

**MLISc. SYLLABUS As Per NEP: 2020**

**Rashtrasant Tukadoji Maharaj Nagpur University,  
Nagpur**



## **CBCS: Master of Library and Information Science (MLISc)**

## CURRICULUM

(For Two Years)

**(As per National Education Policy 2020)**

**CBCS MLISc. Curriculum Semester-I to IV**

W.E.F. 2023-24

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## **PREAMBLE:**

Library and Information Science is a field of study that aims to educate and train students in effectively creating and managing libraries amidst changing circumstances. It also strives to instill a service-oriented mindset and ethical values in aspiring Library and Information professionals. These objectives are achieved through high-quality education and training at the undergraduate, postgraduate, and research levels. A curriculum structure for Library and Information Science was designed to align with the objectives and aspirations of the National Education Policy-2020 (NEP-2020).

The proposed curriculum structure for Library and Information Science incorporates relevant emerging changes through well-defined approaches. One such approach is the Learning Outcomes-based Curriculum. Recognizing the significance of this evolving approach, efforts were made to develop curriculum frameworks based on learning outcomes, in accordance with the guidance and directives of the Department of Higher Education and Higher Education Council.

## **VISION AND MISSION OF LIBRARY AND INFORMATION SCIENCE PROGRAMME**

- To impart the quality education by refurbishing curriculum to suit the societal and industrial needs.
- To conduct extension programmes in the academic libraries.
- To educate the students in the philosophy of librarianship, basic principles, fundamental laws and professional ethics.
- To train the students in the skills of information organization, processing and retrieval.
- To train the students in the management of Library and Information Centers.
- To provide the students thorough understanding of applications information and communication technology in library and information centers.

## **LIBRARY AND INFORMATION SCIENCE DISCIPLINE**

The discipline of Library & Information Science focuses on the management and provision of information in libraries and information centers. It aims to meet the evolving needs of various library users. The master's degree program in Library & Information Science provides education and training to develop professionals who can effectively and efficiently manage libraries, and information centers with a professional attitude and values. The curriculum is designed to impart meaningful and high-quality education to graduate students, with a focus on learning outcomes.

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### NATURE OF MASTER'S DEGREE PROGRAMME

Library and Information Science is a systematic study of the acquisition, processing, management, maintenance, and dissemination of information and information sources. It examines the purpose, nature, utility, and effectiveness of services offered by libraries and information centers. The scope of this discipline encompasses the study of libraries, information sources, their contents and features, document acquisition processes, and practices, as well as document and knowledge organization methods and procedures. It also covers library and information services, financial and human resource management, and practical skills such as classification, cataloguing, circulation, and the use of information and communication technologies for library automation.

The curriculum has been designed with the aim of enhancing the employability of professionals in the field of Library and Information Science. It equips students with the practical skills necessary for various tasks, including classification, cataloguing, circulation, and the use of information and communication technologies for automating library operations. Students are also trained in searching for information from reference sources, the internet, and electronic databases.

The structure and Credit distribution of MLISC Program and the syllabus of MLISC has been revised by the Board of Studies in Library and Information Science by keeping in view of the vide **G.R.No.NEP-2020/CRNo.09 VISHI-3 SHIKANA, dated May 16, 2023** and the recent trends in the subject of Library and Information Science. The revised structure and syllabi of MLISC Library and Information Science will be made effective **from the Academic Year 2023 24**. Abroad overview of the structure and other details of the course are given below.

**DURATION:**


**DURATION:**  
The MLISC Library and Information Science shall be a full time Two Year (across Four Semester) PG Programme with Exit Option after successfully completion of one year /two semesters and One Year P.G. Programme for four year/eight semesters U.G. students. The students who wish to exit after two semesters will get the PG Diploma and students who will complete four semesters will get PG Degree.

MLISC Part I: SEMESTER-I, comprising of two mandatory, one RM, one elective course and three practical's.

MLISC Part I: SEMESTER-II, comprising of two mandatory, one OJT/FP, one elective course and three practical.

MLISC Part II: SEMESTER-III, comprising of two mandatory, one RP, one elective course and Two practical's.

MLISC Part II: SEMESTER-IV comprising of three mandatory, one RP and one elective course.



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### TOTAL CREDITS & ITS DISTRIBUTION:

A student enrolled for Two Year MLISC Degree Program should acquire a total of 88 credits after completion of four semesters. And, One Year MLISC Degree Program should acquire a total of 44 credits after completion of two semesters i.e. 3<sup>rd</sup>& 4<sup>th</sup> semesters for four year U.G. Students. Exit option shall be exercised i.e. student if completes two semesters (i.e. 1<sup>st</sup>& 2<sup>nd</sup> semester) of the programme, (a total of 44 credits he/she will be awarded P.G. Diploma in Library & Information Science).

TYPE OF COURSE	SEM-1	SEM-2	SEM-3	SEM-4
Mandatory	2 Courses x 4 Credit = 8	2 Courses x 4 Credit = 8	2 Courses x 4 Credit = 8	3 Courses x 4 Credit = 12
Elective	1 Course x 4 Credit = 4	1 Course x 4 Credit = 4	1 Course x 4 Credit = 4	1 Course x 4 Credit = 4
RM	1 Course x 4 Credit = 4	-	-	-
Practical	3 Practical x 2 Credit = 6	3 Practical x 2 Credit = 6	2 Practical = 4+2 Credit = 6	
OJT/FP	-	1 course = 4 Credit = 4		
Research Project(RP)	-	-	RP-1 x 4 Credit = 4	RP-1 x 6 Credit = 6
Total credit	22	22	22	22
Exit option: PG Diploma (44 Credits) after Three Year UG Degree			For One Year P.G. Degree (after Four Year UG Degree) Total 44 credits	
For Two year P.G. Degree Total 88 credits				

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## Program Outcomes

Name of Program : **Master of Library and Information Science**

No. of Courses : **25**

Targeted Graduate Attributes: Disciplinary Knowledge, Critical Thinking, Problem Solving, Analytical Reasoning, Communication Skills, Teamwork, Moral and Ethical Awareness

	<b>Program Outcomes</b>
P01	The student will acquire the ability to actively pursue and demonstrate extensive knowledge and skills within the realm of library and information science.
P02	The student will possess the capability to proficiently recognize, assess, utilize, and implement the essential knowledge, skills, and values necessary for professional competence in the domain of library and information services and research.
P03	The student will be able to think critically and analytically for solving various problems pertaining to the management of Library and information centers in real -world scenarios
P04	The student will be able to locate, organize, understand, evaluate and analyze information using modern and digital technology and accordingly will be adept at utilizing emerging technologies, digital tools, and information systems to support library and Information services, promoting intellectual freedom.
P05	The student will develop the proficiency to effectively articulate thoughts and ideas through both written and oral communication, confidently engage with others using appropriate mediums, and express their viewpoints and individuality.
P06	The student will possess the capability to collaborate effectively and respectfully within diverse teams, fostering a culture of cooperation and coordination through an interdisciplinary approach.
P07	The student will demonstrate a commitment to moral and ethical values in all their work, refraining from engaging in unethical behaviors such as data fabrication, falsification, misrepresentation, or plagiarism. They will also possess a thorough understanding of intellectual property rights and adhere to them accordingly.
P08	The students will demonstrate the ability to conduct research, analyze Information needs and apply critical thinking to solve information-related problems. Students will be equipped with comprehensive understanding of Key concepts and contemporary issues in the field, enabling them to pursue further studies in Library and Information related profession.

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### Program Specific Outcomes (PSOs)

On completing Master of Library and Information Science Programme, students shall be able to realize following outcomes:

- PSO-1: Exhibit knowledge of the information profession by connecting foundational principles, philosophy, and ethics to contemporary issues. Identify ongoing interdisciplinary advancements in the field and analyze current practices to understand their future implications for the profession.
- PSO-2: Create, select, acquire, manage, and uphold the information environment by analyzing how users seek information.
- PSO-3: Demonstrate and explain the principles of organizing recorded information by exploring historical and current theories of organization and representation. Apply the standards of organizing recorded information in libraries and information centers.
- PSO-4: Identify, explain, utilize, and critically evaluate both current and emerging information technologies in libraries and information centers.
- PSO-5: Deliver information services to a diverse community by analyzing, synthesizing, and disseminating traditional and emerging information resources. Develop communication and interpersonal skills to assess the information needs of all users. Utilize creative techniques and tools to address information needs and advocate for underserved audiences.
- PSO-6: Comprehend research by identifying the essential characteristics of quantitative and qualitative research. Evaluate the value of research literature in the library and information field.
- PSO-7: Foster a commitment to continuous learning by participating in professional development opportunities at local, regional, and national levels.
- PSO-8: Apply Indian knowledge and principles to analyze and evaluate ideas and theories in modern disciplines.

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### Post-graduate Attribute:

The learner of M.Lib. & Inf.Sc. Programme should have the following attributes:

(a) **Disciplinary knowledge:** Capable of demonstrating comprehensive knowledge and understanding of major concepts, principles, theories and laws of various subjects in Library and Information Science and other related fields of study, including broader interdisciplinary subfields such as Management, Economics, Information and Communication Technologies, Indology, Statistics, Journalism and Mass Communication, Printing and Packaging, etc.

(b) **Professional and Managerial skills:** Ability to classify simple, compound and complex documents using standard classification schemes; capability to catalogue all types of documents using standard catalogue codes and metadata standards; ability to create database of records and search information from OPAC, Internet and electronic databases; ability to carry out housekeeping operations and to provide library and information services by using information and communication technologies and addressing managerial challenges.

(c) **Skilled communicator:** Ability to communicate effectively in oral and written forms with users, colleagues and authorities in an effective manner. Further ability to create information products such as announcements, information leaflets, bibliographies, e-publications

(d) **Critical thinker:** Capability to critically analyze subjects of documents to classify them properly and to derive subject headings for subject cataloguing, indexing purposes and ability to think critically for solving various problems pertaining to the management of Libraries and Information Centers. Further, abilities to judge for the use of ICT support for effective and efficient management of information and sources, resources.

(e) **Problem solver:** Apply problem solving skills while providing support services for teaching, learning and research and for formulating appropriate strategies to use technologies, databases, platforms, resources. The acquired knowledge and skill would be tested through support to the activities of the School of Biological and Applied Sciences.

(f) **Team player/worker:** Capable of working effectively in diverse teams in classrooms, in computer laboratory, in finding technological solutions, resource-based activities and in Libraries and Information Centers.

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(g) **Digitally literate:** Capable of using digital technology for communication purpose, for library housekeeping operations, and for searching information from OPAC, Internet and online databases and e-resources. Further, ability to work comfortably with the Learning Management System, Content Management System, Digital Library software, and explore possibilities of applying technologies associated with Internet of Things, Artificial Intelligence and Big data for finding ways to improve services.

