** and **utilize** library financial management tools and techniques, including budgeting methods and cost analysis, and **evaluate** their effectiveness in supporting evidence-based financial decision-making in libraries.
4. **Demonstrate** knowledge of service management and project management tools to assess service quality, handle service failures, and **plan** and **evaluate** library projects using techniques like PERT and CPM.

Unit I: Introduction to Management and Principles **(15 Hours)**

1.1 Management: Concept, functions and importance
1.2 Principles of Management and their application in libraries
1.3 Management: Schools of thought
- 1.3.1 Classical School
- 1.3.2 Behavioural School
- 1.3.3 Systems approach

Unit II: Human Resource Management in Libraries. **(15 Hours)**

2.1 Human Resource Management: Concept and its importance in libraries
2.2 Job Analysis and Description: Concept and Methods
2.3 Recruitment Process: Selection Methods, Induction and Orientation
2.4 Motivation: Concept, theories and their application in libraries
- 2.4.1 Maslow's Theory
- 2.4.2 Herzberg's Theory

2.5 Professional Development: Concept, Significance and techniques

Unit III: Financial Management in Libraries. **(15 Hours)**

3.1 Financial Management: Concept, Scope and Objectives
3.2 Library Budget and Budgetary Methods
- 3.2.1 Line Item or Incremental Budget
- 3.2.2 Programme Budget
- 3.2.3 Planning Programming Budgeting System
- 3.2.4 Zero-Base Budgeting

3.3 Cost Analysis: concept and techniques:
- 3.3.1 Cost-Benefit analysis and its application in financial decisions in libraries
- 3.3.2 Cost-Effectiveness and its application in library operations

Unit IV: Service Management and Project Management in Libraries (15 Hours)

4.1 Service Management:

4.1.1 Nature, Significance and Characteristics of Services

4.1.2 Factors influencing the growth of services

4.1.3 Managing the service quality (SERVQUAL and LIBQUAL)

4.1.4 Understanding User response to service failures

4.2 Project Management: Concepts and techniques like Program Evaluation and Review Technique and Critical Path Method (PERT/CPM)

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	2	2	2	2.17
CLO 2	3	2	3	3	3	2	2.67
CLO 3	3	3	3	2	2	3	2.67
CLO 4	2	3	3	2	2	3	2.5
Average (PLO)	2.75	2.5	2.75	2.25	2.25	2.5	2.5

Pedagogy and Assessment Methods

CLOs	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	- Interactive lectures on management concepts and schools of thought. - Tutor-led explanation of classical, behavioral, and systems approaches. - Discussions on the applications of Management Principles in library management.	- Short quizzes - Written assignments - Oral presentations -Expert Talks
CLO2	- Lectures on HRM principles and motivational theories. - Interactive sessions on recruitment and professional development. - Group tasks on preparing job descriptions.	- Written assignments. - Presentations - Group Discussions
CLO3	- Concept explanation of budgeting techniques and cost analysis. - Workshops on preparing library budgets. - Exercises on applying cost-benefit analysis in decision-making.	- Budget proposal writing - Short assignments - Quiz
CLO4	- Lectures on service management and project planning tools (PERT/CPM). - Demonstration of service quality assessment tools like SERVQUAL and LIBQUAL. -Tutor led explanation of Project Management	- Group projects - Presentations - Quiz -Expert Talk

Suggested Readings

Banfield, P., Kay, R., & Royles, D. (2018). *Introduction to human resource management* (Third edition). Oxford University Press. https://doi.org/10.1093/hebz/9780198702825.001.0001

Bordoloi, S., Fitzsimmons, J. A., & Fitzsimmons, M. J. (2023). *Service management : operations, strategy, information technology* (Tenth edition). McGraw Hill.

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Cooke, H., & Tate, K. (2011). *Project management* (2nd ed). McGraw-Hill.

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Ranganathan, S.R. (1954). *Library administration*. Bangalore: Sharada Ranganathan Endowment for Library Science.

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Rue, L. W., Ibrahim, N. A., & Byars, L. L. (2016). *Human resource management* (Eleventh edition). McGraw-Hill Education.

Sannwald, W. W. (2018). *Financial management for libraries*. ALA Neal-Schuman.

Stone, R. J., Cox, A., Gavin, M., & Carpini, J. (2024). *Human resource management* (Eleventh edition). John Wiley and Sons Australia, Ltd.

Wren, D. A., & Bedeian, A. G. (2009). *The evolution of management thought* (6th ed). Wiley ; [Wiley, distributor].

Semester			**Second**		
Course Title			**Knowledge Representation and Discovery (Theory & Practice)**		
Course Code			**MLISCKR225**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Understand and define** key concepts related to library catalogues, including their purpose, types, and physical formats such as OPAC and WEBOPAC. They will be able to **explain and distinguish** between different cataloguing types and forms, clarifying their role in bibliographic organisation. Learners will **apply** knowledge of subject cataloguing and cooperative cataloguing to demonstrate how they enhance resource discovery and operational efficiency in libraries. They will **analyse** the evolution of cataloguing practices through contributions by institutions and experts and **evaluate** their relevance in current digital contexts. Additionally, students may **propose** innovative cataloguing approaches that integrate emerging technologies and meet the dynamic needs of modern libraries.
2. **Identify and understand** foundational concepts related to bibliographic description and encoding standards such as RDA, MARC, and metadata schemas. They will be able to **explain** the structure, evolution, and specific functions of each standard, demonstrating how they facilitate bibliographic control and data interoperability. Students can **apply** these standards by simulating or executing real-world cataloguing tasks using metadata formats and integrated discovery tools. They will be able to **analyse** the effectiveness of different standards and tools in improving searchability, access, and global data exchange across library systems. Finally, students will be able to **evaluate** current practices and **design** optimised bibliographic workflows that integrate appropriate standards to meet the evolving needs of digital and traditional libraries.
3. **Understand and identify** different authorship types, including single, shared, pseudonymous, and multivolume authorship formats. They will **explain** the distinguishing features of each authorship category and the cataloguing principles associated with them, using AACR2 rules. Students will then **apply** the AACR2 standard cataloguing code to accurately construct bibliographic records for various types of authorship cases in practical exercises. They will be able to **analyse** the cataloguing process to compare and contrast how authorship affects bibliographic description, access points, and classification decisions. Finally, they will be equipped with skills adequate to **evaluate** their records through peer assessment and **justify** their cataloguing choices, demonstrating clarity, accuracy, and rule compliance in line with professional cataloguing standards.
4. **Recall** cataloguing standards such as AACR2 and controlled vocabularies like the Sears List of Subject Headings, especially as they apply to serials and non-book materials. They will be capable of **explaining** the descriptive elements and unique structural features of formats, including cartographic resources, audiovisual media, and digital content. By following prescribed rules, students will **apply** appropriate cataloguing techniques to generate bibliographic records for each type of material. They will be able to **analyse** the cataloguing challenges presented by these diverse resources and determine suitable methods and tools for accurate description and access. Moreover, students will be able to **evaluate** the quality of their records and **construct** complete, standard-compliant entries for serials and non-book materials across formats

Unit I Library Cataloguing Fundamentals (15 Hours)

1.1 Library Catalogue: Definition, Need, Purpose and Functions

1.2 Types of Catalogues: Dictionary Catalogue, Classified, Alphabetico Classified Catalogue

1.3 Physical Forms of a Library Catalogue: Conventional and Non -Non-conventional: OPAC, WEBOPAC and Co-OPAC.)
1.4 Cooperative and Centralized Cataloguing: Objectives, different Forms with examples and Latest Trends
1.5 Subject cataloguing: meaning, purpose, objectives
1.6 Principles of Subject Cataloguing: Contribution of Eminent Institutions/Authors (An Overview)

Unit-II Recent Trends in Cataloguing (15 Hours)

2.1 Bibliographic Description Standards: AACR2R, RDA
2.2 Bibliographic Encoding Standards: MARC
2.3 Metadata: Concept and types
2.4 Integrated Discovery Tools
2. 5Emerging Trends in Cataloguing

PRACTICE PART

Unit-III Fundamentals of Library Cataloguing Practice (15 Hours)

3.1 Cataloguing Documents with Single Authorship and Editorial Works
3.2 Shared Authorship
  3.2.1 Documents written by up to three authors, Principal author not indicated
  3.2.2 Documents written by more than three authors: principal author indicated
  3.2.3 Documents written by more than three authors. Principal author not indicated
3.3 Cataloguing of Documents with Pseudonym Authorship
3.4 Cataloguing of Multivolume Collections

Unit IV Library Cataloguing of NBM (15 Hours)

4.1 Cataloguing of Serial Publications
4.2 Cataloguing of Non-Book Material
  4.2.1 Cartographic Materials
  4.2.2 Motion Pictures and Video Recordings.
  4.2.3 Electronic and Web Resources
4.3 Sears List of Subject Headings

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	1	2	3	1	2
CLO 2	3	3	1	2	3	2	2.16
CLO 3	2	3	1	3	3	2	2.33
CLO 4	2	3	1	3	3	2	2.16
Average (PLO)	2.5	2.75	1	2.5	3	1.16	2.15

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Lecture, Demonstration, Case-based Learning	Written tests, Assignments
CLO 2	Discussion, ICT-based teaching, Group Work	Presentations, Quizzes, written tests, etc.
CLO 3	Hands-on practice, Simulation, Collaborative Learning	Practical assignments, Peer assessment
CLO 4	Problem-based learning, Workshops	Project Work, Practical Tests

Suggested Readings

Aitchison, J., & Gilchrist, A. (2023). *Subject cataloguing: Principles and practice*. Facet Publishing.

Aswal, R. S. (2005). *AACR2R with MARC21: Cataloging practice for 21st century*. New Delhi: EssEss Publications.

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Library of Congress. (2022). *MARC 21 for the future of bibliographic control*. Library of Congress website (https://www.loc.gov/cds/products/product.php?productID=51).

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Miller, R., & Smith, J. (2023). *The MARC standard: A practical guide for librarians.* ALA Editions.

Noy, N. F., McGuinness, D. L., & van Harmelen, M. (2022). *Ontology development 101: A guide to creating your first ontology*. Stanford

Pass, G. A., & Association of College and Research Libraries. (2002). *Descriptive cataloging of ancient, medieval, Renaissance, and early modern manuscripts*. Chicago: Association of College and Research Libraries.

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Satija, M. P. (2011). *Theory and practice of subject headings: The Sears list*. New Delhi: Today & Tomorrow's Printers and Publishers.

Satija, M. P., & Haynes, E. (2008). *User's Guide to Sears List of Subject Headings*. Lanham: Scarecrow Press.

Satija, M. P., & Haynes, E. (2008). *User's guide to Sears list of subject headings*. Lanham, Md: Scarecrow Press.

Sears, M. E. (1950). *Sears list of subject headings*. New York: H.W. Wilson Co.

Sears, M. E., & Miller, J. (2000). *Sears list of subject headings*. New York: H.W. Wilson Co.

Smallwood, R. F. (2013). *Managing electronic records: Methods, best practices, and technologies*.

Singh, S., & Kumar, A. (2022). *Search engine optimization for libraries: A guide to website visibility and user engagement*. Springer International Publishing.

Smith, A. (2022). *Understanding library catalogs: A practical guide*. Neal-Schuman.

Staab, S., & Studer, R. (2023). *Handbook on ontologies*. Springer International Publishing.

Svenonius, E., & Campbell, J. (2023). *The evolution of library catalogs: From card catalogs to digital discovery*. Libraries Unlimited.

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Taylor, A., & Johnson, E. (2023). *Understanding AACR2R: A guide for librarians*. Library Juice Press.

Thomas, M. (2022). *The library catalog: A guide for users*. ABC-CLIO.

Weber, M. B. (2002). Cataloging nonprint and Internet resources: A how-to-do-it manual for librarians. New York, NY: Neal-Schuman Publishers.

Welsh, A., &Batley, S. (2012). *Practical cataloguing: AACR, RDA and MARC21*.

Wilson, D., & Robinson, K. (2023). *Collaborative cataloging in the digital age*. ALA Editions.

Zhang, X., & Wang, J. (2023). *Online public access catalogs: A guide for librarians*. Chandos Publishing.

Zhang, X., & Wang, J. (2023). *Web indexing: A practical guide for librarians*. Chandos Publishing.

Semester			**Second**		
Course Title			**Information Sources**		
Course Code			**MLISCIS225**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Gain foundational knowledge** of different types of information sources and **understand** their characteristics and roles in different contexts**. Evaluate** the usefulness, reliability, and authenticity of sources and to **critically** differentiate between credible and non-credible sources. The **ethical responsibility** of using accurate and reliable information will be imparted, laying the foundation for responsible lifelong **research habits**. The **selection of appropriate sources** for various research contexts will develops the ability to identify information gaps and solve research problems.
2. **Engage** with a range of reference tools, including dictionaries, encyclopedias, directories, and AI-based grammar/paraphrasing tools. They **learn** to use these tools efficiently in academic settings. The use of language enhancement tools like dictionaries and grammar checkers will improve students' academic communication, writing clarity, and expression. **Introducing** AI-based tools encourages students to explore emerging technologies while **understanding the importance of responsible tool usage** in academic writing.
3. **Use** scholarly research tools that support academic writing, literature review, and publication identification. **Navigate** citation databases like Scopus or Web of Science, as well as journal finder platforms, to **identify** relevant scholarly material. **Develop** strategies for discovering quality academic sources, understanding indexing, and resolving challenges in identifying credible publication venues.
4. **Evaluate** AI tools like Semantic Scholar or Research Rabbit, **critically examining** their strengths, and weaknesses will be beneficial in **examining** issues like AI bias, authenticity of AI-generated content, deep fakes, and the ethical implications of using such tools. This fosters a mindset of responsible, ethical research practice. **Explore** how AI can support the research process, suggest innovations, and help solve information overload or retrieval challenges. Understanding how these tools will give learners both conceptual knowledge and hands-on experience in navigating emerging digital environments

Unit I: Information Sources: An Overview **(15 Hours)**

1.1 Information sources: Characteristics and Role in various contexts

1.2 Documentary and Non-documentary Sources

1.3 Evaluation Criteria of Sources

Unit II: Language Enhancement Tools, Encyclopaedias, and Directories **(15 Hours)**

2.1 Dictionaries- Types and uses

2.1.1 Generic English Language Dictionaries (OED), Specialist Dictionaries (Dictionary of Science)

2.1.2 AI-based grammar checker and paraphrasing tools

2.2 Encyclopaedias: General, Subject-Specific, Collaborative Encyclopaedias

2.3 Directories: Ulrich's Periodicals Directory, DOAJ, Europa World of Learning, World Higher Education database (WHED)

Unit III: Bibliographical sources, Citation databases, and Journal finders **(15 Hours)**

3.1 Bibliography - Need and types

3.2 Indexing and abstracting sources in Science and Social Science
3.3 Prominent Journal finders

Unit IV: Emerging and AI-powered Information Discovery Tools (15 Hours)

4.1 AI in academic research: Research Rabbit, Semantic Scholar, Connected Papers, Elicit.com, Anara.com
4.2 Ethical use of AI-generated Content
4.3 Challenges and future trends: Authenticity, Deep fakes, AI Bias and Verification

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	3	2	2	2	2.33
CLO 2	3	2	3	2	2	2	2.33
CLO 3	3	3	3	2	2	2	2.5
CLO 4	3	3	3	2	2	2	2.5
Average (PLO)	3	2.5	3	2	2	2	2.4

Pedagogy and Assessment Method

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	**-** Interactive lectures on source types (primary, secondary, tertiary), Group discussions and debates on fake vs. reliable sources, Source evaluation with live examples Real-life case analysis (e.g., using non-credible sources in academic work), Checklists and CRAAP test practice	- **Source analysis report** (evaluate 3 sources for a topic) - **Short quizzes** on source types and characteristics - **Reflective essay** on ethical use of information - **Scenario-based MCQs** (e.g., identify the most credible source) - **Group presentation**: Selecting sources for a research case
CLO2	**Hands-on demonstrations** of both print and digital tools - Tool comparison activity (e.g., Oxford Dictionary vs Grammarly) - **Use-cases and tutorials** for AI tools (Grammarly, Quillbot, ChatGPT) - Discussion on ethical implications of tool misuse (e.g., overreliance on paraphrasing tools)	**Tool efficiency worksheet** (compare usefulness for academic writing) - **Writing improvement assignment** (submit pre- and post-tool drafts) - Group poster: Traditional vs AI reference tools - Tool review reflection (e.g., "How AI grammar tools improved my writing") - **Short demo test** on using a reference tool in class
CLO3	Guided tutorials on citation databases (Scopus/Web of Science) - Library sessions on journal selection and impact factors - Database exploration tasks (journal search, author profiles) - Simulated literature review activity using real topics	**Database navigation quiz** (e.g., Scopus features) - **Annotated bibliography assignment** using selected sources- **Mini literature review** from indexed journals- **Journal comparison chart** (e.g., SCImago) - **reflection** on discovery strategy
CLO4	- **Critical demonstrations** of AI tools for research- **Debate or panel discussion** on AI-generated content and bias- **AI tool mapping exercise** (compare functions and limits)- **Workshop on fake content, deepfakes, and source verification**	- **AI tool critique report** (e.g., Semantic Scholar: strength vs limitations) - **Class debate evaluation** ("Can we trust AI-generated research summaries?") - **Mini project**: Solve a research problem using an AI tool.