(h) **Moral and Ethical Values:** Capable of demonstrating the ability to understand professional ethics along with moral values based on the Indian ethos. Also well-versed with the issue related with Intellectual Property Rights, copyright, open access, etc. while providing library services.

(i) **Lifelong learners:** Capable of self-paced and self-directed learning aimed at personal development; for improving knowledge and skills and for reskilling through continuing educational opportunities. Further, capable of providing support to individuals, institutions and the societal groups towards attaining objectives of lifelong learning.

### Teaching Learning Process

The M.Lib.I.Sc. Programme is designed to encourage the acquisition of disciplinary knowledge, understanding, skills, attitudes and ethical values and digital up skilling required for library and information-based professions and jobs. Keeping this in mind the teaching learning experiences should be designed and implemented to enable experiential active/participative learning of the students. Librarianship being a practice-oriented service profession, development of practical skills constitutes an important aspect of the Programme's teaching-learning process. In order to provide knowledge, develop understanding and impart required skills in the students, a variety of teaching learning approaches would be adopted. These include

- Expert Lectures from eminent LIS Professionals
- Seminars, Discussions and debates
- Brainstorming sessions
- Case studies
- Demonstrations
- Practical
- Tutorials
- Group/Peer teaching and learning
- Project-based learning
- Field-based learning

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- Open-ended project work
- Quiz and games
- Technology-enabled learning, etc.

Teaching-learning process suitable to impart problem solving, reasoning and analytical skills may also be adopted. Internship and/or industrial training in school, college, university, research, corporate libraries and other information organizations will be a value adding teaching-learning opportunity. Blended Modes of learning with flexibility in the form of flipped classroom, practical enrichment along with traditional face-to-face teaching with the support of e-learning portal, i.e. RTMNULMS leads to all round preparation of a thorough LIS professional.

### **Blended Learning**

Blended learning is a combination of face-to-face and online learning in a way that the one compliments the other. It provides individuals with the opportunity to enjoy the best of both worlds. For example, a student might attend classes in a real-world classroom setting and then supplement the lesson plan, activities, resource-based learning can take place online.

Website : lgadue . onlinetad SRKADU

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**Scheme of teaching and examination for MLISc**  
**(LIBRARY AND INFORMATION SCIENCE) (CBCS) As per NEP 2020**  
**Structure and Credit Distribution of PG Degree Program for Two years**  
**Choice Based Credit System (Semester Pattern)**  
**Effective from 2023-2024**

MLISc Semester-I												
Code	Theory/Practical	Teaching scheme (Hours/Week)				Credits	Examination Scheme					
		Theory	Practical	Total	Duration in hrs.		Max. Marks		Total Marks	Minimum Passing Marks		
							External Marks	Internal Assessment		Theory	Practical	
MLI1T1	Foundation of Library and Information Science	4		4	4	3	80	20	100	50		-
MLI1T2	Knowledge Organization	4		4	4	3	80	20	100	50		-
MLI1T3	Research Methodology	4		4	4	3	80	20	100	50		-
Electives MLI1T4	Elective Papers (Any One)	4		4	4	3	80	20	100	50		-
MLI1T4E1	Information Sources and Services	---		---								
MLI1T4E2	E-Resource Management	---		---								
MLI1T4E3	Any One Course of Library Science or allied subject from MOOC having 4 Credits	---		---								
Practical's												
MLI1L1	Classification Practice (Part-I) Batch 1 & Batch 2		8	8	2	2-4*	50	---	50			25
MLI1L2	Cataloguing Practice (Part-I) Batch 1 & Batch 2		8	8	2	2-4*	50	---	50			25
MLI1L3	Information Sources Batch 1 & Batch 2		8	8	2	2-4*	50	---	50			25
Total		16	24	40	22	----	470	80	550	200		75













MLISc Semester-II												
Code	Theory/Practical	Teaching Scheme (Hours/Week)				Examination Scheme						
		Theory	Practical	Total	Credits	Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks		
							External Marks	Internal Assessment		Theory	Practical	
MLI2T1	Management of Libraries and Information Centers	4		4	4	3	80	20	100	50	-	
MLI2T2	Applications of ICT in Libraries & Information Centers	4		4	4	3	80	20	100	50	-	
<b>Electives</b> MLI2T3	<b>Elective Papers (Any One)</b>	4		4	4	3	80	20	100	50	-	
MLI2T3E1	Information & Communication	---		---								
MLI2T3E2	Information Analysis, Repackaging and Consolidation	----		-----								
MLI2T3E3	Any One Course of Library Science or allied subject from MOOC having 4 Credits	---		---								
<b>Practical</b>												
MLI2L1	Classification Practice (Part-II) Batch 1 & Batch 2		8	8	2	2-4*	50	---	50			25
MLI2L2	Cataloguing Practice (Part-II) Batch 1 & Batch 2		8	8	2	2-4*	50	---	50			25
MLI2L3	Information Technology Application Batch 1 & Batch 2		8	8	2	2-4*	50	---	50			25
MLI2L4	<b>Library visit Report</b> (Educational Excursion)				02	--	40	10	50			25
	<b>Two month Internship</b> (On Job Training)				02	--	40	10	50			25
<b>Total</b>		<b>12</b>	<b>24</b>	<b>36</b>	<b>22</b>	<b>28</b>	<b>470</b>	<b>80</b>	<b>550</b>	<b>150</b>	<b>125</b>	

- Note:** Internship/On Job Training will be for 60 working days in the Library and Information centers having the 10000 and above books in stacks with LMS computerized library.

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MLISc Semester-III											
Code	Theory/Practical	Teaching scheme (Hours/Week)			Credits	Examination Scheme					
		Theory	Practical	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
							External Marks	Internal Mars		Theory	Practical
MLI3T1	Information Storage, Retrieval and Bibliographical Control	4		4	4	3	80	20	100	50	
MLI3T2	Modern Libraries	4		4	4	3	80	20	100	50	
<b>Electives</b> MLI 3T3	<b>Any one of the following</b>	4		4	4	3	80	20	100	50	
MLI3T3E1	Agricultural Information System	----		----							
MLI3T3E2	Legal Information System	----		---							
MLI3T3E3	Industrial Information System	-----		---							
MLI3T3E4	Any One Course of Library Science or allied subject from MOOC having 4 Credits	-----		----							
<b>Practical's</b>											
MLI3L1	IT Applications to Libraries		8	8	4	2-4*	50	50	100		50
MLI3L2	Research Project		8	8	4	3	50	50	100		50
MLI3L3	Soft skills for Library Professionals		4	4	2	2-4*	25	25	50		25
<b>Total</b>		<b>12</b>	<b>20</b>	<b>32</b>	<b>22</b>	<b>--</b>	<b>365</b>	<b>185</b>	<b>550</b>	<b>150</b>	<b>125</b>

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MLISc Semester-IV											
Code	Theory/Practical	Teaching Scheme (Hours/Week)			Credits	Examination Scheme					
		Theory	Practical	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
							External Marks	Internal Marks		Theory	Practical
MLI4T1	System Analysis and Bibliometrics	4		4	4	3	80	20	100	50	
MLI4T2	Emerging Trends in Library and Information Centers	4		4	4	3	80	20	100	50	
MLI4T3	Intellectual Property Rights	4		4	4	3	80	20	100	50	
<b>Electives</b> MLI4T4	<b>Any one of the following</b>	4		4	4	3	80	20	100	50	
MLI4T4E1	Archival, Museum and Archaeological Information System	----		----							
MLI4T4E2	Biotechnology Information System	----		---							
MLI4T4E3	Engineering and Technological Library and Information System	-----		---							
MLI4T4E4	Any One Course of Library Science or allied subject from MOOC having 4 Credits	-----		----							
<b>Practical</b>											
MLI4L1	Research Project		12	12	6	3	100	50	150		75
<b>Total</b>		<b>16</b>	<b>12</b>	<b>28</b>	<b>22</b>	<b>---</b>	<b>420</b>	<b>130</b>	<b>550</b>	<b>200</b>	<b>75</b>

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## Program Matrix

Name of Program : **Master of Library and Information Science (CBCS)**

(Low Correlation=L/1; Moderate Correlation=M/2; High Correlation=H/3)


Course Outcomes (COs)		Program Outcomes(POs)						
MLISc Semester-I (CBCS)		1	2	3	4	5	6	7
Course Name: <b>Foundation of Library and Information Science</b>								
C01	Develop an understanding of the purpose, role, and significance of libraries in society, including the various types of libraries, their nature, objectives, and services.	H	H	M	L	L	M	L
C02	Acquire knowledge about the historical development of libraries, with a particular focus on the Indian context.	H	H	H	L	L	M	L
C03	Analyze the overall library landscape, especially within the Indian context, and cultivate a greater appreciation for the profession's role in society.	H	H	M	H	M	M	L
C04	Foster the capability to evaluate the present state and emerging trends in the field of Library and Information Science.	H	M	M	H	M	M	L
Course Name: <b>Knowledge Organization</b>								
C01	Understanding the concept of knowledge , its types, and the structure of universe of knowledge	H	H	M	M	L	L	L
C02	Creating the role of library classification in knowledge organization.	H	H	M	M	L	L	L
C03	To create the ability to apply the knowledge organization in the internet era.	H	H	M	M	L	L	L
C04	Understanding the role of cataloguing in retrieving library material and the need for standardization in cataloguing.	H	H	M	H	M	L	M
Course Name : <b>Research Methodology</b>								
C01	Understanding the concept, meaning, need , purpose and value of research in Library and Information Science.	H	H	M	M	M	M	H
C02	Applying the process of research in Library and Information Science.	H	H	H	M	M	M	H
C03	Evaluating the qualitative and quantitative aspects of research and to interpret and infer based on data/information.	H	H	H	M	M	M	M
C04	Recognize current trends in LIS research	H	H	M	L	M	M	M


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	Course Name: <b>Information Sources and Services</b>							
C01	Develop a foundational understanding of the core concept of reference and information sources and services, including their identification, differentiation, and organization.	H	H	M	M	M	L	M
C02	Analyze various categories of reference and information sources, supported by relevant examples.	H	H	H	M	M	M	L
C03	Cultivate the ability to critically evaluate reference sources and reference services, enhancing the skills necessary for effective assessment.	H	H	M	M	M	L	L
C04	Acquire knowledge about information sources and services in the digital and internet era, recognizing the unique characteristics and opportunities they present.	H	H	M	M	L	L	L
	Course Name: <b>E- Resource Management</b>							
C01	Students can learn about selection, licensing, and evaluation of electronic resources.	H	H	M	M	M	L	M
C02	Students can critically examine the laws and policies that made an impact on electronic resource management.	H	H	H	M	M	M	L
C03	Students can understand the critical technologies and standards behind electronic resource management.	H	H	M	M	M	L	L
C04	Student can gain the knowledge of current trends in e-resource management.	H	H	M	M	L	L	L
	<b>MLISc Semester- II (CBCS)</b>							
	Course Name: <b>Management of Libraries and Information Centers</b>							
C01	Foster the growth of individuals as information and communication managers who contribute to society.	H	H	H	M	M	H	H
C02	Comprehend the fundamental principles of management as they pertain to library administration and the organization of a library.	H	H	H	H	M	M	M
C03	Emphasize the importance of "Quality" in library procedures and services, as well as familiarize oneself with various housekeeping operations in a library.	H	H	H	H	M	M	M
C04	Apply the concepts of planning, marketing, human resource development, and both budgetary and non-budgetary control in libraries and information centers. Gain an understanding of how to monitor and evaluate library performance.	H	H	H	M	M	H	M
C05	Foster the growth of individuals as information and communication managers who contribute to society.	H	H	H	M	M	H	M



	Course Name: <b>Application of ICT in Libraries &amp; Information Centers</b>						
C01	Develop a solid grasp of the basics of computers, including their hardware components, software, input and output devices, memory, and the classification of computers.	M	H	L	H	L	L
C02	Analyze the various applications of computers and information technology in libraries, recognizing their significance and impact.	H	H	H	H	L	M
C03	Cultivate the skills necessary to design automated systems in libraries and information centers, enabling efficient and effective operations.	H	H	H	H	L	M
C04	Gain an understanding of the internet, internet protocols, search engines, and other emerging ICT (Information and Communication Technology) trends relevant to libraries.	H	H	H	H	L	M
	Develop a solid grasp of the basics of computers, including their hardware components, software, input and output devices, memory, and the classification of computers.						
	Course Name: <b>Information and Communication</b>						
C01	Develop a comprehensive understanding of the definition, origins, scope, and objectives of Information Science.	H	H	M	M	H	M
C02	Recognize the crucial role of libraries in the communication process, appreciating their significance as facilitators of information exchange.	H	H	M	M	H	M
C03	Foster an understanding of the concept of an information society and its implications, including the study of the Right to Information Act, National Knowledge Commission, and NEP 2020 (National Education Policy 2020).	H	M	M	L	H	H
C04	Analyze the significance and role of professional library associations, exploring their contributions to the field.	H	H	H	H	M	M
C05	Gain insight into the concept of the Information Industry, the commodification of information, and the marketing of information products and services.	H	M	M	L	H	H
C06	Evaluate contemporary trends in Library and Information Science, keeping up-to-date with the latest developments and advancements in the field.	H	M	M	L	H	H
	Course Name: <b>Information Analysis, Repackaging and Consolidation</b>						
C01	Develop a comprehensive understanding of the concepts, importance, and methods of information analysis and consolidation, as well as repackaging.	H	H	M	M	L	M

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C02	Assess and evaluate information consolidation products to gauge their effectiveness and value.	H	H	M	M	M	M	M
C03	Cultivate the skills necessary to design tailored information consolidation products that meet the specific needs of stakeholders.	H	H	M	H	H	M	M
C04	Acquire knowledge and insights into the marketing of information services and products, along with skills in electronic content creation.	H	H	M	M	M	M	M
C05	Stay updated on recent trends in information analysis, consolidation, and repackaging to ensure relevance and adaptability.	H	H	M	M	M	M	M
<b>MLISc Semester- III (CBCS)</b>								
<b>Course Name: Information Storage, Retrieval and Bibliographical Control</b>								
C01	Identify the components of an information storage and retrieval system.	H	H	H	H	L	L	L
C02	Familiarize with different models and structures of an IR system.	H	H	H	H	L	L	L
C03	Understand the theoretical foundations of various IR methods.	H	H	H	M	L	L	L
C04	Compare information retrieval systems at national and international levels.	H	H	H	M	L	M	L
C05	Examine factors influencing the performance of an IR system.	H	H	H	M	L	M	L
C06	Stay updated with current research in the field and on the web.	H	H	H	M	L	M	L
<b>Course Name: Modern Libraries</b>								
C01	Conceptualize modern libraries in the context of implementing sophisticated web-based tools and techniques.	M	M	M	H	M	M	L
C02	Create digital libraries using various open-source software's.	H	H	H	H	M	M	M
C03	Understand and evaluate digital libraries in relation to digital copyright.	H	H	H	H	M	M	M
C04	Analyze various institutional repository initiatives at national and international levels.	H	H	H	H	M	M	M
<b>Course Name: Agricultural Information System</b>								
C01	Understand the importance of agricultural libraries and their organization.	H	H	H	M	L	M	L
C02	Identify the information needs of agricultural scientists and research workers.	H	H	M	M	M	M	L
C03	Explore the agricultural library scenario at national and international levels.	H	H	H	M	M	H	M
<b>Course Name: Legal Information System</b>								
C01	Comprehend the nature, principles, and characteristics of law libraries.	H	H	H	M	L	M	L

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C02	Analyze special information sources in legal information systems.	H	H	H	M	L	M	L
C03	Evaluate legal information systems at national and international levels.	H	H	H	M	M	M	L
	Course Name: <b>Industrial Information System</b>							
C01	Assess information technology solutions required for product and system development in an industrial environment.	H	H	H	M	L	M	L
C02	Utilize these solutions effectively and apply them to industrial systems.	H	H	H	M	L	M	L
C03	Understand the importance of industrial libraries.	H	H	H	M	M	M	L
C04	Explore the impact of resource sharing and networking in industrial information systems.	H	H	H	M	M	H	L
C05	Evaluate modern trends in industrial information systems.	H	H	H	M	M	H	L
C06	Analyze the present scenario at national and international levels.	H	H	H	M	M	H	L
	MLISc Semester-IV (CBCS)							
	Course Name: <b>System Analysis and Bibliometrics</b>							
C01	Understand systems concepts, system analysis, and system design.	H	H	M	M	L	M	L
C02	Comprehend the role of hardware and software in realizing organizational objectives and automation.	H	H	M	M	L	M	M
C03	Explore the role of systems analysts and software development firms.	H	H	H	M	M	M	M
C04	Recognize the role of system analysis and design in various systems development stages.	H	H	H	H	M	H	M
	Course Name: <b>Emerging Trends in Library &amp; Information Centers</b>							
C01	Enhance professional competence and skills.	H	H	H	H	M	M	H
C02	Utilize ICT tools for effective user services.	H	H	H	H	M	M	H
C03	Produce need-based instructional materials for users.	H	H	H	H	M	M	H
C04	Explore the application of machine learning, artificial intelligence, and other technologies in serving the library community.	H	H	H	H	M	M	M
C05	Identify new roles for LIS professionals to adapt to the changing LIS environment.	H	H	H	H	M	M	M
	Course Name: <b>Intellectual Property Rights</b>							
C01	Gain an understanding of intellectual property laws in India.	H	H	H	H	M	M	H

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C02	Explore the concept of intellectual property and intellectual property rights at national and international levels.	H	H	H	H	M	M	H
C03	Study copyright, including ownership, assignment, infringement, and remedies.	H	H	M	M	H	M	H
	<b>Course Name: Archival, Museum and Archeological Information System</b>							
C01	Understand the concepts of archives and museums.	H	H	H	M	L	M	L
C02	Identify the materials managed by archives and museums.	H	H	H	M	L	M	L
C03	Explore working areas in archives and collections management.	H	H	M	M	M	M	L
C04	Learn about the history of archival science and museology.	H	H	H	M	M	H	M
C05	Develop digitization techniques and their application in archives and museums.	H	H	H	M	M	H	M
	<b>Course Name: Biotechnology Information System</b>							
C01	Understand the concepts and importance of biotechnological libraries in India.	H	H	H	M	L	M	L
C02	Analyze biotechnological information systems at national and international levels.	H	H	H	M	L	M	L
C03	Develop skills to organize various sources in biotechnological information systems.	H	H	M	M	M	M	L
	<b>Course Name: Engineering and Technological Library and Information System</b>							
C01	Understand the importance of engineering and technological information systems.	H	H	H	M	L	M	L
C02	Analyze engineering and technological information systems at national and international levels.	H	H	H	M	L	M	L
C03	Develop skills to manage engineering and technological information systems.	H	H	M	M	M	M	L

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER- I**

**MLI 1T1**

**Major**

**FOUNDATIONS OF LIBRARY AND INFORMATION SCIENCE**

**Learning Outcomes:**

1. Develop an understanding of the purpose, role, and significance of libraries in society, including the various types of libraries, their nature, objectives, and services.
2. Acquire knowledge about the historical development of libraries, with a particular focus on the Indian context.
3. Analyze the overall library landscape, especially within the Indian context, and cultivate a greater appreciation for the profession's role in society.
4. Foster the capability to evaluate the present state and emerging trends in the field of Library and Information Science.
5. Explore information policies, professional associations, and legislation relevant to the field, thereby gaining awareness of their importance and impact.

**Unit-I: Types of Libraries**

- Library as a Social Institution
- History of Libraries- Origin, Development with special reference to India
- Types of Libraries: Academic Libraries: School, College and University Libraries
- Public Libraries, National Library, Calcutta: Concept, Functions and Services
- Special Libraries and Information Centers: State Central Libraries in Maharashtra

**Unit-II: Laws & Services**

- Five Laws of Library Science by S.R. Ranganathan and its implication to Library and Information Science
- Public Relation and Publicity
- Extension Activities and Outreach Services
- Promotional and Consultancy Services

**Unit-III :Acts, Committees & Commissions**

- Library Legislation in India
- Salient Features of Maharashtra Public Library Act 1967
- The Press and Registration Act, Delivery of Books and News Papers (Public Libraries) Act
- Role of Union and State Governments (Committees & Commissions on Libraries, UGC, RRRLF etc.)
- National Information Policy, India

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#### Unit-IV: Professionalism & Associations

- Library Movement with Special Reference of India
- Librarianship as a Profession
- Attributes, Ethics of a Profession
- Philosophy of Librarianship
- Professional Associations: National (ILA, IATLIS, IASLIC) and International (IFLA, ALA, LA)