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Online Sources

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- Library of Congress. *Library of Congress Catalogue*. www.catalog.loc.gov/
- List of online dictionaries
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- Merriam-Webster. https://www.m-w.com/dictionary/
- OneLook. *OneLook dictionary search*. https://www.onelook.com/
- Oxford University Press. *Oxford English Dictionary*. https://www.oed.com/
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- Clarivate. Web of Science manuscript matcher. https://mjl.clarivate.com/manuscript-matcher
- Wikipedia.https://www.wikipedia.org/

Semester			**Second**		
Course Title			**Citation and Reference Management**		
Course Code			**MLISDCM225**	Contact Hrs	**60**
Course Type: DCE	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Understand** ethical principles of scholarly writing and apply major citation styles accurately. They will develop skills in reference management, avoid plagiarism, and communicate citations effectively. The unit fosters ethical awareness and supports ongoing learning in citation practices.
2. **Articulate** and apply key citation elements and formats across APA, MLA, and Harvard styles. They will demonstrate the ability to accurately cite and reference sources in academic writing, while also analyzing the ethical significance of proper attribution. The course fosters clarity in scholarly communication and encourages continuous learning of citation standards and tools.
3. **Analyse** the purpose of reference management and explore key tools like Zotero, Mendeley, EndNote, and RefWorks. They will apply citation conversions and manage references efficiently in academic writing. The unit fosters ethical citation practices and supports research productivity.
4. **Understand** key indexing databases (Web of Science, Scopus, Google Scholar) and manage citations using tools like Mendeley. They will gain skills in importing/exporting references, generating bibliographies, and collaborating effectively, while upholding ethical citation practices and adapting to evolving research tools.

Unit I: Scholarly Writings & Publishing Principles (15 Hours)

1.1 Scholarly Writings: Principles & Ethics

1.2 Citation and Referencing Principles

1.3 Citation & Reference Styles

Unit II: Citation/Reference Styles & Bibliographic Description (15 Hours)

2.1 Bibliographic and Descriptive Elements of Citations & References

2.2 Prominent Citation Styles

2.2.1 APA

2.2.2 MLA

2.2.3 Harvard

Unit III: Citation Reference Management (15 Hours)

3.1 Reference Management: Concept and Importance

3.2 Citation Conversions & Reference Management Tools: An Overview

3.3 Reference Management Software: Zotero, Mendeley, EndNote, RefWorks, etc

Unit IV: Indexing/Abstracting Databases & Citation/Reference Management (15 Hours)

4.1 Primary Literature Indexing Databases: Web of Science, Scopus, and Google Scholar

4.2 Import/Export of Citations and References

4.3 Mendeley: Management, Synchronisation, Generating Citations, Bibliography, Creating Groups, etc.

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	2	3	3	2	2.67
CLO 2	2	3	2	3	2	3	2.5
CLO 3	2	3	2	2	2	3	2.3
CLO 4	3	2	3	2	2	2	2.3
Average (PLO)	2.5	2.75	2.25	2.5	2.25	2.5	2.44

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Understand ethical writing and citation styles through direct instruction and practical exercises. Engage students with workshops on reference management and plagiarism prevention. Foster ongoing ethical awareness.	Written Assignments, Citation Exercises, Reference Management Projects, Plagiarism Detection Assignments, Quizzes & Peer Review
CLO 2	Evaluate citation formats (APA, MLA, Harvard) with clear examples and lectures. Engage students in practical citation and referencing exercises. Highlight ethical attribution and support continuous learning.	Written Assignments, Citation Quizzes, Practical Assignments, Peer Review, Reflection Essays & Tool-Based Exercises
CLO 3	Teach the purpose of reference management with interactive lectures. Engage students in hands-on use of Zotero, Mendeley, EndNote, and RefWorks. Encourage ethical citation and research efficiency through practice and discussion.	Written Assignments, Tool-Based Assignments, Practical Exercises, Quizzes & Peer Review
CLO 4	Evaluate key indexing databases through lectures and live demos. Engage students in hands-on use of Mendeley for citation management and bibliography creation. Promote ethical citation, collaboration, and adaptability.	Written Assignments, Practical Assignments, Case Studies, Quizzes & Group Projects

Suggested Readings

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Semester			**Second**		
Course Title			**Disaster Management and Cybersecurity in Libraries**		
Course Code			**MLISDDM225**	Contact Hrs	**60**
Course Type: DCE	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Define** and **differentiate** between key disaster-related concepts, including natural, human-made, and technological disasters, establishing a foundational vocabulary. They will be able to **explain** the multifaceted impacts of disasters on human life, infrastructure, and institutional resilience, particularly within the context of information systems. Through contextual examples, students will **illustrate** the stages of disaster management—mitigation, preparedness, response, and recovery—and their relevance to library operations. They will be able to **critically analyse** the operational and ethical challenges libraries face during crises and **evaluate** institutional responses in terms of continuity, access, and community engagement. Ultimately, learners will **design** context-sensitive strategies and action plans that enhance libraries' disaster readiness and post-disaster service delivery.
2. **Define** the concept of disasters and **differentiate** among their natural, human-made, and technological classifications. They will be able to **identify** and **illustrate** the immediate and long-term consequences of disasters on communities, infrastructure, and library services (*Applying*). Students will be capable of **analysing** the structural and operational vulnerabilities of libraries when exposed to diverse disaster scenarios. They will be able to **evaluate** existing disaster preparedness and response frameworks adopted by libraries to mitigate risks and ensure service continuity. In addition, they will be able to **propose** and **justify** strategic interventions through which libraries can actively contribute to community resilience, recovery, and knowledge preservation.
3. **Identify** and **define** key cyber threats relevant to library environments, including malware, phishing, and data breaches. They will be able to **explain** and **demonstrate** the application of countermeasures such as firewalls, antivirus software, encryption, and authentication protocols in safeguarding digital systems. Students will be equipped with **knowledge** that will help them to **analyse** the effectiveness of these tools in protecting library infrastructure and preserving user data privacy. They will be good enough to **critically evaluate** cybersecurity frameworks like the NIST Cybersecurity Framework and ISO 27001, assessing their suitability and adaptability in various library contexts. Moreover, they will be in a position to **formulate and recommend** comprehensive cybersecurity strategies tailored to specific library environments, fostering a culture of secure and ethical digital engagement.
4. **Apply** advanced cybersecurity tools—such as firewalls, encryption protocols, multi-factor authentication, and intrusion detection systems—to secure digital assets within library systems. They will be able to **evaluate** the relative effectiveness of these technologies across different library contexts, assessing them on criteria such as performance, scalability, and user-friendliness. They will be able to **develop** and **recommend** digital hygiene practices for staff and users, including secure password protocols, phishing awareness, and responsible internet use. Finally, they will be able to **design** training modules or awareness campaigns that institutionalise cybersecurity best practices and foster a proactive digital safety culture within libraries.

Unit-I Disaster and Its Management: An Overview **(15 Hours)**

1.1 Disaster –Concept, Types and Impact
1.2 Disaster Management and Its Importance
1.3 Disaster Management in Libraries

Unit-II Disaster Risk Assessment and Prevention **(15 Hours)**

2.1 Risk Assessment
2.2 Prevention and Protection
2.3 Preparedness
2.4 Reaction and Response
2.5 Recovery

Unit III Cyber Security and Policy **(15 Hours)**

3.1 Cyber Security: Concept, Need
3.2 Threats, Vulnerabilities, Risks, & Countermeasures
3.3 Risk Management Frameworks:
  3.3.1 NIST Cybersecurity Framework for libraries.
  3.3.2 ISO 27001 standards for Information security.

Unit IV Securing Digital Assets in Libraries **(15 Hours)**

4.1 Cybersecurity Tools and Practices:
  4.1.1 Firewalls, encryption, multi-factor authentication (MFA).
  4.1.2 Regular software updates and penetration testing.
4.2 Patron Education and Staff Training:
  4.2.1 Recognising phishing scams by Users.
  4.2.2 Developing cybersecurity policies for staff (e.g., password management).

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	1	2	3	2	2.16
CLO 2	3	3	1	3	3	3	2.66
CLO 3	3	2	2	2	3	3	2,50
CLO 4	2	3	2	3	3	3	2.66
Average (PLO)	2.75	2.5	1.5	2.5	3	2.75	2.5

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Concept lectures, discussion-based learning, and case-based reasoning	Case studies, written tests, and group discussion, descriptive test
CLO 2	Problem-based learning, emergency drills, and mock exercises	Evolving/ formulating DMPs, scenario-based tests, Written tests, etc.
CLO 3	Framework analysis, blended pedagogy	Concept mapping, framework comparison, quizzes, written tests
CLO 4	flipped classroom, peer collaboration	Assignments, campaigns, and training module development and descriptive tests

Suggested Readings

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Tuchanan, Sally A (1988). Disaster Planning: Preparedness and Recovery for Libraries and Archives. A RAMP Study (PGI-88/WS/6 .) Paris: UNESCO.

U.S. National Archives and Records Administration. (2018, August). Section 8: Records Disaster Mitigation and Recovery. In *Essential Records Guide*. https://www.archives.gov/files/records-mgmt/essential-records/essential-records-guide.pdf

U.S. National Archives and Records Administration. (2019). *Records Emergencies*. https://www.archives.gov/preservation/records-emergency

U.S. National Archives and Records Administration. (2022). *Disaster Response and Recovery*. http://www.archives.gov/preservation/disaster-response/

Walsh, Betty. (2005) Salvage Operations for Water Damaged Archival Collections: A Second Glance. *WAAC Newsletter,* 27(3), 19-31. https://cool.culturalheritage.org/waac/wn/wn27/wn27-3/wn27-307.pdf

Wei, Y., Chen, Y., & Wang, X. (2023). A framework for multi-hazard risk assessment: Integrating spatial analysis and social vulnerability International, Journal *of Disaster Risk Reduction*.

Wellheiser, Johanna and Jude Scott with John Barton (2002). *An Ounce of Prevention: Integrated Disaster Planning for Archives, Libraries and Record Centers*, Second edition. Lanham, Maryland and Ottawa: Scarecrow Press and Canadian Archives Foundation.

Wiens, J. (2022). *The cybersecurity policy handbook: A comprehensive guide for protecting your organization*. Syngress.

Semester			**Second**		
Course Title			**Information Literacy**		
Course Code			**MLISDIL225**	Contact Hrs	**60**
Course Type: DCE	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. Explain the concept, need and objectives of information literacy. Student will analyse different areas and dimensions of information literacy. Students will explore the role of information literacy in different sectors of the society.
2. Interpret the models of information literacy formulated by different organisations. Students will articulate the standards of information literacy and will explore the emerging trends in information literacy in the society.
3. Describe the role of libraries in promoting information literacy in the society. Students will explore the different information literacy products and tools for promoting information literacy in the society. Students will design different user education methods for conducting information literacy programs.
4. Explore the Information Seeking Behaviour of the library users. They will understand the concept of user study and also the methods of conducting the user study. Students apply the principles of user study to design community outreach programs for libraries.

Unit I: Information Literacy: Introduction and importance **(15 Hours)**

1.1 Information Literacy: Concept, Need and Objectives
1.2 Areas and dimensions of Information Literacy
1.3 Role of Information Literacy in society

Unit II: Models and Standards **(15 Hours)**

2.1 Information Literacy Models: (SCONUL)
2.2 Standards in Information Literacy
2.3 Trends in Information Literacy

Unit III: Librarianship and Information Literacy **(15 Hours)**

3.1 Role of Libraries in promoting Information literacy
3.2 Information Literacy Products & Tools
3.3 User Education Methods

Unit IV: User Studies **(15 Hours)**

4.1 Information Seeking Behaviour
4.2 User Studies: concept and Methods or Techniques

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	2	2	3	2.3
CLO 2	3	2	3	1	2	2	2.1
CLO 3	3	2	2	2	1	1	1.8
CLO 4	3	2	2	1	1	2	1.8
Average (PLO)	3	2	2.25	1.5	1.5	2	2

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	- Interactive lectures with examples on the basic concept of Information literacy - Group discussion on different facets of Information Literacy.	- Written assignments- Oral presentations- short quizzes
CLO2	- Lectures with Demonstrations on standards of Information literacy. Group Discussion and seminars on Models of Information literacy.	Written assignments, Seminar evaluation -Quiz on Models of IL
CLO3	Interactive lectures with examples on Role of Libraries in promoting Information literacy - Group Discussion on information literacy products.	- Written assignments- Oral presentations- short quizzes
CLO4	- Lectures with Demonstrations on Information Seeking Behaviour. Seminars on factors influencing Information seeking behaviour. Field Visit to libraries in order to get knowledge about user study.	Written assignments, Seminar evaluation-Quiz Assessment

Suggested Readings:

Association of College and Research Libraries (ACRL). (2000). *Information literacy competency standards for higher education*. https://alair.ala.org/handle/11213/7668

Babu, B.R. (2008). Information literacy- competency standards and performance indicators: an overview. *DESIDOC Journals of Library and Information Technology, 28*(2), 56-65. https://doi.org/10.14429/djlit.28.2.168

Breivik, P. S., & Gee, E. G. (1989). *Information literacy: Revolution in the library*. Macmillan.

Godwin, P., & Parker, J. (2012). Information literacy beyond library 2.0.Facet Publishing.

Grassian, E. S., & Kaplowitz, J. R. (2009). *Information literacy instruction: Theory and practice*. Neal-Schuman Publishers.

Grassian, E. S. (2015). *Learning to lead and manage information literacy instruction*. Neil Schuman Publishers.

Grassin, E. S. & Kaplowitz, J.R. (2015). *Information Literacy Instruction: Theory and practice*. Neal Schuman.

Horton, F. W. Jr. (2007). *Understanding information literacy: A primer*. United Nations Educational, Scientific and Cultural Organization.

Society of College, National and University Libraries (SCONUL). (2011). *SCONUL Seven Pillars of Information Literacy: Core Model*.

Semester			**Second**		
Course Title			**Digital Library Technology**		
Course Code			**MLISSDL225**	Contact Hrs	**60**
Course Type: Skill	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Understand** and **explain** the concept, architecture, and challenges of digital libraries and critically **examine** and **analyse** key national and international initiatives in the field.
2. **Interpret** major metadata standards, **understand** and **utilise** interoperability protocols like OAI-PMH, and **evaluate** the features of various digital library software tools.
3. **Demonstrate understanding** of rights management, including Creative Commons and copyright, and **implement** technical skills and digital library tools for preserving cultural heritage.
4. **Utilize** technical knowledge to install, configure, and customize digital library software, **create** metadata records, and **Design** functional digital library prototypes.

Unit I: Introduction to Digital Libraries (15 Hours)

1.1 Digital Libraries: Concept and Characteristics

1.2 Components and architecture of digital libraries: hardware, software, databases, UI and Services

1.3 Digital Libraries: Issues and Challenges

1.4 Major Digital Library Initiatives at the National and International Level

Unit II: Metadata Standards and Digital Library Software (15 Hours)

2.1 Interoperability and Metadata Standards

2.2 Metadata Harvesting and OAI-PMH

2.3 Digital Library Software: Features and Utilities

Unit III: Digital Libraries: Rights Management & Cultural Heritage Preservation (15 Hours)

3.1 Rights Management: Creative Commons and Copyright in Digital Libraries

3.2 Need of Open licenses (Creative Commons) in the Digital environments: Discovery, identification, application and dissemination of open content

3.3 Cultural Heritage and its Preservation through Digital Libraries

Unit IV: Digital Libraries in Practical Applications (15 Hours)

4.1 Installation, Configuration and customization of Open-Source Digital Library Software

4.2 Creating small Digital Library Test Beds in various settings

4.3 Creating Metadata Records using Dublin core or User-defined metadata sets

4.4 Planning, Organising and Customizing model digital libraries with small collections

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	2	2	2	2.17
CLO 2	3	3	3	2	2	2	2.5
CLO 3	3	3	3	2	3	3	2.83
CLO 4	2	3	3	1	2	3	2.33
Average (PLO)	2.75	2.75	2.75	1.75	2.25	2.5	2.46

Pedagogy and Assessment Methods

CLOs	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	- Interactive lectures on concepts and architecture of Digital Libraries - Concept explanations by tutor using examples from national/international initiatives - Group discussions on real-world digital library systems – Expert talks/webinars on major DL projects	- Short quizzes - Written assignments - Oral presentations - Expert Talks - Group discussion
CLO2	- Demonstrations of metadata standards like Dublin Core - Hands-on sessions on OAI-PMH protocol - Software evaluation exercises - Group tasks for comparing DL software features	- Lab-based assignments - Short quizzes - Group presentations on tools - Worksheets and report writing
CLO3	- Interactive lectures on copyright and Creative Commons - Case-based learning using cultural heritage projects - Demonstrations of digital preservation tools - Group discussions on legal/ethical aspects	- Presentations - Conceptual assignments - Reflections on preservation challenges - Quiz and mini-project
CLO4	- Hands-on installation/configuration sessions - Guided practice for metadata record creation - Lab work on digital library design - Group Discussions on prototype models	- Group projects - Presentations - Quiz - Lab reports - Evaluation of created prototypes - Practical tests

Suggested Readings:

Alemu, G. (2022). *The future of enriched, linked, open and filtered metadata: making sense of IFLA, LRM, RDA, Linked Data and BIBFRAME*. Facet Publishing.

Andresen, H., Audunson, R., Fagerlid, C., Henningsen, E., Hobohm, H.-C., Jochumsen, H., Larsen, H., & Vold, T. (2020). *Libraries, Archives and Museums as Democratic Spaces in a Digital Age*. De Gruyter Saur. https://doi.org/10.1515/9783110636628

Aparac-Jelušić, T. (2022). *Digital Libraries for Cultural Heritage*. https://app.kortext.com/borrow/1963154

Arms, W. Y. (2019). *Digital Libraries*. The MIT Press.

Balasubramanian, P. (2021). *Digital libraries*. Ess Ess Publications.

Balnaves, E., Bultrini, L., Cox, A. & Uzwyshyn, R. (2025). *New Horizons in Artificial Intelligence in Libraries*. Berlin, Boston: De Gruyter Saur. https://doi.org/10.1515/9783111336435

Banerjee, K., & Reese, T. (2019). *Building digital libraries : a how-to-do-it manual for librarians* (Second edition). ALA Neal-Schuman.

Bausi, A., Brockmann, C., Friedrich, M., & Kienitz, S. (2018). *Manuscripts and archives : comparative views on record-keeping*. De Gruyter. https://doi.org/10.1515/9783110541397

Bossina, L., Castilla, N. d., Colas, G., Drège, J.-P., Déroche, F., Friedrich, M., Kopp, V., Nebbiai, D., Pérez Martín, I., Seyller, J., Smits, I., Tahali, L., & Verger, J.(2023). *Libraries in the Manuscript Age* (N. de Castilla, Ed.). De Gruyter. https://doi.org/10.1515/9783110779653

Brown, A. (2013). *Practical digital preservation* (1st ed.). Facet.

Brown, N. E., Bussert, K., Hattwig, D., & Medaille, A. (2016). *Visual Literacy for Libraries: A Practical, Standards-Based Guide*. https://escholarship.org/uc/item/5210p2nx

Buchanan, S. A., & Moen, M. H. (2021). *Leading professional development : growing librarians for the digital age*. ABC-CLIO.

Calhoun, K. (2017). *Exploring Digital Libraries : Foundations, Practice, Prospects*. Facet Publishing. https://ebook.yourcloudlibrary.com/library/oclc/detail/5rnhwz9

Caplan, P. (2013). *Metadata fundamentals for all librarians*. Indiana Pub. House.

Ceci, M., Ferilli, S., & Poggi, A. (2020). *Digital libraries : the era of big data and data science* (1st ed. 2020). Springer. https://doi.org/10.1007/978-3-030-39905-4

Chowdhury, G. G., & Chowdhury, S. (2008). *Introduction to digital libraries* (Repr). Facet Publishing.

Coates, J., Owen, V., & Reilly, S. (2022). *Navigating copyright for libraries : purpose and scope*. De Gruyter Saur. https://www.degruyter.com/document/doi/10.1515/9783110732009/html

Connaway, L. S., Kitzie, V., Hood, E. M., & Harvey, W. (2017). *The Many faces of digital visitors & residents: Facets of online engagement*. OCLC Research. https://doi.org/10.25333/C3V63F

Deegan, M. (2013). *Digital Preservation*. *Facet Publishing*. http://www.myilibrary.com?id=565477

Demers, P., & Samek, T. (2020). *Minds alive : libraries and archives now*. University of Toronto Press. https://www.jstor.org/stable/10.3138/j.ctvsf1nv3

Estill, L., & Guiliano, J. (2023). *Digital Humanities Workshops Lessons Learned*. Taylor & Francis. https://doi.org/10.4324/9781003301097

Flinchbaugh, M., Thomas, C. F., Tench, R., Sipe, V., Moskal, R. B., Aldana, L. L., & Owusu, E. A. (2019). *Transforming acquisitions and collection services: perspectives on collaboration within and across libraries*. Purdue University Press. https://muse.jhu.edu/pub/60/oa_edited_volume/book/73021/pdf

Forde, H., & Rhys-Lewis, J. (2013). *Preserving archives* (2 ed). Facet.

Fox, E. A., & Ingram, W. A. (2020). *Introduction to Digital Libraries*. In Proceedings of the ACM/IEEE Joint Conference on Digital Libraries in 2020. https://doi.org/10.1145/3383583.3398501

Fred, M. (2020). *Metadata fundamentals for all librarians*. Magnum Publishing LLC.

Gartner, R. (2021). *Metadata in the digital library : building an integrated strategy with XML*. Facet Publishing.

Getty Research Institute. (2016). *Introduction to metadata* (M. Baca, Ed.; Third edition). Getty Research Institute.

Han, H. (2021). *Storage and retrieval innovations in digital libraries*. Magnum Publishing.

Harvey, s., Mahard, r., & Conn, n. (2020). *The preservation management handbook : a 21st-century guide for libraries, archives, and museums* (2nd ed). Rowman & Littlefield.

Hickerson, H. T., Lippincott, J. K., & Crema, L. (2022). *Designing Libraries for the 21st Century. Association of College & Research Libraries*. https://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/booksanddigitalresources/digital/9780838936726_OA.pdf

Hider, P. (2018). *Information resource description : creating and managing metadata* (Second edition). Facet Publishing.

Huang, K.-H., & Institute for New Technologies (Maastricht, Netherlands). (2011). *Digital Libraries - Methods and Applications*. INTECH. http://www.intechopen.com/books/digital-libraries-methods-and-applications

IFLA/UNESCO Manifesto for Digital Libraries. Available at https://www.ifla.org/wp-content/uploads/2019/05/assets/digital-libraries/documents/ifla-unesco-digital-libraries-manifesto.pdf

Ioannides, M., & Patias, P. (2023). *3D research challenges in cultural heritage. III, Complexity and quality in digitisation*. Springer. https://doi.org/10.1007/978-3-031-35593-6

Jaillant, L. (2022). *Archives, access and artificial intelligence : working with born-digital and digitized archival collections*. Bielefeld University Press, an imprint of Transcript Verlag.

Johnston, L. (2017). *Curating research data. Volume one, Practical strategies for your digital repository*. Association of College and Research Libraries, a division of the American Library Association.

Kruk, S. R., & McDaniel, W. D. (2010). *Semantic digital libraries : improving usability of information discovery with semantic and social services*. Springer.

Lesk, M. (2004). *Understanding digital libraries* (2nd ed). Elsevier. http://www.123library.org/book_details/?id=34498

Lombardi, E. M. (2025). *Digitization, copyright, and the law : copyleft and the future of intellectual property*. Routledge, Taylor & Francis Group.

Masenya, T. (2023). *Digital preservation and documentation of global indigenous knowledge systems*. Information Science Reference, an imprint of IGI Global. https://doi.org/10.4018/978-1-6684-7024-4

Myntti, J., & Zoom, J. (2019). *Digital preservation in libraries : preparing for a sustainable future*. ALA Editions, an imprint of the American Library Association.

Neatrour, A., Myntti, J., Wittmann, R. J., Cummings, R., Monson, J. D., & McMillan, M. M. (2025). *The high-impact digital library : innovative approaches for outreach and instruction*. ALA Editions.

Nuredini, K. (2022). *Altmetrics for Digital Libraries Concepts, Applications, Evaluation, and Recommendations*. Logos Verlag Berlin.

Samberg, R. G., Zimmerman, K., Teremi, S., Limpitlaw, E., Enimil, S., & Berkeley Pressbooks Publishing. (2024). *E-resource licensing explained : an A-Z licensing guidebook for libraries* (K. Groves, Ed.). Association of Research Libraries. https://berkeley.pressbooks.pub/eresourcelicensingexplained/

Seadle, M. and Greifeneder, E. (2007). *Defining a digital library*. Library Hi Tech, Vol. 25 No. 2, pp. 169-173. https://doi.org/10.1108/07378830710754938

Stančić, H. (2021). *Trust and records in an open digital environment*. Routledge.

Tanner, S. (2020). *Delivering impact with digital resources : planning strategy in the attention economy*. Facet Publishing.

Vries de, A.P., Eberman, B., &Kovalcin, D.E. (1998). *The design and implementation of an infrastructure for multimedia digital libraries*. Available at http://doc.utwente.nl/18634/1/00694364.pdf

Witten, I. H., & University of Waikato. (2005). *StoneD: A bridge between Greenstone and DSpace*. Hamilton, N.Z: Dept. of Computer Science, University of Waikato.

Witten, I. H., Bainbridge, D., & Nichols, D. M. (2010). *How to build a digital library* (2nd ed). Morgan Kaufmann Publishers.

Yameen, F., & Joshi, D. (2022). *Archives, ethics and the law in India : a guidebook for archivists in India*. Archives at NCBS. https://archives.ncbs.res.in/sites/default/files/archives-ethics-law-in-india-guidebook-2023-01-22.pdf

Yang, L., & Salaz, A. (2025). *Digital libraries across continents*. Routledge.

Zeng, M. L., & Qin, J. (2022). *Metadata* (Third edition). ALA Neal-Schuman.

Zhou, M., Geng, G., & Wu, Z. (2012). *Digital preservation technology for cultural heritage*. Springer ; Higher Education Press. https://doi.org/10.1007/978-3-642-28099-3

MLIS
3RD SEMESTER

Semester			**Third**		
Course Title			**Information Processing and Retrieval**		
Course Code			**MLISCIR325**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Understand** and **evaluate** the core concepts, evolution, and structure of information retrieval and indexing. Apply and assess indexing techniques in practice, analyze user behaviour in designing retrieval systems, and compare methods for relevance and efficiency.
2. **Analyze** and **apply** subject indexing and vocabulary control tools, including thesauri and classification schemes, in information retrieval. Evaluate AI-based indexing methods and suggest improvements.
3. **Evaluate** the principles, development, and role of coordinate, pre-, and post-coordinate indexing in information retrieval. **Analyze** the use of citation indexing tools like SCOPUS and Web of Science for scholarly research. **Apply** indexing methods to create subject entries and assess their effectiveness in digital contexts.
4. **Explore** the structure and functioning of web-based and AI-driven retrieval systems, including multimedia and big data applications. **Analyze** social media mining and demonstrate the use of AI tools in retrieval. **Evaluate** system performance and **assess** how emerging technologies are reshaping information retrieval.