#### Recommended Books for Study

1. Chakraaborty, N.C. Library Movement in India. Delhi, Hindustan. 1962.
2. Khanna, J. K. Library and Society. Kurukshetra Research Publication. 1987.
3. Krishna Kumar. Public Library Stem in India. Indian Book Industry 21<sup>st</sup> 1992.
4. Kumar PSG. Indian Library Chronology, Ed.2. Bombay, Allied Publishers. 2000.
5. Kumar, PSG. Fundamentals of Information Science. Delhi, S. Chand. 1997.
6. Mittal, R. L. Library Administration. Delhi, Metropolita. 1964
7. Nalhe, Umaji. Working and Finance of Aided Public Libraries. ISBN-978-93-82664-38-3; Satyam Publishers & Distributors, Jaipur. (Rajasthan). 2015.
8. Ranganathan S.R. New Education and School Library. Ed.2. Delhi, Vikas. 1973.
9. Ranganathan, S. R. Five Laws of Library Science. Madras Library Association. 1957.
10. Sharma, O. P. History of the Development of University Libraries in India: an appraisal. Indian Librarian. Dec. 1964.
11. Sharma, Pandey S. K. Library and Society. Ed. 2ND. Ess Ess .1992
12. Subramoni (TS) Public Relations in Libraries (IASLIC Bulletin v31; 1986.
13. The National Library (Calcutta). Brochure, 1992.
14. Vashisth, C. P. University Libraries in India: are views. Library Herald V19; 1980.
15. Vyas, S. D. Library and Society. Jaipur. Panchasheel. 1993.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-I**

**MLI 1T2  
Major  
KNOWLEDGE ORGANIZATION**

**Learning Outcomes:**

1. Understanding the concept of knowledge, its types, and the structure of universe of knowledge
2. Creating the role of library classification in knowledge organization.
3. To create the ability to apply the knowledge organization in the internet era.
4. Understanding the role of cataloguing in retrieving library material and the need for standardization in cataloguing.
5. To remember the fundamentals of cataloguing and catalogue construction, schemes of classification, and standards for bibliographic record and communication

**Unit-I: Universe of Knowledge and Library Classification**

- Knowledge: Concept, Definition, Types
- Universe of Subject: Structure, Attributes and Mode of Formation
- Library Classification: Concept, Definition, Need and Purpose
- Knowledge Classifications Book Classification

**Unit-II: Classification: Foundation And Trends**

- Basic Concepts and Terminology
- Canons for three Planes: Idea, Verbal, Notation.
- Schemes of Classification: CC, DDC, UDC, LC.
- Modern Trends in Classification: CRG, BSO, Web Dewey

**Unit-III :Cataloguing Foundation**

- Cataloguing: Concept, Need, Purpose
- Cataloguing Code & Standard: AACR-II
- Canons of Cataloguing
- Types of Entries: Main, Added, Reference, Cross Reference
- Parts of Book

**Unit-IV: Standards of Bibliographic Record & Communication**

- Cataloguing of Non Book Material: Traditional & Electronic
- OPAC, Web OPAC, CCF
- RDA, FRBR, Bib frame
- Standards for Bibliographic Information Interchange: ISO 2709, Z39. 50, Z39.71

**Recommended Books for Study**

1. American Library Association Anglo American Cataloguing Rules 1967, North American Text, Chicago: A.L.A., 1967.
2. Bavakutty, M. Canons of Library Classification, Trivandrum: Kerala

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- Library Associations, 1981.
3. Campbell, M. Cataloguing of Non Book Material, U.S.A: University Microfilms, 1965.
  4. Chakraborty, A. K. Bibliography: theory and practice, Calcutta; World Press, 1987.
  5. Coates, E. J. Subject Catalogue Heading and Structure, London: Library Association, 1961.
  6. Dhyani, P. Library Classification, Theory and Principles New Delhi: Vishva Prakashan, 1998.
  7. Girija Kumar and Krishan Kumar. Bibliography, New Delhi: Vikas Publications, 1990.
  8. Girija Kumar and Krishan Kumar. Cataloguing, New Delhi: Vikas Publications, 1986.
  9. Hingve, K. S. Granthalaya Vergikaran, Pune: Suvichar Prakashan, 1974.
  10. Horner, J. Cataloguing, London: Association of Assistant Librarian, 1970.
  11. Husain, S. Library Classification: Facets and Analysis, New Delhi: Tata McGraw Hill, 1993.
  12. Khanna, J. K. Handbook of Library Classification System, New Delhi: Beacon Books, 1997.
  13. Krishan Kumar, Theory of Classification, 5<sup>th</sup> ed. New Delhi: Vikas Publication, 1996.
  14. Kumar P.S.G. and Mohammad, Riaz. Cataloguing, New Delhi: Vikas Publications, 1986.
  15. Kumar, P.S.G. Knowledge Organization, Information Processing and Retrieval. New Delhi. B. R. Publishing House, 2003.
  16. Kumar, P.S.G. Practical Guide to DDC20. Nagpur, Datta Sons, 1990.
  17. Kumar, P.S.G., Knowledge organization, information processing and Retrieval: Practical paper 3 of UGC Model curriculum. B. R. Publication, New Delhi, 2003.
  18. Lihitkar, Shalini, R. and Veranjanallu. Cataloguing: Theory and Practice. B.S. Publication, 2012. Hyderabad.
  19. Mahajan, S.G. Granthalayan Talikikaran Prathyakshika. Vol.1, Pune: Maharashtra Vidyapith Granth Nivedhi Mandal, 1974.
  20. Marcella, R.A. New Manual of Classification, Delhi: Jaico Publications, 1997.
  21. Pande, S. K. Sharma. Pusthakalaya Siddantha. Delhi: Satisahitya Prakashan.
  22. Rajyalakshmi, D. Impact of Ranganathan on AACR. Datison Publication, 2004. New Delhi.
  23. Ranganathan, S. R. Classification and Communication, Bangalore: Sarada Ranganathan Endowment for Library Science, 1989.
  24. Ranganathan, S. R. Classified Catalogue Code, 5<sup>th</sup> ed. Bombay: Asia Publication House, 1964.
  25. Sajita, M. P. Manual of Practical Colon Classification, New Delhi: Sterling Publishers, 1984.
  26. Satija, M. P. DDC-20<sup>th</sup> Edi: Practice.
  27. Satija, M. P. Theory and Practice of Subject Headings: The Sears List. Today and tomorrow's Printers and Publishers, New Delhi, 2011.
  28. Satijia, M. P. and Goswami, J. P. Exercises in the 21<sup>st</sup> edition of DDC,

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- New Delhi: Sterling Pub. Pvt. Ltd, 1998.
29. Sengupta, B. K. Cataloguing: Its Theory and Practice, 3<sup>rd</sup> ed., Calcutta: Work Press, 1974.
  30. Shera, J. H. Classified Catalogue Basic Principles of Practice, Chicago: A.L.A., 1956.
  31. Tripathi, S. M. and Showkeen, N. S. Prasuchirkaran Siddantatha Multalva. Agra: K. Publishers, 1997.
  32. Tripathi, S. M. Modern Cataloguing theory and practice, Agra: Shival Agrawal, 1969.
  33. Vishwanathan, C. G. Cataloguing: Theory and Practice, 6<sup>th</sup> ed., New Delhi: Today and Tomorrow, 1970.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER-I**

**MLI 1T3**  
**Mandatory**  
**RESEARCH METHODOLOGY**

**Learning Outcomes:**

1. Understanding the concept, meaning, need, purpose and value of research in Library and Information Science.
2. Applying the process of research in Library and Information Science.
3. Evaluating the qualitative and quantitative aspects of research and to interpret and infer based on data/information.
4. Recognize current trends in LIS research

**Unit-I: Introduction to Research**

- Concept, Meaning, Need and purpose of Research, Motivation and objectives of research.
- Types of Research: Basic and Applied Research
- Ethics in Research: Areas of Research in LIS, Role of research in the development of scholarship.

**Unit-II: Research Methods and Design**

- Planning of research- The planning process, review of literature
- Selection of a problem for research-mode of selection, sources of problem, process of identification, criteria of selection.
- Hypothesis-Meaning, types, sources, functions, conceptualization and operationalization
- Designing research proposal
- Literature Search-Print, non-print and electronic sources
- Research methods-Scientific method, historical method, descriptive, survey and case study method.

**Unit-III: Research Tools and Statistical Techniques**

- Questionnaire, schedule, Interview, Observation, Library records etc. Primary and secondary data
- Sampling techniques, sample design, sample size, criteria of selecting sample.
- Statistical analysis of data- Mean, Median and Mode, Measures of central tendency.
- Presentation of Data - Tabular, Graphic, Bar diagram, Pie chart etc.
- Statistical Packages- SPSS, Web based tools etc.

**Unit-IV: Research Report Writing**

- Organization of report, structure, style, contents, Guidelines of research reports.
- Style Manual-Chicago, MCA, APA, e-citations etc.
- Current Trends in LIS research
- Role of computer in Research.

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### Recommended Books for Study

1. Gorman, G.E. and Clayton, P. Qualitative Research for Information Professionals: A Practical Hand Book.
2. Goswami, M. Research Methodology in Library Science. New Delhi. Common Wealth Publications, 1995.
3. Kothari, C. R. Research Methodology: Methods and Techniques: New Delhi. Weily Eastern Limited, 1985.
4. Krishan Kumar. Research Methods in Library and Information Science. New Delhi. Har Anand Publications, 1999.
5. Kumar, P.S.G. A Student's Manual of Library and Information Science. New Delhi. B.R. Publishing House, 2002.
6. Nikose, S. M. Granthalaya Aani Mahitishatra Sanshodhan Padhati, Pradnya Publication, Nagpur 2007.
7. Ravichandra Rao I. K. Quantitative Methods for Library and Information Science. New Delhi. Wiley Eastern Limited, 1983.
8. Wilkinson, T.S. and Bhandarkar, P. L. Methodology and Techniques of Social Research. Bombay. Himalaya Publishing House. 1984.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-I**

**MLI 1T4**

Elective Papers (Choose Any One)

**INFORMATION SOURCES AND SERVICES  
(Elective-1)**

**Learning Outcomes:**

- Develop a foundational understanding of the core concept of reference and information sources and services, including their identification, differentiation, and organization.
- Analyze various categories of reference and information sources, supported by relevant examples.
- Cultivate the ability to critically evaluate reference sources and reference services, enhancing the skills necessary for effective assessment.
- Acquire knowledge about information sources and services in the digital and internet era, recognizing the unique characteristics and opportunities they present.

**Unit-I: Information Sources**

- Need for Information Sources in Library.
- Sources of Information: Documentary and Non Documentary Information Sources/Electronic Information Sources.
- Nature, Characteristics of Printed and Electronic Reference books and Criteria for Evaluation of Printed and Electronic Reference Books.

**Unit-II: Reference Services, User Studies and User Education**

- Definition, Need, Nature and scope of Reference Service (Manual and Electronic).
- Types of Reference Service: Ready and long Range Reference Services, Anticipatory, Responsive Service and Electronic Reference Service.
- Steps in Reference Services, Reference Services in Public, Academic and Special Libraries
- Organization of Reference Department.
- Types of Users, User studies: Purpose and Techniques.
- User education: Objective and Techniques.

**Unit-III: Information Services**

- Information Services: Definition, Concept, Need and Current Trends.
- Types of Abstracts: International and National Abstracting Services.
- Index: Meaning, Types and its use, International and National Indexing services.
- Alerting (CAS and SDI), Bibliographical, Referral, Electronic Document delivery Service and Translation Services.
- Internet as a source of information in Library Services.

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#### Unit-IV: Trends in Reference and information Services & Information Centers/System

- Impact of IT on Reference and Information Services
- Databases, E-books and Journals
- Digital and Virtual Reference Service
- Alerting Services
- Information Services through Web 2.0/Web3.0

#### Recommended Books for Study

1. Bhat, S. G, Pralekhan Parichaya, Nagpur: Maharashtra Rajya Granth Nirmiti Manda, 1977.
2. Bose, H. C. Information Science, Principles and Practices, 2<sup>nd</sup> ed. Delhi: Sterling, 1993.
3. Chaturvedi, D. Sandarbha Seva Ke Vividha Ayam, Mumbai: Himalaya Publishing House, 1993.
4. Foskett, D.J. Information Service in Libraries, New Delhi: Anmol Publications, 1994.
5. Guha, B. Documentation and Information 2<sup>nd</sup> ed. Calcutta: World Press, 1983.
6. Katz W.A. Introduction to Reference Work. Vol. I and II, 6<sup>th</sup> Ed. New Delhi: Vikas Pub. House, 1992.
7. Krishna Kumar Reference Service, 5<sup>th</sup> edition, New Delhi: Vikas Pub. House, 1996.
8. Kumar, P. S. G. Information Sources & Services: Theory & Practice, New Delhi, B. R. Publishers, 2004.
9. Mukherjee, A. K. Reference work and its tool, 3<sup>rd</sup> ed. Calcutta: World Press, 1975.
10. Ranganathan, S. R. Documentation, Genesis and Development, New Delhi: Vikas Pub. House, 1975.
11. Ranganathan, S. R. Reference Services, 2<sup>nd</sup> ed. Bangalore: Sarda Rangnathan Endowment for Library Science, 1961 [Reprint (1990)].
12. Sewa Singh. Manual of Reference Service and Sources, New Delhi: B. R. Publishing Corporation, 2004.
13. Sharma, J. S. and Grover, D. R. Reference Service and Sources of Information, New Delhi: Ess Ess Publications, 1987.
14. Sharma, S. K. Reference Service, New Delhi: Shree Publications, 2008.
15. Sood, S. P.(ed.) Pralekhan Evam Suchana Vigyan, Jaipur: Raj Publishing House, 1994.
16. Tripathi, S. M. Sandarbha Avam Suchana Seva Ke Navin Ayam (New Dimension of Reference/information services), Agra: Y. K. Publishers, 1993.
17. Varma, S. R. Reference and Information Service, New Delhi: Shree Publications, 2006.
18. Walfard, A. J.(ed.) Concise Guide to Reference Material, London: Library Association, 1981.
19. Kale, K. B. Sandarbha Seva Ani Mahiti Sadhananche Mulyankan (Reference and Evaluation of Information Sources), Nagpur: Vishva Publishers and Distributors, 2010.
20. Kale, K. B. Mahiti Seva Va Sadhane (Information Services and Sources), Nagpur: Vishva Publishers and Distributors, 2010.
21. Bhat, S. G. Electronic Mohiti Sadhane, Nagpur: Pimpalpure Book Distributor, 2008.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**

**SEMESTER-I**

**MLI1T4**

**Elective Papers (Choose Any One)**

**E-RESOURCE MANAGEMENT (2 Credit)**

**(Elective-2)**

**Learning Objectives:**

1. Students can learn about selection, licensing, and evaluation of electronic resources.
2. Students can critically examine the laws and policies that made an impact on electronic resource management.
3. Students can understand the critical technologies and standards behind electronic resource management.
4. Student can gain the knowledge of current trends in e-resource management.

**Unit: I Electronic Resources Overview**

- Concept and Definition of E-Resources
- Evolution, Need and Characteristics of E-Resources
- Benefits and Drawbacks of E-Resource
- E-Resource Life Cycle
- E-Resources Vs Print Resources

**Unit: II Electronic Resource Management Systems (ERMS)**

- Methods of Selection and Acquisition of E-Resources
- Basic concepts of Licensing and Subscription of E-Resources
- Methods of Access of E-Resources
- E Shodh Sindhu: Consortium for Higher Education Electronic Resources
- New Trends in E-Resource Management

**Unit: III Collection Development Process**

- Procurement policy, budgeting, evaluation of E-resources;
- Organization & description of E-resources.
- Concept of Metadata for E-Resources
- Organization of E-Resources

**Unit: IV Preservation and Evaluation of E-Resources**

- Preservation and archiving of E-resources
- Legal and ethical aspects of E-resources
- Intellectual property rights and copyright law for E-Resources
- Security and privacy issues in E-resource management

**Recommended Books for Study**

1. Dhiman, A. K. and Yashoda Rani. (2005). Learn Library and Society. Ess Publications.
2. Emery, J., and Stone, G. (2013). Techniques for Electronic Resource Management (Library Technology Reports). Chicago: Amer Library Assn.

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- 3 Hawthorne, D. (2008). History of electronic resources. In Electronic resource management in libraries: Research and practice. IGI Global
- 4 Yu, H., & Breivold, S. (2008). Electronic resource management in libraries research and practice. Hershey: Information Science Reference
- 5 Jennings, L. (2009). Electronic resources management for electronic resources librarians: a bibliography. Bath: University of Bath.
- 6 Pandey, D. K. (2013). Library and Information Science. Atlantic
- 7 Patra, N. K. (2014). Electronic Resource Management: A Case Study of Management School Libraries In India. Sampalpur: Sampalpur University.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-I**

**PRACTICAL**

**Learning Outcomes:**

1. To develop the skill of classification Techniques for the APUPA arrangement of books.
2. Applying the knowledge of classification with hands on experience.

**MLI1L1: Classification Practice (Part-I)**

**Marks-50**

- Classification of Subject using DDC (Latest Edition)
- Basic Subject and Compound Subject
- Tables: 1, 2 and 3
- "Add" Instruction

**Learning Outcomes:**

1. To develop the skill of cataloguing Techniques for the APUPA arrangement of books.
2. Applying the knowledge of cataloguing with hands on experience.

**MLI 1L2: Cataloguing Practice (Part-I)**

**Marks-50**

- Cataloguing of Documents using AACR (Latest Edition)
- Simple, Joint Author, Corporate Author, Composite Books, Pseudonymous
- Structure of Main entries, Added entries, Reference entries

**Learning Outcomes:**

1. To develop the skill of information sources Techniques for the APUPA arrangement of books.
2. Applying the knowledge of information sources with hands on experience.

**MLI 1L3: Information Sources Practice**

**Marks-50**

- Study of various Reference Sources with special reference to India: Dictionaries, Encyclopedias, Year Books, Directories, Bibliographical sources, Geographical sources, Special Reference Sources, Biographical Sources
- Evaluation of selected standard Reference Sources
- Finding information from above standard reference sources
- List of the sources is enclosed.
- List of Reference Sources for Evaluation

**Dictionaries**

1. Webster's Third New International dictionary of English Language
2. Oxford English Dictionary
3. The Twenty Century English-Marathi Dictionary
4. Chambers English-Hindi Dictionary
5. English-Marathi
6. The Librarians Glossary of Terms Used in Librarianship,

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## Documentation

### Encyclopedias

1. The New Encyclopedia Britannica
2. Encyclopedia Americana
3. McGraw-Hill Encyclopedia of Science & Technology
4. International Encyclopedia of the Social Sciences
5. Encyclopedia of Library and Information Science

### Yearbooks & Almanacs

1. India 2014: A Reference Annual
2. Manorama Yearbook.
3. The Statesman's Yearbook.
4. The Europa World Yearbook.
5. World Almanac and Book of Facts

### Biographical Sources

1. India who's who
2. The International who's who
3. Who's who of Indian Writers: 1999
4. Dictionary of National Biography (by S. P. Sen)

### Geographical Sources

1. Britannica World Atlas
2. India Handbook (Broadnauk, Robert)
3. Gazetteer of India: Indian

### Union Directories

1. Directories of Libraries in India
2. World of learning.
3. Common wealth Universities Yearbook: A Directory
4. University Handbook: AIU Publication (INDIA)

### Handbook and Manuals

1. Guinness Book of World Record.
2. Limca Book of Record.

### Bibliographies

1. Indian National Bibliography
  2. British National Bibliography
  3. Indian Books in Print
  4. Books in Print (R. R. Bowker)
- 
1. National Union Catalogue of Scientific Serials (NUCSSI)
  2. Ulrich's International Periodicals Directory

### Indexing Sources

1. Guide to Indian Periodical Literature: Social Sciences and Humanities
2. Index India
3. Current Technology Index

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*Handwritten mark:*  
A small, stylized handwritten mark or signature is located at the bottom left of the page.



Abstracting Sources

1. Indian Library Science Abstracts
2. Indian Science Abstracts
3. Chemical Abstracts
4. Biological Abstracts
5. Library and Information Science Abstracts (LISA)
6. Sociological Abstracts

Reference Source of National Importance

1. Constitution of India

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-II**

**MLI 2T1  
Major**

**MANAGEMENT OF LIBRARY AND INFORMATION CENTRES**

**Learning Outcomes:**

1. Foster the growth of individuals as information and communication managers who contribute to society.
2. Comprehend the fundamental principles of management as they pertain to library administration and the organization of a library.
3. Emphasize the importance of "Quality" in library procedures and services, as well as familiarize oneself with various housekeeping operations in a library.
4. Apply the concepts of planning, marketing, human resource development, and both budgetary and non-budgetary control in libraries and information centers. Gain an understanding of how to monitor and evaluate library performance.

**Unit-I : Management of LICs**

- Meaning and definitions, Role/functions and principles of management, schools of thoughts in management, levels of management
- Planning: Characteristics Need, Forecasting, Types and Steps
- Organizational structure, Authority and Delegation

**Unit-II: Library Housekeeping Operations**

- Sections of Library and Information Centers, Book Ordering, Acquisition and Technical Processing, Serial Control, Circulation Control, Maintenance, Stock Verification,
- Online Books Shops, Weeding, Conservation and Preservation of Library Resources
- Library Committee, Library Statistics, Library Reports, Library Rules and Regulations
- Building and Space Management in LICs

**Unit-III: HRM and Financial Management**

- Recruitment and Selection, Training and Development, Leadership Styles, Motivation.
- Financial Management: Budgeting Techniques Traditional-PPBS and ZBB
- Sources of Finance and Resource Mobilizations
- Budget and Control-Cost effectiveness and Cost benefit Analysis.