Unit I: Information Processing & Retrieval **(15 Hours)**

1.1 Information Seeking Behaviour & Information Retrieval
1.2 Information Retrieval: Concept, Features, Genesis & Development
1.3 Information Retrieval Systems: Types, Structural Framework & Working
1.4 Information Retrieval Systems & Indexing Processes
1.5 Types & Trends in Indexing: Automatic Indexing (KWIC & its Variants)

Unit II: Subject Indexing & Vocabulary Control **(15 Hours)**

2.1 Subject Indexing and Vocabulary Control: Concept, Need & Characteristics
2.2 Natural Language Vs Indexing Language
2.3 Vocabulary Control Devices/Tools
2.4 Thesaurus: Structure and Functions/ AI Tools & Controlled Vocabulary
2.5 Metadata Formats & Subject Indexing

Unit III: Coordinate Indexing & Citation Databases **(15 Hours)**

3.1 Coordinate Indexing: Importance
3.2 Pre and Post Coordinate Indexing Systems
3.3 Citation Indexing: Concept and Development
    3.3.1 Online Citation Indexing Tools: SCOPUS, Web of Science

Unit IV: Emerging Information Retrieval Systems & Evaluation of IRSs **(15 Hours)**

4.1 Web-Based Retrieval Systems & Artificial Intelligence: Searching & Refinement
4.2 Multimedia Information Retrieval Systems: Images, Audio & Video
4.3 Big Data: Data Mining Tools & Techniques with Special Reference to Social Media Data Mining
4.4 Evaluation of Information Retrieval Systems: Methods and Parameters

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	2	3	3	2.5
CLO 2	2	3	2	2	1.5	3	2.25
CLO 3	3	2	3	2	2	1.5	2.25
CLO 4	2.75	2.5	2.25	2.25	2.38	2.5	2.44
Average (PLO)	3	2	2	2	3	3	2.5

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Understand core IR concepts and indexing through lectures combined with practical exercises and case studies. Encourage analysis of user behavior and comparison of retrieval methods.	Written Assignments, Practical Assignments, Case Study Reports, Group Projects, Quizzes & Reflective Essays
CLO 2	Evaluate subject indexing and vocabulary control through hands-on projects and practical use of tools. Engage students with AI-based indexing methods for analysis and comparison. Promote critical thinking by encouraging evaluation and suggestions for system improvements.	Written Assignments, Practical Assignments, Case Study Analysis, Group Presentations & Quizzes/Short Tests
CLO 3	Teach indexing principles through theory combined with practical subject entry creation. Use case studies to explore citation tools like SCOPUS and Web of Science. Promote critical evaluation of indexing effectiveness in digital environments through projects and reflection.	Written Assignments, Practical Exercises, Case Study Reports, Project Work, Quizzes & Reflective Essays
CLO 4	Investigate web-based and AI-driven retrieval systems through interactive lectures and demonstrations. Engage students in hands-on labs and case studies on social media mining and AI tools. Foster critical evaluation of system performance and emerging technology impacts.	Written Assignments, Practical Labs, Case Study Analysis, Project Work, Quizzes & Presentations

Suggested Readings

Bozzon, C., Brambilla, M., Della Valle, E., Fraternali, P., Quarteroni, S., & Springer-Verlag GmbH. (2015). *Web information retrieval*. Springer.

Chatterjee A. (2017). *Elements of information organization and dissemination*. Chandos Publishing.

Chowdhury, C.G. (2017). *Introduction to modern information retrieva*l. Facet Pubishing.

Cleveland, D. B., & Cleveland, A. D. (2013). *Introduction to Indexing and Abstracting* (2nd ed). Bloomsbury Academic.

De Keyser P. (2014). *Indexing: From Thesauri to the Semantic Web.* Chandos.

Dhawan, K.S. (1997*). Principles of information retrieval*. Commonwealth.

Foskett, A.C. (2012). *The subject approach to information* (6th ed). Facet.Gnoli C. (2020). *Introduction to knowledge organization*. Facet Publishing.

Jones, K. S. (1981). *Information retrieval experiment*. Butterworth.

Joudrey, D. N., Taylor, A. G., & Wisser, K. M. (2018). *The organization of information* (4th ed.). Libraries Unlimited.

Kiewitt, E. L. (1979). *Evaluating information retrieval systems: The probe program*. Greenwood.

Lancaster F. W. & Curry E. L. (2015). *Indexing and abstracting in theory and practice*. Facet

Matthews, J. R., Kochtanek, T. R., & Block, C. (2020). *Library information systems* (2nd ed.). Libraries Unlimited.

Rajan, T. N. (1981). *Indexing Systems: Concepts, models & techniques*. IASLIC.

Ranganathan, S. R. (1973). *Documentation: Genesis and development*.

Vikas Pub. Rijsbergen, J. V. (1979). *Information retrieval* (2nd ed.). Butterworths.

Sardar, T. H., & Pandey, B. (2024). *Big data computing: Advances in technologies, methodologies, and applications* (Ist ed.*)*. CRC Press. https://doi.org/10.1201/9781032634050

Vickery, B.C. (1970). *Techniques of Information Retrieval* (2nd ed.). Butterworth.

Zaki, M. J., & Meira, W. (2020). *Data mining and machine learning: Fundamental concepts and algorithms* (2nd ed.). Cambridge University Press.

Semester			**Third**		
Course Title			**Library Automation and Networking (Theory & Practice)**		
Course Code			**MLISCLA325**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Explain** the foundational concepts of library automation by defining its meaning, scope, and key terminologies. They will be able to **describe** the historical development of automation in libraries, highlighting significant technological milestones and their impact on library services. By examining real-world examples, learners will be able to **analyse** the underlying needs that prompted automation, such as efficiency, accuracy, and user accessibility. They will also be able to **outline** the planning and implementation steps involved in automating library operations, including needs assessment, software selection, and staff training. Additionally, learners will be able to **evaluate** the overall benefits and challenges of automation to assess its relevance in contemporary library systems.
2. **Identify** and **define** the key concepts of information, communication, and networking as foundational components of modern library systems. They will be in a position to **explain** the structure, components, and classifications of networks, including topologies and their specific uses in library environments. Through analysis of current technologies, learners will **differentiate** between traditional and modern library management systems, focusing on fifth-generation LMS features. They will then **apply** this understanding to map the architecture and functions of LMS platforms used in contemporary libraries. Finally, they will be able to **evaluate** trends in library automation systems to predict future developments and recommend suitable systems based on institutional needs.
3. **Identify** and **understand** the core functions of Koha modules such as acquisitions, cataloguing, patron management, and circulation. They will **demonstrate** the ability to navigate and operate each module through real-time hands-on activities. Learners will be able to **analyse** workflows and data entry processes to ensure accuracy and efficiency in library operations. They can **evaluate** the effectiveness of each module in supporting library functions and suggest improvements where necessary. Ultimately, learners will be able to **develop** streamlined operational procedures using Koha to support the day-to-day functioning of library systems.
4. **Identify** and **understand** the purpose and functions of advanced Koha modules such as serials, tools, authorities, and administration. They will **demonstrate** the ability to configure and manage these modules effectively through hands-on practice in real or simulated library environments. Learners will **analyse** system settings, user permissions, and workflows to ensure optimal functionality and data integrity. They will also **evaluate** the role of these modules in enhancing operational efficiency and service delivery within digital library systems. Besides, they will **create** customised configurations and administrative routines to address the specific needs of diverse user communities and institutional policies.

Unit – I Automation Fundamentals **(15 Hours)**

1.1 Library Automation: Origin and Development
1.2 Library Automation: Need and Purpose
1.3 Planning and Implementation of Library Automation
1.4 Library Automation: Operations

Unit-II Networking and LMS – Overview **(15 Hours)**

2.1 Information Communication: Overview
2.2 Networks: Concept and Components, Classification and Topology
2.3 Classification of LIS Networks based on Services Offered
2.4 Fifth Generation LMS
2.5 Trends in Library Automation Systems

PRACTICE PART

Unit – III Koha Basic Operations – Hands-on **(15 Hours)**

3.1 KOHA: Acquisition Module,
3.2 KOHA: Cataloguing Module.
3.3 KOHA: Patron Module
3.4 KOHA: Circulation Module

Unit – IV Koha Advanced Operations and Features – Hands-on **(15 Hours)**

4.1 KOHA: Serials Module
4.2 KOHA: Tools
4.3 KOHA: Course Reserves
4.4 KOHA: Authorities
4.5 KOHA: Administration

CLO–PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	1	2	3	1	1.67
CLO 2	3	2	1	3	3	2	2
CLO 3	2	3	1	2	3	2	1.83
CLO 4	2	3	1	3	3	3	2.33
Average (PLO)	2.5	2.5	1	2.5	3	2	2.25

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Interactive lectures, concept mapping, flipped classroom	Written assignments, descriptive tests, quizzes and written tests
CLO 2	Blended learning, peer discussion forums, and case-based teaching	MCQs, group discussions, short reports and written tests
CLO 3	Hands-on lab sessions, screencasts, skill drills	Lab-based evaluation, observation checklists
CLO 4	Project-based learning, real-time system deployment, peer-to-peer mentoring	Simulation-based tasks, live project work, and practical demonstrations

Suggested Readings

Aitchison, J., & Gilchrist, A. (2023). *Library and information science networks: A guide to services and technologies*. Facet Publishing.

Aitchison, J., & Gilchrist, A. (2023). *Managing Serials with Koha: A Guide for Librarians*. Routledge.

Brown, C., & Chen, D. (2022). *Koha Cataloging Essentials: A Practical Manual*. Libraries Unlimited.
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Kurose, J. F., & Ross, K. W. (2022). *Koha Course Reserves Essentials: A Practical Manual*. Libraries Unlimited.
Kurose, J. F., & Ross, K. W. (2022). *Network design: A practical guide*. Addison-Wesley.
Lee, H., & Chen, W. (2022). *Koha for Librarians: A Practical Guide to Acquisitions*. Facet Publishing.
Lee, H., & Chen, W. (2022). *Library automation: Enhancing efficiency and services*. Information Today.
Miller, R., & Smith, J. (2023). *Cataloging with Koha: A Step-by-Step Guide*. ALA Editions.
Miller, R., & Smith, J. (2023). *Implementing library automation: A practical guide*. ALA Editions.
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Svensson, E., & Campbell, J. (2023). *Koha Circulation Essentials: A Practical Guide for Librarians*. OUP.
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Tanenbaum, A. S., & Wetherall, D. J. (2023). *Managing Course Reserves with Koha: A Guide for Librarians*. Chandos Publishing.
Taylor, A., & Johnson, E. (2022). *Koha Reports and Statistics: A Practical Guide*. ALA Editions.
Taylor, A., & Johnson, E. (2022). *The information communication handbook: A guide for professionals*. Routledge.
Thomas, M., & Williams, J. (2022). *Koha Authorities Essentials: A Practical Manual*. Libraries Unlimited.
Thomas, M., & Williams, J. (2023). *Managing Patrons in Koha: A Guide to User Management*. Chandos Publishing.
Thomas, M., & Williams, J. (2023). *The library automation handbook: A guide to daily operations*. ABC-CLIO.
Williams, J., & Lee, H. (2023). *Artificial intelligence in libraries: A guide to emerging technologies*. Oxford University Press.
Wilson, D., & Robinson, K. (2023). *Introduction to information communication*. Oxford University Press.
Wilson, D., & Robinson, K. (2023). *Koha Tools and Utilities: A Guide for Librarians*. Facet Publishing.
Zhang, X., & Wang, J. (2022). *Koha Administration Essentials: A Practical Manual*. Chandos Publishing.
Zhang, X., & Wang, J. (2022). *Koha and Patron Services: A Practical Guide for Librarians*. Emerald Publishing.
Zhang, X., & Wang, J. (2023). *The benefits of library automation: A guide for librarians*. Chandos Publishing.

Semester			**Third**		
Course Title			**Information Services and Systems**		
Course Code			**MLISCIS325**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. Articulate the concepts & historical development of information services and compare different types of information services in LIS contexts. Students will also conduct user studies to collect data on information-seeking behavior using established models (e.g., Wilson, Ellis) and analyze collected data and apply insights to tailor information services for diverse user groups. Furthermore, Students will evaluate the quality of information services using ISO standards (ISO 11620, ISO 2789) and propose actionable improvements.
2. Understand the concept and evolution of anticipatory information service to proactively meet user needs and formulate solutions for enhancing current awareness services by integrating new and emerging technologies. Students will grasp the deeper understanding of concept of virtual information services and will have hands on training on various tools and techniques associated. Students will evaluate the effectiveness of different developed virtual reference networks and propose enhancements based on case studies.
3. Learn the concepts, components, and historical development of information systems and will compare different national and global information systems (e.g., INFLIBNET, DELNET, AGRIS, ENVIS) based on their varied features, objectives, and functionality. Students will analyze challenges faced at different stages of System Development Life Cycle (SDLC) of an information system in order to formulate solutions to optimize performance and propose innovative features for an information system to enhance accessibility and user experience.
4. Articulate the concepts, types, and components of expert systems and construct a basic design of an expert system for LIS application. Students will evaluate the ethical implications of AI in LIS and formulate strategies to ensure privacy, transparency, and equitable access. Students will Formulate strategies for integrating expert systems in LIS to address future information needs of users & enhancing effective service delivery.

Unit I: Foundations of Information Services **(15 Hours)**

1.1 Information Service: Concept & Types
1.2 User Study: Origin and Development
1.3 Information Seeking Behaviour: Concept & Models
1.4 Information Service Quality Evaluation

Unit II: Technology-Enabled Information Services **(15 Hours)**

2.1 Anticipatory Reference Service: Concept & Development
2.2 New & Emerging Techniques in Current Awareness Services
2.3 Virtual Information Service: Concept, tools & techniques.
2.4 Case Study of Different Virtual Reference & Information Networks

Unit III: Introduction to Information Systems **(15 Hours)**

3.1 Information System: Concept, Development
3.2 Historical Development of Information Systems.
3.3 System Development Life Cycle of Information Systems.

3.4 National and Global Information Systems: INFLIBNET, DELNET, AGRIS, ENVIS, etc

Unit IV: Expert Systems and Intelligent LIS Tools (15 Hours)

4.1 Expert Systems: Concept, Types and
4.2 Components of Expert System
4.3 Expert System Applications in Library and Information centres
4.4 Future Trends: Predictive analytics, human-AI collaboration in LIS

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	3	1	2	3	2.5
CLO 2	3	3	3	1	3	3	2.67
CLO 3	3	3	3	1	2	3	2.5
CLO 4	3	3	3	1	3	3	2.67
Average (PLO)	3	3	3	1	2.5	3	2.58

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO-1	***Interactive Lectures/Flipped Classroom*** will be fruitful to *explain* the evolution, types, and need for information services, reinforced with real-world library examples. ***Case-Based Learning*** shall be adopted where students will *analyze* case studies on user behavior (Wilson, Ellis models). ***Conducting User surveys*** in local libraries to collect and analyze information-seeking behavior data to connect theoretical frameworks with practical applications. ***Organizing Workshops*** *on ISO* will help students to *evaluate* service quality through simulated audits using ISO 11620 and ISO 2789 standards in collaborative groups.	Short Quiz; Multimedia Oral Presentation. Groups Presentation on fieldwork insights; Case Study Analysis Report; User Survey Analysis Report:. Workshop Contribution Assessment. ***Implementing peer reviews*** and instructor feedback to foster self-directed learning and continuous improvement
CLO-2	***Interactive Lectures/Flipped Classroom*** will be Delivered to *explain* the concept, evolution, and types of Anticipatory reference services. ***Group Projects*** will be assigned under proper supervision to *design* anticipatory service frameworks based on user study insights, presenting findings to peers**.** Students shall *design* a prototype for a current awareness service using tools like RSS feeds or automated alerts. ***Case-Based Learning*** shall be adopted where students shall *evaluate* virtual reference networks to identify implementation challenges and best practices. ***Hands-On Labs*** shall give proper training towards virtual service tools in practical sessions to build technical proficiency.	Prototype Design Presentation; Discussion Participation Score; Hands-on Technical Proficiency Test. Virtual Reference Network Evaluation Report:
CLO-3	***Interactive Lectures/Flipped Classroom*** along with multimedia technology will help students to *review* concept and historical	Oral Multimedia Presentation; Guest Lecture Reflection; Short

	development of information systems via pre-recorded lectures, followed by in-class discussions to *analyze* system development Life Cycle. ***Group Projects*** will be given to students to *design* an outline of a small-scale information system, simulating components of systems like INFLIBNET or DELNET. ***Guest Lectures*** by the professionals from systems like AGRIS or ENVIS share insights, enabling students to *compare* global and local information system. ***Incorporating Problem-Based Learning*** enable **s**tudents to *analyze* case studies of system implementation failures and *formulate* solutions in groups.	Quiz; In-Class Discussion Participation. System Comparison Paper; Field Observation Report; Problem-Solving Case Study Report; Peer Review and instructor feedback on Designs
CLO-4	***Interactive Lecture*** will be beneficial to *explain* the Concept, evolution, Types, Components and need for Expert Systems, reinforced with examples. ***Organizing Workshops*** *enable* students to *analyze* human-AI collaboration challenges and *formulate* solutions in group settings. **Reflective Discussions** highlighting the challenges of AI tools through debates on privacy and accessibility in order to enhance student's vision in *assessing* ethical challenges of AI tools through debates on privacy and accessibility. Enable students to *evaluate* ethical issues (e.g., bias in predictive analytics, user data privacy) through structured debates.	Debate Performance Assessment; Short Quiz; Multimedia Presentation; Peer Teaching Session; Reflective Discussion Contribution; Assignments on AI Ethics Case Study Analysis Report; Ethical Issue Analysis Paper; **peer reviews** and instructor feedback

Suggested Readings

Bawden, D., & Robinson, L. (2021). *Introduction to Information Science (2nd ed.)*. Facet Publishing

Cassell, K. A., & Hiremath, U. (2018). *Reference and Information Services: An Introduction (4th ed.)*. ALA Neal-Schuman

Chowdhury, G. (2010). *Introduction to Modern Information Retrieval (3rd ed.)*. Facet Publishing

Harmon, P., & King, D. (1985). *Expert Systems: Artificial Intelligence in Business*. Wiley

Jackson, P. (1999). *Introduction to Expert Systems (3rd ed.)*. Addison-Wesley

Katz, W. A. (2002). *Introduction to Reference Work: Reference Services and Reference Sources (Vol. 1 & 2)*. McGraw-Hill

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Neelameghan A. and Prasad, K.N. Eds. (2005). *Information systems and services in India*. Bangalore: SRELS

Roy, B., & Chakraborty, H. (2023). *Artificial Intelligence in Libraries: Concept, Applications, and Future Directions*. Library Hi Tech, 41(2), 401–420

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Springshare. (n.d.). *LibAnswers Platform Overview*. Retrieved from https://springshare.com/libanswers/

Tenopir, C., & Wolfram, D. (2020). Information services in the digital age: Delivering high-impact library services. *Library Trends,* 68(4), 679–695. https://doi.org/10.1353/lib.2020.0002

Expert Systems: Principles and Programming - Joseph Giarratano

Information Services and Digital Literacy - R. McPherson

Artificial Intelligence in Information Systems - Peter Norvig

Research Rabbit: https://www.researchrabbit.ai

Research 2.0 and the Future of Information Literacy by Jillian R. Griffiths

Semester			**Third**		
Course Title			**Information Technology-Advanced Skills**		
Course Code			**MLISSIT325**	Contact Hrs	**60**
Course Type: Skill	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Explain** the concepts, structure, and **applications** of DBMS and RDBMS, and **identify** key components like tables, records, fields, and relationships. **Design** basic queries and forms using MS Access and LibreOffice Base and **demonstrate** understanding of bibliographic databases.
2. **Demonstrate** understanding of web designing using HTML to **create** structured web content and **explain** the key components and processes of content management systems with reference to their **application** in managing digital content
3. **Apply** database **design** and management skills to **create** and **manage** relational databases and **implement** a mini-library management system using MS Access or LibreOffice Base.
4. **Create** and **enrich** basic library websites and portals using HTML, CSS, and CMS tools by **organizing** information effectively and incorporating multimedia elements.

Unit I: Database Management Systems and Components (15 Hours)

1.1 DBMS and RDBMS: Concept, structure and Applications
- 1.1.1 Understanding key components: tables, fields, records, primary keys, relationships

1.2 MS Access: Features, design and query formulation

1.3 LibreOffice Base: Features and interface components

1.4 Bibliographic Databases: Concept and Overview

Unit II: Web designing and Content Management (15 Hours)

2.1 HTML and web designing
- 2.1.1 Core HTML elements and tags
- 2.1.2 Structuring Web content using HTML
  - 2.1.2.1 Creating pages, links and forms
  - 2.1.2.2 Text formatting and layout

2.2 Content Management: Concept and important components
- 2.2.1 Understanding key elements: Portal, Container, Module, Content.etc
- 2.2.2 Overview of Major CMS Platforms: WordPress, Joomla, Drupal

2.3 Content Management Workflow
- 2.3.1 Stages of content handling: Creation, Processing, and Implementation
- 2.3.2 Metadata management and content quality assurance

Unit III: Database Management in Practice (15 Hours)

3.1 Creating and managing Databases in MS Access
- 3.1.1 Creating Tables, setting data types, field properties and defining primary keys
- 3.1.2 Creating and understanding the relationships in Databases
- 3.1.3 Using Queries, designing forms and reports
- 3.1.4 Data Entry and Management
- 3.1.5 Creating Mini Library Management System using linked tables

3.2 Creating and Managing a Database Project in LibreOffice Base
- 3.2.1 Designing tables with appropriate data types, field properties

3.2.2 Setting primary keys and relationships
3.2.3 Working with tables, queries and data retrieval, forms and reports
3.2.4 Using Base to manage a basic Library Management System

Unit IV: Web Designing and content management for Library Portals (15 Hours)

4.1 Creation and enrichment of Web pages using HTML for Libraries
4.1.1 Creating basic HTML pages using different tags
4.1.2 Enriching webpages using multimedia, hyperlinks, tables and creating navigational menus and internal links, frameset tags
4.1.3 Creating different lists and tables for organising information
4.1.4 Basics of CSS for text formatting and layout
4.1.5 Designing a basic library website using HTML (project)
4.2 Creating content, library websites, and digital exhibits
4.2.1 Use of online tools for customized website settings
4.2.2 Content creation and enrichment for setting a basic CMS

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	2	1	2	2	2.17
CLO 2	3	3	3	2	2	2	2.5
CLO 3	2	3	3	1	2	3	2.33
CLO 4	2	3	3	2	3	3	2.67
Average (PLO)	2.5	3	2.75	1.5	2.25	2.5	2.42

Pedagogy & Assessment Methods

CLOs	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	- Interactive lectures and concept explanation by tutor. - Demonstrations of MS Access and LibreOffice Base. - Hands-on lab sessions and practice exercises. - Discussions on bibliographic databases and their relevance.	- Short quizzes and concept-based written assignments. - Hands-on tasks to create tables, queries and forms. - Evaluation of bibliographic database comprehension via mini-tests.
CLO2	- Lectures and demonstrations on HTML and web structure. - Workshop on CMS platforms such as WordPress or Joomla. - Group discussions on CMS workflow and metadata handling. - Live demonstration on content creation and processing.	- Web page creation assignments using HTML. - Group presentations on CMS evaluation. - Quiz on HTML tags and CMS components.
CLO3	- Step-by-step tutorial on database creation and form design.	- Practical submission of library management systems.

	- Hands-on sessions for developing mini-library systems. - Project-based learning using database tools.	- Evaluation of relationship modelling and query building. - In-class performance during lab sessions.
CLO4	- Hands-on training on HTML, CSS, and multimedia integration. - Tutorials on creating structured library web pages. - Project work involving CMS tool use for library portals.	- Evaluation of created library websites/portals. - Group projects. - Practical demos.

Suggested Readings

Aman, D. S. (2022). *WordPress for Kids : A Creative Book for Kids to Master WordPress, Its Themes, and Plugins with Complete Fun*. BPB Publications.

Bergstein, A. (2023). *Drupal 10 Masterclass : Build Responsive Drupal Applications to Deliver Custom and Extensible Digital Experiences to Users* (1st edition). Packt Publishing, Limited.

Caruana, D., Newton, J., Farman, M., Uzquiano, M., Roast, K., & Safari, an O'Reilly Media Company. (2010). *Professional Alfresco: Practical Solutions for Enterprise Content Management* (1st edition). Wrox.

Coronel, C., & Morris, S. (2023). *Database systems : design, implementation, & management* (14th edition). Cengage.

Diamond, D. (2016). *Metadata for content management : designing taxonomy, metadata, policy and workflow to make digital content systems better for users (*CreateSpace edition (v1.1)). CreateSpace.

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Gonzales, B. M. (2025). *Library website design and development : trends and best practices*. The Rowman & Littlefield Publishing Group, Inc.

Gordon, K. (2022). *Principles of data management : facilitating information sharing* (Third edition). BCS, The Chartered Institute for IT. https://www.oreilly.com/library/view/-/9781780175935/

Griffey, J. (2025). *Digital media production for beginners.* RoutledgeTaylor & Francis Ltd.

Hart-Davis, G., & Wooldridge, L. (2023). *HTML and CSS* (2nd edition). John Wiley & Sons, Inc.

Jephson, B., Coulson, L., & Silveira, A. C. (2024). *Practical HTML and CSS* (Second edition). Packt Publishing Ltd.

Jones, K. M. L., & Farrington, P.-A. (2011). *Using WordPress as a library content management system*. ALA TechSource. http://site.ebrary.com/id/10477325

Jones, K. M. L., & Farrington, P.-A. (2013). *Learning from libraries that use WordPress : content-management system best practices and case studies*. American Library Association. http://public.eblib.com/choice/publicfullrecord.aspx?p=1158446

Ledger, L. J. (2022). *Microsoft Office 365 for beginners : the 1# crash course from beginners to advanced : Easy way to master the whole suite in no time : Excel, Word, PowerPoint, Outlook, OneNote, OneDrive, Access and Teams*. Leonard J. Ledger.

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Lisa Sabin-Wilson (author). (2024). *WordPress All-in-One For Dummies* (5th edition). For Dummies.

MARZO, L. A. D. (2023). *JOOMLA 4 MASTERCLASS : a practitioner's guide to build rich and modern websites using the brand... -new features of joomla 4*. PACKT PUBLISHING LIMITED.

McFedries, P. (2024). *HTML & CSS essentials*. John Wiley & Sons, Inc.

McFedries, P., & Weverka, P. (2025). *Microsoft 365 Office all-in-one* (3rd edition). John Wiley & Sons, Inc.

Minnick, J. L. (2021). *Responsive web design with HTML 5 & CSS* (Ninth edition). Cengage.

Mora, C. M. C., & Teeman, B. (2023). *Developing extensions for Joomla! 5 : extend your sites and build rich customizations with Joomla! plugins, modules, and components (*1st edition). Packt Publishing Ltd.

Powell, T. A. (2010). *HTML & CSS : the complete reference* (5th ed). McGraw-Hill.

Raghavan, V., & Safari, an O'Reilly Media Company. (2019). *Microsoft Access (MS Access) Complete Guide* (1st edition). Technics Publications.

Sabin-Wilson, L., & Mullenweg, M. (2021). *WordPress* (9th edition). John Wiley & Sons, Inc.

Selvaraj, S. (2024). *Pro WordPress : mastering the techniques for building, securing and scaling websites*. *Apress*. https://doi.org/10.1007/979-8-8688-0971-2

Ulrich-Fuller, L., & Cook, K. (2025). *Microsoft 365 Access For Dummies* (Second edition). John Wiley & Sons.

Watson, R. T. (2023). *Data management : databases and analytics* (7th edition). Prospect Press.

Wilson, K. (2023). *The absolute beginner's guide to HTML and CSS : a step -by-step guide with examples and lab exercises*. Apress. https://doi.org/10.1007/978-1-4842-9250-1

Semester			**Third**		
Course Title			**Internship-Advanced**		
Course Code			**MLISIIA325**	Contact Hrs	**60**
Course Type: Internship	**Max Marks**	**100**	**Total Credits: 8**	Course Level	**400**

Course Learning Outcomes (CLOs)

After completing the internship, the students will be able to:

1. **Develop** advanced information literacy skills
2. **Organize** and manage information literacy programs
3. **Handle** automated systems
4. **Execute** technical skills necessary for information handling and dissemination.

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	2	2	2	1	2.16
CLO 2	3	2	2	3	2	2	2.33
CLO 3	3	3	2	2	2	1	2.16
CLO 4	3	3	1	2	2	2	2.16
Average (PLO)	3	2.75	1.75	2.25	2	1.5	2.2

Pedagogy and Assessment Methods

CLOs	Pedagogy	Assessment Methods
CLO	***Supervised Practical Training:*** Students participate in guided sessions with library staff to learn advanced library operations with emphasis on applying theoretical knowledge. **Reflective Journaling:** Students maintain a daily log to document their understanding of advanced library operations and services viz. library automation, indexing, information literacy etc. **Case Study Discussions:** Group discussions on real library automation workflows, imbibing information literacy skills, know-how, etc., linking theory to practical applications, facilitated by mentors during library hours. **Hands-On Practice:** Students shall perform tasks viz. preparing Information Literacy skills campaigns, events, presentations, etc.	**Practical Demonstration**: Assess students' ability to perform advanced library operations during a supervised session by the concerned library mentor. **Mentor Feedback**: Obtain a detailed evaluation from the library mentor on the student's ability to apply theoretical knowledge in daily tasks. **Written Report**: Analyze a report where students reveal how library automation is applied in the assigned library by the concerned mentor in the parent department. **Viva-Voce**: Grade students on the basis of viva-voce. **Practical Demonstration**: Assess students' ability to automate a library using ILS operational in assigned library and their practical knowledge of organizing and managing information literacy skills among the library users.

MLIS
4th SEMESTER
Course Work (CW)

Semester			**Fourth**		
Course Title			**Scholarly Communication and Publishing Ethics**		
Course Code			**MLISCSP425**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

5. **Analyze** the evolution and importance of scholarly communication. **Identify** key tools and platforms, **evaluate** innovations like open access, and propose ethical solutions to improve research dissemination.
2. **Evaluate** types of scholarly communication platforms and forms of scholarly writing. Use citation databases to track research impact, assess publishing models' effects on accessibility, and **propose** solutions to improve research visibility and discoverability.
3. **Understand** the scholarly publishing process, including submission, peer review, and dissemination. **Identify** tools and AI applications used in publishing, and suggest improvements to enhance transparency and efficiency.
4. **Investigate** ethical guidelines for scholarly publishing, **evaluate** open access and unethical practices, identify predatory journals, and develop strategies to promote ethical research visibility and impact.