**Unit-IV: Trends in Management Techniques**

- Trends in Management Techniques: MBO, TQM, SWOT, Management of Change, Outsourcing, Brain Storming, Mind Mapping, Re-engineering, Six-Sigma, Delphi, Quest, Innovative

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### Recommended Books for Study

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2. Faraqui Khalid, F.(ed). Planning Budget in Libraries, New Delhi: Anmol Publications, 1997.
3. Jain, M. K. Library Manual: A Practical Approach to Management, New Delhi: Shipra Publication, 1996.
4. Kale, K.B. Library Security, Nagpur: Dattason's Publication, 2010.
5. Khan, M.A. The Principles and Practice of Library Science, New Delhi: Sarup & Sons, 1996.
6. Khanna, J. K. Fundamentals of Library Organisation, New Delhi: Ess Ess Publication, 1984.
7. Koontz, Hand Weitghric, H. Essentials of Management. 5<sup>th</sup> ed. New Delhi, Tata McGraw Hill Publishing Co. Ltd., 1998.
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9. Krishan Kumar. Library Manual
10. Krishna Murthy, R. Library Administration & Resources, New Delhi: Common Wealth Publishers, 1997.
11. Kumar, PSG. Management of Libraries and Information Centers, B R Publication, Delhi.
12. Lahiri, R. Management of Libraries Concepts and Practices, New Delhi: Ess Ess Pub. 1996.
13. Mittal, R. L. Library Administration: Theory and Practice, New Delhi: Metropolitan, 1996.
14. Mukherjee, S. K. and Sengupta, B. Library Organisation and Library Administration, 2<sup>nd</sup> ed. Calcutta: The World Press Private Ltd., 1977.
15. Narayanan, G.J. Library Management and Information of Management. New Delhi, Prentice Hall of India, 1991.
16. Nikose, S.M. Aadhunik Granthalaya Vyvasthapan (M) Pradyna Publication, Nagpur, 2007.
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19. Ranganathan, S. R. Library Administration Madras: Asia Publishing House, 1959.
20. Sehgal, R.L. Guide to Library and Information Science, New Delhi: Ess Ess Publications, 1999.

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### Recommended Books for study

1. Arvind Kumar. Ed.(2006). Information technology for all (2 vols.). New Delhi: Anmol
2. Dhiman, A. K. (2003). Basics of Information technology for librarians and Information scientists, Vol.1. New Delhi: ESSESS.
3. Bansal, S.K.(2005). Information technology and globalization, New Delhi: A.P. H. Publishing Corporation
4. Curtin, D. P. & others: Information technology: The breaking wave. New Delhi: TMH, Latest Edition
5. Khobragade, Amol & Lihitkar, Shalini "Virtual Reference Service" published by Lambert Academic Publishing, 2018
6. Nandagaoli, Jayant & Lihitkar, Shalini "Information Security Management of University Libraries" published by Scholars Press, UK, 2020 ISBN-9786-13-89439846
7. Sinha, P. K. (1992). Computer fundamentals: concept, systems and applications. 2<sup>nd</sup> ed. New Delhi: BPB Publications, 1992.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-II**

**MLI 2T3**

Elective Papers (Choose Any One)

**INFORMATION AND COMMUNICATION**

(Elective-1)

**Learning Outcomes:**

1. Develop a comprehensive understanding of the definition, origins, scope, and objectives of Information Science.
2. Recognize the crucial role of libraries in the communication process, appreciating their significance as facilitators of information exchange.
3. Foster an understanding of the concept of an information society and its implications, including the study of the Right to Information Act, National Knowledge Commission, and NEP 2020 (National Education Policy 2020).
4. Analyze the significance and role of professional library associations, exploring their contributions to the field.
5. Gain insight into the concept of the Information Industry, the commodification of information, and the marketing of information products and services.
6. Evaluate contemporary trends in Library and Information Science, keeping up-to-date with the latest developments and advancements in the field.

**Unit-I: Information Science**

- Definition, Genesis, Scope and Objectives
- Growth and Development of Library and Information Science
- Information and Knowledge Society: Genesis, Characteristics and Implication
- Interdisciplinary nature of Information Science

**Unit-II: Communication of Information**

- Information: Nature and Characteristics
- Generation of Information
- Value and Use of Information
- Communication Channels, Models and Barriers

**Unit-III: Economics of Information**

- Information as a Commodity
- Economics of Information
- Information Industry-Generators, Providers and Intermediaries
- Global village

**Unit-IV: Current Trends in Information and Communication**

- Databases: Security and Legality
- Right to Information Act, NEP-2020
- National Knowledge Commission
- Marketing of Information: Concept, Marketing Strategies, Marketing Mix

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### Recommended Books for Study

1. Hirwade Anil. Patent Information Sources on Internet, Himalaya Publishing House: Mumbai, 2009.
2. Hirwade M.A. and Anil W. Hirwade. Fundamentals of Intellectual Property Rights. Mumbai, Himalaya Publishing House. 2007. P.92.
3. Kumar P. S.G. Fundamentals of Information Science, New Delhi: S. Chand & Co. 1998.
4. Kumar, P.S.G. Information and Communication. Vol.8: Paper 9 of UGC Model Curriculum, B. R. Publication, New Delhi. 2004.
5. Lihitkar, Shalini, R. Information Systems and Networks in India. Today Tomorrow, Printer & Publishers, New Delhi, 2012.
6. Lihitkar, Shalini, R. Libraries and Information centres in Maharashtra. Pimplapure Publication Nagpur, 2012.
7. McGrarry, K. J. The Changing Context of Information: An Introductory Analysis, London: Clive Bingley, 1981.
8. Narayana, G.J. Knowledge and Information Perspective and Prospects. EssEss Publication, New Delhi. 2010.
9. Nikose, S.M. Resource Sharing Through Networking of University Libraries, Pradnya Prakashan, Chandrapur. 2006.
10. Toffer, Alvin. The Power shift: Knowledge wealth and violence at the Edge of the 21<sup>st</sup> Century, NewYork: Bantam House, 1991.
11. Vickery, B. C. & Vickery, A. Information Science in Theory and Practice. London: Butterworth, 1987.

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**MLI 2T3**  
**Elective Papers (Choose Any One)**  
**INFORMATION ANALYSIS, REPACKAGING AND CONSOLIDATION**  
**(Elective-2)**

1. Develop a comprehensive understanding of the concepts, importance, and methods of information analysis and consolidation, as well as repackaging.
2. Assess and evaluate information consolidation products to gauge their effectiveness and value.
3. Cultivate the skills necessary to design tailored information consolidation products that meet the specific needs of stakeholders.
4. Acquire knowledge and insights into the marketing of information services and products, along with skills in electronic content creation.
5. Stay updated on recent trends in information analysis, consolidation, and repackaging to ensure relevance and adaptability.

- Definition, Concept and Need
- Methods of Information analysis
- Abstracting: Types, Techniques, Standards and Guidelines

- Content analysis
- Packaging and Repackaging
- Methods of Consolidation: Prerequisites and Steps
- Tools for Consolidation

- Nature, concept and different types Consolidation Products
- Design and development of Information Products
- Tools and Techniques
- Electronic Content Creation
- Marketing of Information services and Products
- Evaluation of Information Products
- Recent Trends in Information analysis Consolidation and Repackaging

- Information analysis Centers (IAC): Planning and Management
- Government and Non-Government Information Agencies: NISCAIR, NASSDOC, DESIDOC, SENDOC etc.

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1. Bhat, S.G. Mahiti Prakriyawa Tantrik Lekhan, Nagpur: Pimpalapur Books Distributors, 2014
2. Bhattacharya, G. DRTC Annual Seminar on IA+C: A Review (DRTC Annual Seminar, 18, 1981; Paper IA).
3. Brandreth, M. Specialised Information/Analysis Centres in International Development: Report of a meeting held at Montebello, Quebec, Canada 4-8, October, 1982. 12DC Manuscript Series. March, 1984.
4. Bryson (J.O.) Effective Library and Information Centre Management, USA Gower Publishing Company, 1980.
5. Chandra, A. and Saxena, P. Style Manual for Writing thesis, Dissertations and papers in Social Science. 1979. Metropolitan Book Co. Pvt. Ltd., Delhi.
6. Chatterjee, Amitabh. Elements of Information analysis, Consolidation and Repackaging, Calcutta. Prova Prakashan, 2014.
7. Dinesh, E. and Ramachandran, M. Organisation and set up of an Information Analysis Centers (DRTC Annual Seminar 18, 1981. Paper HB)
8. G.J. Narayana, Library and Information Management, New Delhi. Printice Hall India, Pvt. Ltd. 1991.
9. Gopinath, M.A. Typology of structural relations for Information Analysis and Consolidation Products: FeedBack and Evaluation: A case Study. DRTC Annual Seminar. 18:1981, paper EA.
10. Kumar P.S.G. Information Analysis, Repackaging Consolidation and Information Retrieval. B.R. Publication Vol.9: Paper X & XI of UGC Model Curriculum, 2004. New Delhi.
11. Metcalfe, J.R. Organisation of information consolidation units: Centralised or Decentralised? Information Analysis and Consolidation: who page (Paper presented at the third meeting of UNISIST working Group on Information Analysis and Consolidation. Kuala Lumpur 12-16 September, 1983.
12. Sarcevic, T. and Wood, J. S. Consolidation of Information: A handbook of evaluation restructuring and repackaging of Scientific Technical Information. 1981. UNESCO, Paris.
13. Seetharama, (S). Costing of Information Systems and Services : Some General Considerations (DRTC Annual Seminar 24, 1990. Paper B).
14. Seetharama, S.(ed) Libraries and information Centres as Profit Marking Institutions, New Delhi, Ess Ess Publication, 1998.
15. Seetharama, S. Evaluation measures in Information Retrieval System IASLIC Conference 1992. Chidamboram.
16. Seetharama, S. Guidelines for Planning of Libraries and Information Centres, Calcutta, IASLIC, 1990.
17. Seetharama, S. Information Consolidation and Repackaging. New Delhi, EssEss Publications, 1997.
18. Seetharama, S. Information Consolidation and Repackaging: Framework, Methodology, Planning. New Delhi: Ess Ess Publications, 1997.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-II**

**PRACTICALS**

**Learning Outcomes:**

1. To develop the skill of classification Techniques for the APUPA arrangement of books.
2. Applying the knowledge of classification with hands on experience.

**MLI 2L1: Classification Practice (Part-II) Marks-50**

- Classification of subject using DDC (Latest Edition)
- Complex Subject
- Tables 4, 5, 6 and 7
- Assigning Book Number (Using at least one standard Book Numbering System)

**Learning Outcomes:**

1. To develop the skill of cataloguing Techniques for the APUPA arrangement of books.
2. Applying the knowledge of cataloguing with hands on experience.

**MLI 2L2: Cataloguing Practice (Part-II) Marks-50**

- Cataloguing of Documents using AACR (Latest Edition)
- Government Publications, Serial Publications, Collected Work, Series
- Non-Book Materials: Audio -Video Disks, Microforms, Maps, Atlases, Globes

**Learning Outcomes:**

1. To develop the skill of IT Techniques for the libraries.
2. Applying the knowledge of IT with hands on experience.
3. Creating searching abilities and formulation of search strategies for effective information retrieval through network.

**MLI2L3: Information Technology Applications to Libraries Marks- 50**

**Information Technology Applications to Libraries**

- Database creation using any Library Automation Software
- Searching of Bibliographic database, OPAC
- Creation of Users Database
- Automated Circulation Systems
- Information Searching from online Databases and Retrieval:
- Web of Science, Scopus, LISTA
- Evaluation of Library Webpages
- Internet Searching from websites - Library Networks, Library Consortia, Library Associations, Vidyanidhi, NDLTD, LISGateways, Infolibrarian, Information Systems, Digital Libraries, DOAJ, DOAR, DLIST etc.

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**Learning Outcomes:**

1. To understand the actual working of library practically
2. To gain the knowledge of hands on experience on library automation software.

**MLI 2L4: Internship  
Academic  
Library  
Visit**

**Marks-50  
Marks-50**

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-III**

**MLI 3T1  
Major  
INFORMATION STORAGE, RETRIEVAL AND BIBLIOGRAPHICAL  
CONTROL**

**Learning Outcomes:**

1. Identify the components of an information storage and retrieval system.
2. Familiarize with different models and structures of an IR system.
3. Understand the theoretical foundations of various IR methods.
4. Compare information retrieval systems at national and international levels.
5. Examine factors influencing the performance of an IR system.
6. Stay updated with current research in the field and on the web.

**Unit-I: Information Storage and Retrieval**

- Information Storage and Retrieval: Concept, Objectives and Functions
- Document Description: Concept, Standards and Trends
- Information exchange
- Concept, History and Principles of subject Indexing

**Unit-II: Indexing models and control devices**

- Pre-coordinate Indexing
- Post Co-ordinate Indexing
- Characteristics of Indexing Language
- Vocabulary Control: Concept
- Vocabulary Control Devices: Thesaurus and Subject Heading List

**Unit-III: Trends in Information Retrieval**

- Citation Indexing
- Computer Based Indexing System: KWIC, KWOC etc.
- Search Strategy
- Search Processes: Offline and Online Information Retrieval Techniques
- Evolution of Information Retrieval System
- Research in Information Retrieval System

**Unit-IV: Bibliographic Control**

- Bibliographical control: Concept and Need
- National Bibliographical Control
- Universal Bibliographical Control
- Role of UNESCO and IFLA for Bibliographical Control

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### Recommended Books for Study

1. Atchison, J. Gilchrist: Thesaurus Construction, a practical manual, 1972.
2. Austin D., Precis, A Manual of concept analysis and subject indexing: 2<sup>nd</sup> ed. 1984.
3. Chowdhary G. C. Introduction to Modern Information Retrieval, London. Facet Publishing, 2009.
4. Dhawan, K.S. Principles of Information Retrieval. New Delhi, Common wealth Publication, 1997.
5. Ellis, D. New Horizons in Information Retrieval, London: Library Association, 1990.
6. Fosket, A.C. Subject Approaches to Information 5<sup>th</sup> Ed. London: Clive Blingley, 1996.
7. Ghosh, S. B. and Satpathi, J. N. Subject Indexes: Methods and Techniques.
8. Gopinath, M. A. Preparation of an Index to a Book: Casestudy Lib. Sciwithaslant to Documentation, 1967, Paper E.
9. Kesarwani, S. K. Information Access to contributions from LIS feschrifts published from India. New Delhi, EssEss Publication, 2011.
10. Kochen, Met. al., Principles of Information Retrieval, 1974.
11. Kumbhar, Rajendra. Thesaurus of Library and Information Science terms. New Delhi, EssEss Publication, 2004.
12. Lancaster, F.W. Indexing and abstracting theory and practice. London, facet Publication, 2009.
13. Lancaster, F.W. Information Retrieval System Characteristics, Testing and Evaluation, New York: John Wiley, 1968.
14. Lancaster, F. W. Vocabulary Control for Information Retrieval, NewYork: Information Resources Press, 1972.
15. Prashar, R. G. Index and indexing system, New Delhi, Medollian Press, 1990.
16. Sengupta, B. and others. Documentation and Information Retrieval, Calcutta, World Press, 1972.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS) SEMESTER-  
III**

**MLI 3T2  
Major  
MODERN LIBRARIES**

**Learning Outcomes:**

1. Conceptualize modern libraries in the context of implementing sophisticated web-based tools and techniques.
2. Create digital libraries with using various open-source software's.
3. Understand and evaluate digital libraries in relation to digital copyright.
4. Analyze various institutional repository initiatives at national and international levels.

**Unit-I: Creation & Organization of Digital Libraries**

- Hardware and Software: Scanners, Digital Camera, OCR, Image Editing Software, Open Source Software (DSpace, Eprint, Green Stone, Fedora)
- Collection Development of Digital Libraries
- Digitization Process
- Metadata: Definition, Types, Creation,
- Metadata Standards: Dublin Core, MARC 21, METS, MODES, EAD
- Preservation Technologies

**Unit-II: Digital Library Initiatives**


- Digital Library Initiatives in India and Worldwide
- Institutional Repository: Concept, Definitions, Steps in Creation, Institutional Repository initiatives in India
- ETD Repositories: Concept, Definitions, Importance Institutional Repository initiatives in India and Worldwide.

**Unit-III: Web Technologies in Libraries and Information Centers**

- Library websites: Contents, Design & Evaluation
- Web 2.0, 3.0, 4.0: Features, Functions and Tools
- Application of Web Technologies in Libraries

**Unit-IV: Emerging Technologies in Library**

- Library Security Technologies: RFID, Bar Code, Smart Card, 3M Security, CCTV
- E-Learning: Concept, Need, Objectives, Tools
- Multimedia applications in Libraries
- Cloud Computing: Concept, Need, Objectives, Tools

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### Recommended Books for Study

1. Ackermann, F. and Hartman, K. The Information specialist's guide to searching and researching on the Internet and the Worldwide Web, Chicago: Fitzroy Dearborn Publishers, 1999.
2. Bhatnagar, S. C and Ramani, K. U. Computers and Information Management: A Printers for practicing Managers, New Delhi: Printice Hall of India, 1989.
3. Bradley, P. and Smith, A. World Wide Web: How to design and construct home pages, London: ASLIB, 1996.
4. Chaudhary, C.G. Text Retrieval System in Information Management, New Delhi: New Age International, 1996.
5. Hirwade M. A. Websites of Indian Universities: An Evaluation. Mumbai, Himalaya Publishing House. 2006. p.376. (ISBN818-4886802&978-8184886801)
6. Hirwade, M. A. and Anil W. Hirwade. Information Technology: A Practical Manual. Mumbai, Himalaya Publishing House. 2007. P. 164.
7. Kumar, P.S.G. Computerisation of Indian Libraries, New Delhi: B. R. Publishing, 1987.
8. Kumar, P.S.G. Information Technology Application: Theory & practice. Vol-2: paper 13 &14 of UGC model Curriculum. B.R. Publication. New Delhi, 2004.
9. Manohare, Vaibhav & Lihitkar, Shalini "Web 2.0 in Libraries" published by Studera Press, New Delhi ISBN:978-81-930333-6-4,2017
10. Leon, A and Leon, M. Fundamentals of Information Technology. Chennai, Leon Tech World 1999.
11. Naidu, Shraddha & Lihitkar, Shalini "E-learning Programmes for Library and Information Science Education" published by Scholars Press ISBN-13:978-3-639-70732-8 ISBN-10:363970732X EAN:9783639707328, Pages:284, 2015
12. Lihitkar, Shalini, R. Information Systems and Networks in India. Today and tomorrow's printer and publishers, New Delhi. 2012.
13. Lihitkar, Shalini "Design and Development of Institutional Repository: A Step by Step Approach." Published by Sai Jyoti Publication, 2015
14. Prabhakaran, R. & Lihitkar, Shalini "Webometric Analysis of Library Websites: Emerging Research and Opportunities. Published by Today and Tomorrow, New Delhi, 2019.Pp225.ISBN:978-81-70196-31-0
15. Ravichandra Rao, I. K. Library Automation, New Delhi: Wileyeastern, 1993.
16. Saffady, W. Introduction to Automation for Librarians, 3rd ed. London: American Library Association, 1996.
17. Taxali, R. K. FOXPRO 2.5 Made Simple for DOS and Windows, New Delhi:BPB Publications, 1996.
18. Thomas, R and Yates, J. A. User's guide to the Unix System, 2<sup>nd</sup> ed. New Delhi: Tata McGraw Hill, 1995.
19. Wadhawa, R. K. Management Information Systems and Corporate Communications, New Delhi: Kanishka Publishers, 1998.

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**MLI3T3**  
(Disciplinary Elective Course) (Choose anyone)  
**AGRICULTURAL INFORMATION SYSTEM**  
(Elective-1)

1. Understand the importance of agricultural libraries and their organization.
2. Identify the information needs of agricultural scientists and research workers.
3. Explore the agricultural library scenario at national and international levels.

- Growth and development of Agricultural Education in India
- Growth and development of Agricultural Research in India
- Role of Libraries in Agricultural Education, Research and Extension
- Development of Agricultural Libraries in India

- Information requirement of Agricultural faculty
- Information requirement of Agricultural Research Workers, Farmers Extension Workers
- Study of Local Agricultural Libraries and Preparation of Report
- User Education

- Collection Development
- Sources of Information:
- Documentary
- Non-Documentary
- Electronic Resources
- Agricultural Databases
- Internet as a source of information
- Organization and Documentary Sources
- Classification
- Cataloguing
- Indexing
- Storage of document

- Management of Agricultural Libraries and Information Centers
- Planning of Library and Information Centers
- Human Resource Development-Staffing, Training and Development
- Professional Skills
- Financial Management- Budgetary Provisions, Resource Generation

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### Recommended Books for study

1. Alan Chard, J. R. and Farrel, Lois. Guide to Agricultural and Biological Research. Berkeley: University of California, 1981.
2. Banerjee, S. R. and Moitra, S. Agricultural Documentation Services in India. New Delhi: ICAR Library (Unpublished).
3. Deshmukh, P. P. Indian Council of Agricultural Research (Delhi). Agricultural University Libraries on Committee, Find Report, New Delhi: ICAR, 1969.
4. Gupta, S. R. Stock Verification in Libraries; Problems and Solutions. Delhi: Ken Pub, 1990.
5. Kumar, P.S.G. Agricultural Librarianship MLISc Elective paper; Kumar's curriculum series in Library & information science 12,2008x, 380 B. R. Publication, New Delhi.
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7. Lihitkar, Shalini, R. Libraries and Information centres in Maharashtra. Pimplapure Publication. Nagpur, 2012.
8. Lilley, G. P. Information Sources in Agriculture and Food Science. London: Butter Worths, 1981.
9. Maharashtra Government of: Report of the Advisory Committee for Establishment of Agricultural University, Maharashtra, November, 1965, Bombay: Govt. of Maharashtra.
10. Ramtirth, Agris. Information System for Agriculture Science and Technology In perspective in Library and Information Science. 1, 1982. Pp211-214.
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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS) SEMESTER-III**

**MLI3T3**

(Disciplinary Elective Course) (Choose anyone)

**LEGAL INFORMATION SYSTEM**

(Elective-2)

**Learning Outcomes:**

1. Comprehend the nature, principles, and characteristics of law libraries.
2. Analyze special information sources in legal information systems.
3. Evaluate legal information systems at national and international levels.