Unit I: Scholarly Communication **(15 Hours)**

1.1 Scholarly Communication: Purpose & Historical Development
1.2 Key Actors in Scholarly Communication: Role & Responsibilities
1.3 Barriers to Scholarly Communication: Challenges & Opportunities
1.4 Developments in Scholarly Communication

Unit II: Scholarly Communication Platforms and Publishing **(15 Hours)**

2.1 Scholarly Communication Platforms
2.2 Types of Scholarly Writings
2.3 Citation Databases & their Role in Scholarly Communication
2.4 Evolving Role of Libraries in the Scholarly Ecosystem

Unit III: Publishing in Scholarly Journals **(15 Hours)**

3.1 Publishing in Scholarly Journals: Overview
3.2 Scholarly Publishing Life Cycle
3.3 Editorial & Review in Scholarly Communication: Review Process and Reviewer Qualities
3.4 Artificial Intelligence & Scholarly Communication

Unit IV: Publishing Ethics, Outreach and Impact **(15 Hours)**

4.1 Ethical Guidelines for Scholarly Publishing (COPE; ICMJE; SAGER, POCTA etc.)
4.2 Open Access Scholarship: Origin, Types & Impact on Scholarly Communication Landscape
4.3 Predatory Journals and Pseudo-Science
4.4 Research Visibility & Scholarly Impact

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	2	3	3	2	2.67
CLO 2	3	2	2	2	3	3	2.5
CLO 3	2	3	2	2	2	3	2.33
CLO 4	3	2	3	2	2	2	2.33
Average (PLO)	2.75	2.5	2.25	2.25	2.5	2.5	2.46

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Understand the evolution and importance of scholarly communication through lectures and timelines. Engage students with hands-on analysis of tools, platforms, and open access models. Encourage critical thinking on ethics and improvements.	Written Assignments, Timeline Assignments, Tool Analysis Reports, Debates/Discussions, Project Proposals & Quizzes
CLO 2	Teach scholarly communication platforms and writing through lectures and demos. Involve students in the practical use of citation databases and analysis of publishing models. Promote critical thinking and solution development to improve research visibility and access.	Written Assignments, Practical Exercises, Case Studies, Project Work, Quizzes & Presentations
CLO 3	Investigate the scholarly publishing process and peer review through lectures and demonstrations. Engage students with hands-on use of publishing tools and AI applications. Promote critical thinking and innovation.	Written Assignments, Process Mapping Assignment, Tool Exploration Reports, Group Discussions/Debates, Project Proposals & Quizzes
CLO 4	Teach ethical guidelines and challenges in scholarly publishing through case studies and discussions. Involve students in identifying predatory journals and analyzing open access models with real examples. Encourage strategy creation for ethical research visibility.	Written Assignments, Case Study Analysis, Research Essays, Group Projects & Quizzes

Suggested Readings

Anderson R. (2018). *Scholarly communication: What everyone needs to know*. Oxford University Press.

Bos J. (2020). *Research ethics for students in the social sciences*. Springer.

Chase D. & Haugh D. (2020). *Open praxis open access: Digital scholarship in action*. ALA Editions.

Coniam, D., Falvey, P., & Walker, A. (2022). *Academic publishing: processes and practices for aspiring researchers*. Springer. https://doi.org/10.1007/978-981-19-3065-2

De Silva, P. U. K. & Vance, C. K. (2017). *Scientific scholarly communication: The changing landscape*. Springer.

Ding, Y., Rousseau, R., & Wolfram, D. (Eds.). (2014). *Measuring scholarly impact: Methods and practice*. Springer International Publishing.

Dobrick F. M. Fischer J. & Hagen L. M. (2018). *Research ethics in the digital age: Ethics for the social sciences and humanities in the times of mediatization and digitization*. Springer.

Eaton S. E. (2021). *Plagiarism in higher education: Tackling tough topics in academic integrity*. Libraries Unlimited.

Ewart, J. (2023). *Planning your academic publishing journey: publish or perish?* Springer. https://doi.org/10.1007/978-981-99-5902-0

Habibie, P., & Fazel, I. (2024). *Predatory practices in scholarly publishing and knowledge sharing: Causes and implications for scholarship*. Routledge.

Habibie, P., & Hyland, K. (Eds.). (2019). *Novice Writers and Scholarly Publication: Authors, mentors, gatekeepers*. Palgrave Macmillan.

Iphofen R. (2020). *Handbook of research ethics and scientific integrity*. Springer.

Joshi, P. B., Churi, P., & Pandey, M. (2024). *Scientific publishing ecosystem: an author-editor-reviewer axis*. *Springer*. https://doi.org/10.1007/978-981-97-4060-4

Kulczycki E. (2023). *The evaluation game: How publication metrics shape scholarly communication*. Cambridge University Press.

Lancaster T. (2020). *Avoid plagiarism*. Sage Publications.

Ma, L. (2023). *The scholarly communication handbook: from research dissemination to societal impact*. Facet Publishing.

Pimple K. D. (2016). *Research ethics*. Routledge.

Roumate F. (2023). *Artificial intelligence in higher education and scientific research: Future development*. Springer.

Sewell C. (2020). *The no-nonsense guide to research support and scholarly communication*. Facet Publishing.

Shorley, D. (2014). *Future of scholarly communication*. Facet Publishing.

Suber, P. (2019). *Open access*. MIT Press.

Xia, J. (2022). *Predatory publishing*. Routledge.

Semester			**Fourth**		
Course Title			**Open Educational Resources**		
Course Code			**MLISCOE425**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Understand** and **describe** the core concepts of Open Education and Open Educational Resources (OER), their genesis, development, and licensing frameworks, and **identify** the key challenges in their adoption and use.
2. **Identify** major OER platforms and repositories, **explain** quality assurance mechanisms and evaluation criteria, and assess the accessibility and inclusivity features
3. **Explain** the role of libraries and librarians in supporting OER adoption, access, and publishing through institutional repositories and related services.
4. **Utilize** OER authoring tools and metadata standards to **design** and **adapt** open educational content and **create** a sample OER module/course with appropriate licensing and structure.

Unit I: Open Education and Open Educational Resources (15 Hours)

1.1 Open Education: Concept and Importance
1.2 Open Educational Resources: Concept, Genesis and Development
1.3 Open Licences: An overview
1.4 Open Educational Resources: Challenges and Issues

Unit II: Finding and Evaluating OER (15 Hours)

2.1 Major OER repositories and Platforms
2.2 Quality Assurance in OERs
2.3 OER repository Software: Features and Utilities
2.4 Criteria for Evaluating Quality and Relevance
2.5 Accessibility and Inclusivity in OER

Unit III: OER and Libraries (15 Hours)

3.1 Role of Libraries in promoting the use of OER
3.2 Library Services for OER Discovery and Access An overview
3.3 OER publishing support and institutional repositories
3.4 Searching and using OER

Unit IV: OER Creation and Adaptation (15 Hours)

4.1 Tools for authoring and remixing OER
4.2 Developing and Structuring OER Content
4.3 Metadata Standards for OER
4.4 Designing a small OER Course/Module with open Licenses

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	1	2	3	1	1.67
CLO 2	3	2	1	3	3	2	2
CLO 3	2	3	1	2	3	2	1.83
CLO 4	2	3	1	3	3	3	2.33
Average (PLO)	2.5	2.5	1	2.5	3	2	2.25

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	- Interactive lectures on OER concepts and history - Case studies on OER initiatives - Group discussion on challenges in OER implementation	- written assignments - Quizzes - Group Discussions. -presentations
CLO 2	- Hands-on exploration of OER platforms - Demo sessions on accessibility tools - Peer review of sample OERs	- OER evaluation rubric exercises. - Peer assessment - Presentation on repository analysis
CLO 3	- Interactive lectures - Group discussions on institutional repository use - Expert Talk	- Written Assignments. - MCQs - Group activity on OER promotion strategy
CLO 4	- Workshops on OER authoring tools - Lab sessions for remixing content - Tutorial on Creative Commons licensing	- OER project submission - Metadata tagging exercise - Oral presentation of final product

Suggested Readings

Butcher, N., Kanwar, A., & Uvalic-Trumbic, S. (2011). *A basic guide to open educational resources (OER)*. Commonwealth of Learning ; UNESCO. https://oasis.col.org/entities/publication/7a0576ac-de05-442a-a134-2498da2a0a62

Cullen, M. A., & Dill, E. (2022). *Intersections of open educational resources and information literacy*. Association of College and Research Libraries.

Diaz, C. (2017). *Affordable Course Materials : Electronic Textbooks and Open Educational Resources*. ALA Editions, an imprint of the American Library Association.

Diaz, C. (2017). *Affordable course materials: Electronic textbooks and open educational resources*. American Library Association.

Donnelly, C. (2021). *Home-School learning resources: A guide for home-educators, teachers, parents and librarians*. Facet Publishing, UK.

Elder,A.(2019).*The OER Starter Kit*.https://iastate.pressbooks.pub/oerstarterkit/chapter/introduction/

Fengchun, M., Sanjaya, M., Dominic, O., & Ben, J. (2019). *Guidelines on the development of open educational resources policies*. UNESCO Publishing.

Francis, M. (2021). *Open educational resources*. ACRL.

Futurelearn(n.d).*Introduction to Open Educational Resources OER)*.https://www.futurelearn.com/info/courses/blended-learning-getting-started/0/steps/7860

Green, T. D., & Brown, A. (2018). *The educator's guide to producing new media and open educational resources*. Routledge.

Hamilton, G., & Saunderson, F. (2017). *Open licensing for cultural heritage*. Facet Publishing.

Huang, R., Liu, D., Tlili, A., Gao, Y. and Koper, R. (2020). *Current State of Open Educational Resources in the "Belt and Road" Countries*. Springer Nature.

Lawrence, A., T. (2007). *Online and Distance Learning: Concepts, Methodologies, Tools, and Applications: Concepts, Methodologies, Tools, and Applications*. IGI Global.

Olivier, J. and Rambow, A. (2023). *Open Educational Resources in Higher Education: A Global Perspective*. Springer Nature.

Otto, D., Scharnberg, G., Kerres, M., & Zawacki-Richter, O. (2023). *Distributed learning ecosystems concepts, resources, and repositories*. Springer VS.

Scida,E.,& Mckel, B.(2023). *Introduction to Open Educational Resources*. https://pressbooks.library.virginia.edu/oerlctext/front-matter/contributors/

Shank, J. D. (2014). *Interactive open educational resources : a guide to finding, choosing, and using what's out there to transform college teaching* (First edition). Jossey-Bass.

Stielow, F. (2014). *Reinventing the Library for Online Education*. American Library Association.

Thanuskodi, S. (2020), *Challenges and Opportunities of Open Educational Resources Management*. IGI Global.

Walz, A., & Farley, J. P. (2023). *Making open educational resources with and for PreK12 : a collaboration toolkit for higher education*. The Open Education Initiative of the University Libraries at Virginia Tech.

Wesolek, A., Langley, A., & Lashley, J. (2018). *OER: A field guide for academic librarians*. Pacific University Press.

Zhadko, O., & Ko, S. S. (2020). *Best practices in designing courses with open educational resources*. Routledge.

Zhou, M. Y. (2020). *Open Educational Resources (OER) Pedagogy and Practices*. IGI Global.

Semester			**Fourth**		
Course Title			**Open Access Environment**		
Course Code			**MLISCOA425**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Describe** the key stages of the research lifecycle, including idea generation, data collection, analysis, publication, and preservation. They will be capable to identify and explain the roles of various stakeholders such as researchers, publishers, librarians, and funders in scholarly communication. Students will be equipped with the skills to analyse how scholarly communication has evolved historically, from print-based systems to digital and open-access models. They will evaluate current trends like preprints, collaborative platforms, and metrics-driven publishing, assessing their implications for knowledge dissemination. Besides, students will compare traditional and emerging scholarly communication models, applying critical thinking to determine which practices best support transparency, access, and research integrity.
2. **Identify** and **understand** the key principles and historical development of Open Access (OA), including major models such as gold, green, and hybrid OA. They will be able to explain the motivations and benefits of OA for researchers, institutions, and society, as well as the critiques raised against it. They will analyse the differences between OA models in terms of accessibility, cost, and sustainability. They will be capable to evaluate arguments for and against OA by referencing real-world cases and scholarly debates, including ethical and economic concerns. Finally, they will demonstrate knowledge of long-term digital preservation strategies like LOCKSS and CLOCKSS and explain how these systems safeguard scholarly content in an OA environment.
3. **Interpret** the foundational concepts of copyright and licensing by examining legal frameworks and their relevance to scholarly publishing. They will be in a position to differentiate between author rights and publisher-imposed restrictions, recognising how these impact access, reuse, and ownership of scholarly content. Learners will compare various open licensing models, such as Creative Commons, to determine appropriate usage in different contexts. They will also identify and use support tools and services like SHERPA/RoMEO and copyright clearance platforms that assist in managing intellectual property in academic environments. At the end, students will be able to develop informed judgments about best practices in rights management that support ethical and sustainable dissemination of knowledge.
4. **Analyse** global trends in Open Access (OA) by comparing historical developments, policies, and adoption rates across different regions and institutions. They will be able to identify the characteristics of predatory publishing practices and evaluate their detrimental effects on academic integrity and scholarly communication. By examining case studies and real-world examples, learners will differentiate between legitimate and deceptive OA platforms. They will then be in a position to propose innovative, ethical models for OA dissemination, such as overlay journals or decentralised publishing systems, that align with academic values and inclusivity. Finally, they will be capable to justify these models by demonstrating how they enhance accessibility, quality, and sustainability in scholarly publishing.

Unit-I Scholarly Communication Process **(15 Hours)**

1.1 Research Lifecycle

1.2 History and Evolution of Scholarly Communication

1.3 Status and Trends

1.4 Role of Stakeholders

Unit-II Open Access: History and Developments (15 Hours)

2.1 Open Access: Definition, Philosophy and Evolution
2.2 Approaches to Open Access
2.3 Benefits of Open Access
2.4 Arguments against Open Access and Responses
2.5 Open Access Business Models
2.6 Long-Term Preservation Models: LOCKSS, CLOCKSS

Unit-III Rights and Licenses (15 Hours)

3.1 Intellectual Property Rights
3.2 Open Licenses
3.3 Author rights vs. publisher policies
3.4 Support Tools and Services

Unit IV Advocacy and the Future of Open Access (15 Hours)

4.1 Open Access Advocacy
4.2 Predatory publishing: Identifying and avoiding scams
4.3 Innovations: Preprint servers, overlay journals, and decentralised publishing
4.4 International and national OA policies (UNESCO, EU, India)

CLO–PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	1	2	2	2	2
CLO 2	3	3	1	3	2	3	2.5
CLO 3	3	2	1	2	3	2	2.17
CLO 4	2	3	2	3	2	3	2.5
Average (PLO)	2.75	2.5	1.25	2.5	2.25	2.5	2.29

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO 1	Interactive lectures, infographic mapping, stakeholder role-play	Short-answer tests, reflective essays, oral presentations and written tests
CLO 2	Case-based learning, debate simulations, guided readings	Group debates, concept notes, policy briefs and written tests
CLO 3	Scenario-based learning, legal case studies, policy workshops	Comparative analysis, legal brief writing, quizzes and written tests
CLO 4	Design thinking, collaborative projects, expert interaction	Campaign design, group projects, presentations and written tests

Suggested Readings

Abadal, E. (2012). *Challenges for open access journals: quantity, quality and economic sustainability*. *Hipertext.net, 10*. Retrieved from http://www.upf.edu/hipertextnet/en/numero-10/challenges-for-open-accessjournals-quantity-quality-and-economic-sustainability.html.

Abel, R., Newlin, L. W., Strauch, K. P., &Strauch, B. (2002). *Scholarly publishing: Books, journals, publishers, and libraries in the twentieth century*. New York: Wiley.

Andersen, D. L. (2004). *Digital scholarship in the tenure, promotion, and review process*. Armonk, N.Y:

Biagioli, M., & Day, R. (2023). *Open licenses: A guide for researchers and librarians*. Routledge.

Björk, B.-C., & Solomon, D. (2023). *Open access: A practical guide for authors and librarians*. Springer International Publishing.

Björk, B-C et al. (2010). Open access to the scientific journal literature: situation 2009. *PLoS ONE*, 5(6). doi:10.1371/journal.pone.0011273

Borgman, C. L. (1990). Scholarly communication and bibliometrics. Newbury Park: Sage Publications. Braxton, J. M. (1999). *Perspectives on scholarly misconduct in the sciences*. Columbus: Ohio State

Chan, Leslie. (n.d.). *Exciting Potential of Scholarly Electronic Journals*. CAUT.

Crawford, W., & Smith, M. (2022). *The open access debate: A guide to the issues*. Routledge.

Crews, K., & LaPiana, C. (2023). *Intellectual property law for librarians and information professionals*. ALA Editions.

Davis, P., & Van Orsdel, L. (2022). *Open access: Myths and realities. Association of Research Libraries.*

Davis-Kahl, S., & In Hensley, M. K. (2013). *Common ground at the nexus of information literacy and scholarly communication*.

Flanders, Julia (2012). *Defining Scholarly Communication*. available at https://www.youtube.com/watch?v=8aybpzHLZuo

Gu, Feng &Widén-Wulff, Gunilla (2011). Scholarly communication and possible changes in the context of social media: A Finnish case study. *The Electronic Library*, 29(6), 762-776.

Harnad, S. (2008). *The post-Gutenberg open access journal.* In Cope, B.; Phillips, A (eds.). The future of the academic journal. London: Chandos. http://eprints.soton.ac.uk/265617/2/PG-chandos-harnad.pdf

Harnad, S. (2010). *The Open Challenge: A Brief History. Public Service Review: European Science & Technology*, 9, 13-15.

Johnson, R., & Smith, J. (2022). *The future of scholarly publishing: A sustainable open access model*. MIT Press.

Joshi, Meenakshi. (2000). *Scholarly Communication and the Internet*. http://hdl.handle.net/1849/38.) DRTC.

Knapp, M. L., Daly, J. A., & International Communication Association. (2004). *A guide to publishing in scholarly communication journals*. Mahwah, N.J: Lawrence Erlbaum.

Laakso, M., & Björk, B.-C. (2023). *Open access publishing: A guide for librarians and publishers*. Chandos Publishing.

Laakso, M., et al. (2011). The development of open-access journal publishing from 1993 to 2009. *PLoS ONE*, 6(6). doi:10.1371/journal.pone.0020961

Lessig, L., & Okerson, A. (2022). *Creative commons: A guide for librarians and educators*. Routledge.

Loy, M. (2011). *Hindawi Publishing Corporation: Growing an Open-Access Contributor-Pays Business Model*. Updated 2011. London: Ithaka. http://sca.jiscinvolve.org/wp/files/2009/05/iDF153SCA_Ithaka_CaseStudies_v2_Hindawi_v1-03.pdf

MacCallum, C. J. (2023). *Open access metrics: A practical guide for researchers and librarians*. Springer International Publishing.

Nimmer, M. B., & Krauthaus, D. (2022). *The copyright handbook for librarians and educators*. West Academic Publishing.

Open Access Button: [https://openaccessbutton.org/about].

Open Access Scholarly Publishers Association (OASPA): [https://oaspa.org/].

Rowlands, I. (2023). *Open access advocacy: A practical guide for researchers and librarians*. Chandos Publishing.

Schroeder, R. (2022). *Open access training and development: A guide for institutions*. Routledge.

Suber, P. (2009). *Ten challenges for open-access journals*. SPARC Open Access Newsletter, 138.

Suber, P. (2023). *Open access: The revolution in scholarly communication*. MIT Press.

Swan, A. (2006). *Repositories overview: policies and implementation*. *Open Scholarship 2006: New challenges for Open Access repositories*. Retrieved from http://eprints.ecs.soton.ac.uk/17498/

Swan, A., & Oppenheim, C. (2023). *The open access advantage: How sharing research benefits researchers, institutions, and society*. Oxford University Press.

Tennant, J. P., & Waldman, D. M. (2023). *Open access: The case against*. Johns Hopkins University Press.

The Open Access Button Team. (2022). *The economic impact of open access*. [https://openaccessbutton.org/about].

University of Guelph (2014). *Introduction to Scholarly Communication*. available at https://www.youtube.com/watch?v=E9WcbnAOPVA

Villarroya, A. et al. (2012). *Business models of publishers of scientific journals: Implications for Open Access*. El profesional de la información, 21(2), 129-135.

Willinsky, J. (2022). *The history of open access: From the internet to the present*. University of Toronto Press.

Semester			**Fourth**		
Course Title			**Research Methodology**		
Course Code			**MLISCRM425**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Analyze** the foundational concepts, need, & characteristics of research and **classify** different types of research in order to apply appropriate research types to specific study contexts. Students will **articulate** different stages of research along with their significance and evaluate ethical considerations in research in order to propose strategies for maintaining ethical standards throughout their academic and professional careers. Students will identify and analyse different barriers of research and synthesize innovative approaches to overcome identified barriers in research processes.
2. **Evaluate** the components of a research **design** and **apply** them to **develop** a comprehensive, clear and concise research proposal along with its summary for diverse audiences. Students will conduct a literature review using appropriate tools & techniques in support of their proposal. Students will formulate a testable research hypothesis tailored to a specific research problem and assess ethical considerations in hypothesis formulation and literature review, committing to ethical research practices.
3. **Compare** different methods of research in order to **apply** them to appropriate research contexts and select & utilize appropriate data collection tools, evaluating their advantages and disadvantages for specific research designs. Students will critique ethical challenges in data collection and commit to ethical research methodologies. Students will design a mixed-methods research approach to address a complex research question creatively. Students will understand the spiral of the scientific method deeply and will analyse methodological limitations thus propose solutions to enhance research validity.
4. **Apply** statistical concepts using SPSS and R Studio to **analyze** research data accurately and synthesize data analysis results to create innovative visual representations for research outcomes. Students will execute data analysis procedures in SPSS and R Studio to interpret research findings effectively. Students will **evaluate** ethical considerations in data analysis and presentation, committing to transparent reporting practices. Students will troubleshoot data analysis challenges in SPSS or R Studio to ensure reliable research outcomes. Students will compose a comprehensive research report that communicates findings clearly to academic and non-academic audiences.

Unit I: Research Concepts **(15 Hours)**

1.1 Research: Foundations, Need & Characteristics
1.2 Stages of Research
1.3 Research Types: Basic & Applied and Qualitative & Quantitative
1.4 Ethics in Research
1.5 Barriers to Research

Unit II: Fundamentals of Research Planning & Design **(15 Hours)**

2.1 Research Design/Research Proposal
2.2 Review of Literature: Tools and Techniques
2.3 Hypothesis: Formulation & Types

Unit III: Methodological Landscape of Research **(15 Hours)**

3.1 Research Methods:

3.1.1 Historical: Definition, Characteristics and Stages

3.1.2 Descriptive: Definition, Characteristics, and Stages (Survey, Case Study, etc)

3.1.3 Experimental: Definition, Characteristics, Steps/Procedures

3.1.4 Spiral of Scientific Method

3.2 Data Collection Tools: Advantages & Disadvantages

3.3 Mixed Methods Research

Unit IV: Data Analysis & Presentation (Practice) **(15 Hours)**

4.1 SPSS

4.2 Research Report

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	3	3	3	3	3
CLO 2	3	3	3	2	3	3	2.83
CLO 3	3	3	3	3	3	3	3
CLO 4	3	3	3	1	3	3	2.67
Average (PLO)	3	3	3	2.25	3	3	2.87

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO-1	***Interactive Lectures/Flipped Classroom*** will be fruitful to explain research foundations, types, and ethics, with real-world examples from diverse disciplines. ***Case Study Analysis****:* Engage students in analyzing research case studies to identify characteristics, stages, and ethical issues in research. ***Group Discussions***: Facilitate discussions on barriers to research and their impact on research quality. ***Workshops****:* Conduct sessions on ethical research practices, emphasizing lifelong learning through ethical decision-making frameworks.	Written Assignments, Case Study Report evaluation; Short Quiz; Oral Multimedia Presentation; Group Discussion Participation evaluation; Workshop participation outcome evaluation
CLO-2	**Workshops**: Conduct hands-on sessions on using literature review tools (e.g., Google Scholar, Zotero) and drafting research proposals. ***Project Based Learning:*** Guide students in creating a literature review and hypothesis for a chosen topic. **Seminars**: Invite researchers to discuss hypothesis formulation and ethical research planning. ***Collaborative Learning****:* Assign group tasks to develop research proposals, encouraging peer feedback.	Written Assignments, Short Quiz; Oral Presentation, Seminar Participation; Research Proposal draft evaluated for structure, clarity, feasibility creativity and relevance; Students demonstration on literature review tool evaluated for technical proficiency;

CLO-3	**Interactive Lectures**: Explain research methods and data collection tools using case studies and examples. **Workshops**: Conduct sessions to train students on selecting and using data collection tools, focusing on practical application. **Project-Based Learning**: Assign tasks to design mixed-methods research studies, encouraging creative problem-solving.	Written Assignments, Oral Multimedia Presentation on data collection tools; Quiz; Research Proposal Draft using mixed-methods study, evaluated for creativity and feasibility. Workshop participation assessment; Written Assignment
CLO-4	***Interactive Lecture*** will be beneficial to *explain* the basic concept of SPSS. ***Collaborative Learning:*** Encourage group work on data visualization projects to foster creativity. ***Hands-On Labs****:* Conduct practical sessions on SPSS for data analysis and visualization. ***Seminars****:* Invite data analysts to discuss ethical data presentation and troubleshooting techniques. ***Project-Based Learning:*** Assign projects to analyze real datasets and draft research reports. Assign	Written Assignments, Short Quiz on SPSS functions, assessed for technical knowledge; Research Project submission evaluated for structure, clarity, creativity and feasibility. Oral Presentation on visual representations of data, assessed for creativity and clarity; Seminar Participation evaluation;

Suggested Readings

Allan, B. (2010). *Supporting research students*. Facet Publishing.

Busha, C.H., & Harter, S. H. (1988). *Research Methods in Librarianship: Techniques and Interpretation*. Academic Press.

Connaway L. S. & Radford M. L. (2021). *Research Methods in Library and Information Science* (7th ed). Libraries Unlimited.

Ekstrøm J. & Wildgaard L. (2019). *Theories and Methods in Data Science Librarianship*. Facet Publishing.

Ngulube P. (2022). *Handbook of Research on Mixed Methods Research in Information Science*. IGI Global.

Pickard A. J. (2020). *Library and Information Science Research Through a Qualitative Lens*. Facet Publishing.

Powell, R. R., & Connaway, L. S. (2004). *Basic Research Methods for Librarians*. Libraries Unlimited.

Pruzan P. (2016). *Research Methodology: The Aims Practices and Ethics of Science*. Springer.

Thomas C. G. (2021). *Research Methodology and Scientific Writing* (2nd ed.). Springer.

Williamson K. & Johanson G. (2018). Research Methods: Information Systems and Contexts (2nd ed). Chandos Publishing.

Semester			**Fourth**		
Course Title			**Web 2.0 and Advanced Technologies**		
Course Code			**MLISSWT425**	Contact Hrs	**60**
Course Type: Skill	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

2. **Understand** the evolution and core features of Web 2.0 (interactivity, participation, collaboration), and the major technologies associated with it (e.g., AJAX, APIs, cloud platforms). To **explore and interac**t with Web 2.0 tools like wikis, Google Docs, social media, and virtual assistants. **Gaining hands-on experience** with how these technologies work, especially in collaborative settings. **Comparison** of different collaborative tools and creatively consider their integration into professional or academic settings and **development** of an aptitude for researching current technologies and applying them in practical scenarios.
3. **Equip** with practical skills to apply Web 2.0 tools in library environments, enabling them to enhance service delivery, user engagement, and library visibility. **Creating and managing** blogs, wikis, RSS feeds, and social bookmarking platforms, to develop essential digital content creation and communication skills. **Foster critical thinking** as learners **evaluate th**e suitability of different tools for diverse library contexts and encourage lifelong learning through awareness of **ethical** content sharing and professional responsibility. **Analysis** of real-world case studies, to build problem-solving abilities by **exploring** how modern libraries integrate Web 2.0 technologies to meet evolving user needs.
4. **Develop** a comprehensive understanding of scholarly communication practices in a Web 2.0 environment. **Manage** their scholarly identity, participate in collaborative research platforms, and critically evaluate the use of Web 2.0 in academic publishing, while ensuring **ethical and responsible** practices in open-access environments. Necessary communication and **data management skills** will be imparted to contribute effectively to modern research ecosystems.
5. **Explore** the evolution from Web 2.0 to Web 3.0 and beyond by **examining** technologies such as the semantic web, linked data, blockchain, and ambient intelligence. **Critically** assess decentralisation, data ownership, and AI integration. **Analyze** ethical, legal, and governance challenges, **demonstrating conceptual knowledge, critical thinking, ethical responsibility,** and **readiness for research and innovation**.

Unit I: Introduction to Web 2.0 **(15 Hours)**

1.1 Web 2.0: concept, features and technologies
1.2 Social networking: benefits and overview of popular professional social media platforms
1.3 User-generated content and collaboration (wikis, Google Docs)
1.4 Chatbots and virtual assistants in Web applications

Unit II: Web 2.0 for Library Professionals **(15 Hours)**

2.1 Application of Web 2.0 tools in library services
2.2 Creation of library blogs, wikis, RSS feeds, and social bookmarking
2.3 Case studies of Web 2.0 integration in libraries

Unit III: Web 2.0 and Scholarly Communication **(15 Hours)**

3.1 Managing scholarly communication in a web 2.0 environment
3.2 Open access publishing and collaboration

3.3 Use and managing online presence and reputation on social media platforms for academic networking and collaboration

3.4 Research data management: Strategies for organising, documenting, and sharing research data

Unit IV: Web 3.0 and Beyond **(15 Hours)**

4.1 Web 3.0 - Key characteristics: Interoperability, personalisation, and data ownership, decentralisation

4.2 Blockchain, Semantic web and Linked data

4.3 Web 4.0 and 5.0: Ambient intelligence, IoT integration, and AI agents

4.4 Ethical, legal, and governance challenges in decentralized

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	2	2	2	2	2.16
CLO 2	2	3	2	2	2	2	2.16
CLO 3	3	2	3	2	3	2	2.5
CLO 4	3	1	2	2	2	2	2
Average (PLO)	2.75	2	2.25	2	2.25	2	2.2

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO1	Use of **visual aids** (slides, videos, live demos) to explain the evolution of Web 2.0, its technologies (AJAX, APIs, cloud), and key concepts like interactivity and participation. **Practical sessions** to explore tools like Google Docs, wikis, RSS feeds, and social media, simulating collaborative academic publishing scenarios.	- **Collaborative project** using Google Workspace or wiki - **Short quiz** explaining Web 2.0 concepts - **Reflective journal** on user experience using Web 2.0 platforms
CLO2	**Blogging and wiki-building** using WordPress, and MediaWiki, **RSS feed creation** session using Feedly or Inoreader - Case study discussion on how libraries use Web 2.0 (e.g., NLB Singapore, Library of Congress) - **Interactive ethical debates** on copyright, plagiarism, user privacy - Review of each other's digital content	**Tool efficiency worksheet** (compare usefulness for academic writing) - **Writing improvement assignment** (submit pre- and post-tool drafts) - Group poster: Traditional vs AI reference tools - Tool review reflection (e.g., "How AI grammar tools improved my writing") - **Short demo test** on using a reference tool in class
CLO3	**Interactive lectures** on open access, DOAJ, predatory publishing Creating ORCID, ResearchGate, Google Scholar profiles, Demonstration of collaborative tools: Mendeley, Discussion on ethical dilemma in academic publishing.	**Profile creation task** with reflection on digital identity- **Ethical position paper**: e.g., "Should academics blog their research?" - **Group presentation**: Scholarly Web 2.0 platform review.
CLO4	- **Flipped classroom**: students study short video lectures/papers on Web 3.0 before class - **Concept mapping activity**: comparing Web 2.0, 3.0, and 4.0 - **Debates or panel discussions**: "Will AI replace librarians?" or "Blockchain in scholarly communication: hype or future?"	**Concept map submission and presentation** - **Position paper or essay** on Web 3.0 ethics and data decentralization - **Case-based written exam** evaluating application of Web 3.0 concepts.

Suggested Readings

Bhandari, L., & Shivilkar, S. Transition from Web 2.0 to Web 3.0. *IJSAT-International Journal on Science and Technology, 16*(1). https://doi.org/10.71097/IJSAT.v16.i1.2554

Borgman, C. L. (2007). *Scholarship in the digital age: Information, infrastructure, and the internet*. MIT Press.

Bradley, P. (2007). *How to use Web 2.0 in your library*. Facet Publication.

Cheng, S. (2024). *Web 3. 0*. Springer. https://public.ebookcentral.proquest.com/ choice/PublicFull R ecord.aspx?p=31129453

Courtney, N. D. (2007). *Web 2.0 and beyond: Innovative technologies and tomorrow's user*. Libraries Unlimited.

Coyle, D., & Evans, A. (2012). *Introduction to web 2.0* (2nd ed.). Pearson.

Ellyssa, K. (2008). *Web 2.0 for librarians and information professionals*. Neil Schuman Publication.

Escofet, A., & Marimon, M. (2010). Web 2.0 And collaborative learning in higher education. In *Web-Based Education*. IGI Global. https://doi.org/10.4018/9781615209637.ch047

Funk, T. (2023). *Web 2.0 and beyond: Understanding the new online business models, trends, and technologies*. Bloomsbury Publishing.

Koorakki, D., & Vasudevam, T. M. (Eds.). (n.d.). *Library 2.0 and information management*. Atlantic Publishers.

Marr, B. (2023). *The future internet : How the metaverse, web 3. 0, and blockchain will transform business and society*. John Wiley & Sons. https://public.ebookcentral.proquest.com/choice/P ublicFullRecord.aspx?p=7264580

Oppenheim, C., & Korn, N. (2012). *The No-nonsense Guide to Legal Issues in Web 2.0 and Cloud Computing*. Facet Publishing.

Pandey, P., & Madhusudhan, M. (2024). Bridging the gap: Assessing web 2.0 technology adoption in libraries through systematic review. *International Journal of Library Information Networks and Knowledge*, *9*(1), 24-44.

Sauers, M.P. (2009). *Searching 2.0*. Facet Publication.

Theimer, K. (2010). *Web 2.0 tools and strategies for archives and local history collections*. Neil Schuman Publishers.

Online Sources

Academia. (2025). https://www.academia.edu/

LinkedIn. (2025). https://www.linkedin.com/

Research Gate. (2025). https://www.researchgate.net/

MLIS
4th SEMESTER
Research (R)

Semester			**Fourth**		
Course Title			**Research Project**		
Course Code			**MLISPRP425**	Contact Hrs	**240**
Course Type: Project	**Max Marks**	**400**	**Total Credits: 16**	Course Level	**400**

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

1. **Develop** comprehensive knowledge on a particular emerging facet of library and information science.
2. **Apply** research skills for solving a research problem.
3. **Implement** skills in scholarly writing, critical thinking, and synthesis of knowledge
4. **Cultivate** collaborative and independent research abilities under expert supervision, promoting interdisciplinary understanding & teamwork and adherence to ethical research practices.

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	2	3	1	2	3	2.33
CLO 2	3	3	3	1	2	3	2.5
CLO 3	3	3	3	2	3	3	2.83
CLO 4	3	3	3	3	3	3	3
Average (PLO)	3	2.75	3	1.75	2.5	3	2.66

Pedagogy and Assessment Methods

CLO	Pedagogy	Assessment Methods
CLO 1	Orientation sessions on research trends and problem identification -Workshops on literature review and topic formulation - Interactive expert talks - One-on-one mentoring	Submission of research synopsis Evaluation of research proposal Seminar presentation before Research cum Ethics Committee
CLO 2	Expert session on research methodology - Hands on training on research tools & techniques, academic writing and referencing styles - Peer review and feedback sessions - Templates/examples of good research reports	-Short Quiz - Reflective writing on research process - Written Assignments
CLO 3	- Report Writing and Drafting Sessions - The research students, under the guidance of research mentors will understand and evaluate already published research in the domains of assigned research topics. That will hon their research skills for the studies under consideration. This activity will help them to prepare and present a well-structured project report.	- Maintenance of research logbook - Midterm progress presentation - Peer evaluation - Supervisor evaluation of research initiative
CLO 4	Practical involvements with experts across allied fields	- Supervisor Evaluation Report - Viva Voce

Suggested Readings:

The supervisors will provide the suitable list of readings and resources relevant to the problem.

Other Suggested Readings

Allan, B. (2010). *Supporting research students*. Facet Publishing.

Busha, C.H., & Harter, S. H. (1988). *Research Methods in Librarianship: Techniques and Interpretation*. Academic Press.

Connaway L. S. & Radford M. L. (2021). *Research Methods in Library and Information Science* (7th ed). Libraries Unlimited.

Ekstrøm J. & Wildgaard L. (2019). *Theories and Methods in Data Science Librarianship*. Facet Publishing.

Ngulube P. (2022). *Handbook of Research on Mixed Methods Research in Information Science*. IGI Global.

Pickard A. J. (2020). *Library and Information Science Research Through a Qualitative Lens*. Facet Publishing.

Powell, R. R., & Connaway, L. S. (2004). *Basic Research Methods for Librarians*. Libraries Unlimited.

Pruzan P. (2016). *Research Methodology: The Aims Practices and Ethics of Science*. Springer.

Thomas C. G. (2021). *Research Methodology and Scientific Writing* (2nd ed.). Springer.

Williamson K. & Johanson G. (2018). Research Methods: Information Systems and Contexts (2nd ed). Chandos Publishing.

Semester			**Fourth**		
Course Title			**Research Methodology**		
Course Code			**MLISCRM425**	Contact Hrs	**60**
Course Type: Core	**Max Marks**	**100**	**Total Credits: 4**	Course Level	**400**
Formative Assessment: 28		**Summative Assessment: 72**		**Pass Percentage: 40**	

Course Learning Outcomes (CLOs)

After completing this course, the learner will be able to:

5. **Analyze** the foundational concepts, need, & characteristics of research and **classify** different types of research in order to apply appropriate research types to specific study contexts. Students will **articulate** different stages of research along with their significance and evaluate ethical considerations in research in order to propose strategies for maintaining ethical standards throughout their academic and professional careers. Students will identify and analyse different barriers of research and synthesize innovative approaches to overcome identified barriers in research processes.
6. **Evaluate** the components of a research **design** and **apply** them to **develop** a comprehensive, clear and concise research proposal along with its summary for diverse audiences. Students will conduct a literature review using appropriate tools & techniques in support of their proposal. Students will formulate a testable research hypothesis tailored to a specific research problem and assess ethical considerations in hypothesis formulation and literature review, committing to ethical research practices.
7. **Compare** different methods of research in order to **apply** them to appropriate research contexts and select & utilize appropriate data collection tools, evaluating their advantages and disadvantages for specific research designs. Students will critique ethical challenges in data collection and commit to ethical research methodologies. Students will design a mixed-methods research approach to address a complex research question creatively. Students will understand the spiral of the scientific method deeply and will analyse methodological limitations thus propose solutions to enhance research validity.
8. **Apply** statistical concepts using SPSS and R Studio to **analyze** research data accurately and synthesize data analysis results to create innovative visual representations for research outcomes. Students will execute data analysis procedures in SPSS and R Studio to interpret research findings effectively. Students will **evaluate** ethical considerations in data analysis and presentation, committing to transparent reporting practices. Students will troubleshoot data analysis challenges in SPSS or R Studio to ensure reliable research outcomes. Students will compose a comprehensive research report that communicates findings clearly to academic and non-academic audiences.

Unit I: Research Concepts **(15 Hours)**

1.1 Research: Foundations, Need & Characteristics
1.2 Stages of Research
1.3 Research Types: Basic & Applied and Qualitative & Quantitative
1.4 Ethics in Research
1.5 Barriers to Research

Unit II: Fundamentals of Research Planning & Design **(15 Hours)**

2.1 Research Design/Research Proposal
2.2 Review of Literature: Tools and Techniques
2.3 Hypothesis: Formulation & Types

Unit III: Methodological Landscape of Research **(15 Hours)**

3.1 Research Methods:

3.1.1 Historical: Definition, Characteristics and Stages

3.1.2 Descriptive: Definition, Characteristics, and Stages (Survey, Case Study, etc)

3.1.3 Experimental: Definition, Characteristics, Steps/Procedures

3.1.4 Spiral of Scientific Method

3.2 Data Collection Tools: Advantages & Disadvantages

3.3 Mixed Methods Research

Unit IV: Data Analysis & Presentation (Practice) **(15 Hours)**

4.1 SPSS

4.2 Research Report

CLO-PLO Matrix

CLO	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average (CLO)
CLO 1	3	3	3	3	3	3	3
CLO 2	3	3	3	2	3	3	2.83
CLO 3	3	3	3	3	3	3	3
CLO 4	3	3	3	1	3	3	2.67
Average (PLO)	3	3	3	2.25	3	3	2.87

Pedagogy and Assessment Methods

CLO	Pedagogy	Formative Assessment Methods (28 marks)
CLO-1	***Interactive Lectures/Flipped Classroom*** will be fruitful to explain research foundations, types, and ethics, with real-world examples from diverse disciplines. ***Case Study Analysis:*** Engage students in analyzing research case studies to identify characteristics, stages, and ethical issues in research. ***Group Discussions***: Facilitate discussions on barriers to research and their impact on research quality. ***Workshops:*** Conduct sessions on ethical research practices, emphasizing lifelong learning through ethical decision-making frameworks.	Written Assignments, Case Study Report evaluation; Short Quiz; Oral Multimedia Presentation; Group Discussion Participation evaluation; Workshop participation outcome evaluation
CLO-2	**Workshops**: Conduct hands-on sessions on using literature review tools (e.g., Google Scholar, Zotero) and drafting research proposals. ***Project Based Learning:*** Guide students in creating a literature review and hypothesis for a chosen topic. **Seminars**: Invite researchers to discuss hypothesis formulation and ethical research planning. ***Collaborative Learning:*** Assign group tasks to develop research proposals, encouraging peer feedback.	Written Assignments, Short Quiz; Oral Presentation, Seminar Participation; Research Proposal draft evaluated for structure, clarity, feasibility creativity and relevance; Students demonstration on literature review tool evaluated for technical proficiency;

CLO-3	**Interactive Lectures**: Explain research methods and data collection tools using case studies and examples. **Workshops**: Conduct sessions to train students on selecting and using data collection tools, focusing on practical application. **Project-Based Learning**: Assign tasks to design mixed-methods research studies, encouraging creative problem-solving.	Written Assignments, Oral Multimedia Presentation on data collection tools; Quiz; Research Proposal Draft using mixed-methods study, evaluated for creativity and feasibility. Workshop participation assessment; Written Assignment
CLO-4	***Interactive Lecture*** will be beneficial to *explain* the basic concept of SPSS. ***Collaborative Learning:*** Encourage group work on data visualization projects to foster creativity. ***Hands-On Labs****:* Conduct practical sessions on SPSS for data analysis and visualization. ***Seminars****:* Invite data analysts to discuss ethical data presentation and troubleshooting techniques. ***Project-Based Learning:*** Assign projects to analyze real datasets and draft research reports. Assign	Written Assignments, Short Quiz on SPSS functions, assessed for technical knowledge; Research Project submission evaluated for structure, clarity, creativity and feasibility. Oral Presentation on visual representations of data, assessed for creativity and clarity; Seminar Participation evaluation;

Suggested Readings

Allan, B. (2010). *Supporting research students*. Facet Publishing.

Busha, C.H., & Harter, S. H. (1988). *Research Methods in Librarianship: Techniques and Interpretation*. Academic Press.

Connaway L. S. & Radford M. L. (2021). *Research Methods in Library and Information Science* (7th ed). Libraries Unlimited.

Ekstrøm J. & Wildgaard L. (2019). *Theories and Methods in Data Science Librarianship*. Facet Publishing.

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Powell, R. R., & Connaway, L. S. (2004). *Basic Research Methods for Librarians*. Libraries Unlimited.

Pruzan P. (2016). *Research Methodology: The Aims Practices and Ethics of Science*. Springer.

Thomas C. G. (2021). *Research Methodology and Scientific Writing* (2nd ed.). Springer.

Williamson K. & Johanson G. (2018). Research Methods: Information Systems and Contexts (2nd ed). Chandos Publishing.

CLOs-PLOs Mapping Matrix for all the Courses

Course Code	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	Average CLO
MLISCFL125	3.00	2.00	1.75	1.50	2.00	1.75	**2.00**
MLISCKO125	3.00	2.50	3.00	2.00	2.00	2.00	**2.42**
MLISCLO125	3.00	2.50	3.00	2.00	2.00	2.00	**2.42**
MLISDPL125	2.50	2.75	1.50	2.25	2.75	1.50	**2.21**
MLISDPC125	3.00	2.00	2.75	2.00	2.50	2.75	**2.50**
MLISSIT125	3.00	2.75	2.50	2.25	2.00	2.00	**2.42**
MLISIIB125	3.00	3.00	2.00	2.50	2.00	2.00	**2.42**
MLISCLM225	2.75	2.50	2.75	2.25	2.25	2.50	**2.50**
MLISCKR225	2.50	2.75	1.00	2.50	3.00	1.16	**2.15**
MLISCIS225	3.00	2.50	2.75	2.00	2.25	2.75	**2.54**
MLISCCM225	2.50	2.75	2.25	2.50	2.25	2.50	**2.46**
MLISDDM225	2.75	2.50	1.50	2.50	3.00	2.75	**2.50**
MLISDIL225	3.00	2.00	2.25	1.50	1.50	2.00	**2.04**
MLISSDL225	2.75	2.75	2.75	1.75	2.25	2.50	**2.46**
MLISCIR325	2.75	2.50	2.25	2.25	2.38	2.50	**2.44**
MLISCLA325	2.50	2.50	1.00	2.50	3.00	2.00	**2.25**
MLISCIS325	3.00	3.00	3.00	1.00	2.50	3.00	**2.58**
MLISSIT325	2.50	3.00	2.75	1.50	2.25	2.50	**2.42**
MILSIIA325	3.00	2.75	1.75	2.25	2.00	1.50	**2.21**
MLISCSP425	2.75	2.50	2.25	2.25	2.50	2.50	**2.46**
MLISCOE425	3.00	2.00	2.50	1.50	2.25	2.25	**2.25**
MLISCOA425	2.75	2.50	1.25	2.50	2.25	2.50	**2.29**
MLISCRM425	3.00	3.00	3.00	2.25	3.00	3.00	**2.88**
MLISSWT425	2.75	2.00	2.25	2.00	2.25	2.00	**2.21**
MLISPRP425	3.00	2.75	3.00	1.75	2.50	3.00	**2.67**
Average PLO	**2.83**	**2.55**	**2.27**	**2.05**	**2.3452**	**2.2764**	**2.388**