**Unit-I: Law Librarianship**

- Growth and development of Legal Institutions in India
- Nature, Principles and characteristics of legal information and law libraries
- Types of Law Libraries
- Legal Information Systems: National and International
- Resource sharing and Networks of Legal Information

**Unit-II: Information Sources**

- Special Information Sources: Bills, Acts, Books, Serials, Law Reports, Law Court Notices, Law Case amendments
- Tribunal Report, Law Digests, Legal judgments, delegated legislation
- Rules and Orders, Legal information Sources and Lexicons
- Legal Databases and Digital Libraries

**Unit-III: Organization and Management of Resources**

- Information Processing: Classification, Cataloguing and Indexing
- Developing Special Skills and Techniques to handle legal information
- Managing Finances: Funds and Fund Generation

**Unit-IV: Information needs and Services**

- Special needs of lawyers and legal professionals
- Information Services to Law students, faculty and Research Scholars
- Preparation of a Report on Law Libraries (Local)
- Dissemination methods and techniques
- Advanced Information Services and Products.

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### Recommended Books for Study

1. Anthony, L. J. Handbook of Special Librarianship and Information Work 5<sup>th</sup> ed. ASLIB, 1982.
2. Banks, M. A. Using a Law Library. 3<sup>rd</sup> ed. Agricultural in Courtout, carsurth, 1980.
3. Dane, J. and Thomas, P. A. How to use Law Library, Sweet and Maxwell, 1979.
4. Kumar, P.S.G., Law Librarianship MLISc Elective Paper Kumar Curriculum series in LISc-15B.R. Publisher, New Delhi, 2008.
5. Lihitkar, Shalini, R. Information Systems and Networks in India, Today's & Tomorrow: Printer & Publisher, New Delhi, 2012.
6. Lihitkar, Shalini, R. Libraries and Information centres in Maharashtra. Pimplapure Publication. Nagpur, 2012.
7. Logaw, R. G. Information Sources in Law. Butterworth's, 1986.
8. Miskin, E. Library and Information Services for the legal profession. London: British Library Research & Development Report, 5633, 1981.
9. Moys, E. M. Ed. Manual of Law Librarianship. Ed.2 Wiltshire: Redwood, 1987.
10. Moys, E.N. Ed. Manual of Law Librarianship: the use and organization of legal literature. 2<sup>nd</sup> Ed. Hants, UK: Gower, 1987.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER-III**

**MLI 3T3**  
(Disciplinary Elective Course) (Choose anyone)

**INDUSTRIAL INFORMATION SYSTEM**  
(Elective-3)

**Learning Outcomes:**

1. Assess information technology solutions required for product and system development in an industrial environment.
2. Utilize these solutions effectively and apply them to industrial systems.
3. Understand the importance of industrial libraries.
4. Explore the impact of resource sharing and networking in industrial information systems.
5. Evaluate modern trends in industrial information systems.
6. Analyze the present scenario at national and international levels.

**Unit-I: Industries and Industrial Information**

- Types of industries
- Industrialization and growth of industries in India
- Categories of Industrial Organizations
- Industrial Information, Nature and Characteristics, Users and Role
- Industrial Libraries and Information Centers: Characteristics and Roles

**Unit-II: Information Sources, Management of Industrial Libraries and Information Centers**

- Information Resource Development
- Information Sources: Internal and External Sources
- Information Sources specific to Industries: Government Document, Technical Report Literature, Trade Literature, Standards, Patents
- Management Aspects

**Unit-III: Information Service and Products**

- Information requirement of various categories and levels of users, function/activities areas in industries
- Reference, Referral and Document Delivery Services
- Technical enquiry service, Alerting Service, Translation Service
- Development of Information Analysis and Consolidation Products: Reviews, State of the Art Report, Trend Report, Technical Digest
- Information Service to Management: Management briefs, Technical notes, Feasibility Study Reports, Mark of Survey Reports, Company Profiles
- Data Services

**Unit-IV : Impact of IT, Resource Sharing and Networking, Information Systems and Centers**

- Impact of IT: Impact on Collection Development, Industrial Databases,

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#### Use of Internet and Digital Resources

- Resource Sharing and Networking, Consortia
- National Information Centers: CSIR and its National Laboratories, NISCAIR, SENDOC, Patent Information System, TIFAC
- Role of International Organizations in Industrial Information: UNIDO, UNDP, OECD, ISO etc.

#### Recommended Books for Study

1. Anthony, L. J. Handbook of Special Librarianship and Information Work 5<sup>th</sup> ed. London, ASLIB, 1982.
2. Blakewell, K. Y. Industrial Libraries throughout the World. Oxford, Pergamon Press, 1969.
3. Burkett, Jack. Industrial and Related Information Services in United Kingdom 3rd. London: LA. 1972.
4. DRTC Annual Seminar-17 Industrial Information Systems and Services, Bangalore, Documentation Research and Training Centre, 1979.
5. Gopinath, M. A. and Seetarama, S. Industrial Information Systems and Services, DRTC, Annual Seminar (17), 1979, Bangalore: DRTC, 1979.
6. Houghton, Bernhard, Technical Information services. 2<sup>nd</sup> ed. London, Clive Bingley, 1972.
7. Jackson, E. B. and Jackson, R. L. Industrial Information Systems: A Manual for Higher Management and their information officers/Librarian Associates. F. Stroudsberg. Dowden G. Huchens on Association and Ross, 1978.
8. Kumar, P.S.G. Business/Industrial Librarianship, New Delhi, B. R. Publishing Corporation, 2008.
9. Library Association Industrial group: Industrial and commercial Library, An Introductory guide. London, Library Association, 1986.
10. Lihitkar, Shalini, R. Libraries and Information centers in Maharashtra. Pimplapure Publication. Nagpur, 2012.
11. Neelameghan, A: Information for small enterprises. Bangalore, Sarda Ranganathan Endowment for Library Science, 1994.
12. Sasikala, C. Industrial Library System, New Delhi, Reliance Publishing House, 1994.
13. Seetharama. S: Planning of Library and Information Centers, Calcutta, IASLIC, 1990.
14. Seetharama. S: Dynamics of Planning and Marketing of Modern Libraries and Information Centers in an Information Technology based environment, Calcutta, IASLIC, 2015.
15. Thakur, D. S. Scientific and Technical Libraries. New Delhi, Ess Ess Publication, 2006.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER-III**  
**PRACTICALS**

**Learning Outcomes:**

1. To develop the ability to handle the Information Communication Technology for the libraries.
2. Implementing the Knowledge of Information Communication Technology practically.
3. Developing the searching ability and formulation of search strategies for information searching through advanced Techniques.
- 4.

**MLI3L1: Information Technology Applications to Libraries Marks- 100**

- Hands on experience on Content Management Software
- E-learning Platforms: MOOCS & SWAYAM
- Accessing of Creative Common Licensing
- Hands on practice on: Urkund or any other OSS
- Creation of Institutional Repository: GSDL, DSpace, KOHA
- Uploading of Data in disciplinary archives: ELIS, DLIS
- Hands on practice in any Reference Management Tool: Zotero, Mendeley or any other

**Learning Outcomes:**

1. Students will be able to gain the knowledge of selection to topic, searching literature, research design
2. Students will understand how to collect data, coding of data, analyze and interpretation.
3. Students will to gain knowledge of drafting report and representation of report.

**MLI3L2: Research Project (Minor) Marks-100**

Sr. No.	Topic	Maximum Marks Allotted
1	Problem/Objectives/Hypothesis	10
2	Research Design	5
3	Data Collection, data processing and	10
4	Analysis and statistical interpretation of data	10
5	Presentation of Data in Graphical Form	10
6	Summary, conclusion and recommendations	10
7	Referencing and/or Bibliography (Use of APA Method)	5
8	Open Defense/VivaVoce	40
	<b>Total</b>	<b>100</b>

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**Learning Outcomes:**

1. To gain the knowledge of problem identification, review literature and various Research Methodologies.
2. To gain the knowledge of tools and techniques of data collection and hypotheses formulations.
3. To develop the ability to data analyzing, report writing and Hypotheses testing.

**MLI3L3: Soft skills for Library Professionals****Marks-50****Learning Outcomes:**

1. To enhance the ability, critical thinking and problem-solving skills independently.
2. To develop the skillful librarians for modern libraries and library profession.
3. To create the techno-savy smart information managers as per market needs,

**Unit-I: Skills for Library and Information Science Professionals**

- Professional Skills: Concept, Need, Advantages
- Communication Skills
- Administrative, Managerial, Interpersonal, Human Relation Skills, Soft Skills, Legal Skills, Decision Making Skills, Analytical Skills, Team Building, Time Management Skills, Motivation Skills, Leadership Skills, Negotiation Skills, Problem Solving Skills
- Information Technology Skills, Computer and Network Literacy
- Stress Management, Innovative and Recreational Skills

**Unit-II: Presentation and Interview Skills**

- Presentation, Preparing Curricular Vitae
- Online Application, Job Portals for LIS
- Interview Types, Preparation (Job based)
- Panel and Board, Group Discussion, Personal Interview, General Awareness
- Extra-curricular activities
- Personality Development, Positive Attitude, Body Language

**Unit-III: Drafting Letters in LIS context and Writing Skills**

- Types of Letter: Formal, Informal
- Drafting Rules, Agenda, Minutes, Recommendations
- Confidential Reports of the Staff
- Report Writing: Progress, Annual Reports, Budget, User Statistics
- Files Records: Management and Maintenance
- RTI Skills and Answering Queries
- Drafting Project Proposals, Writing Research Papers

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#### Unit-IV: Teaching and Learning Skills

- LIS Education: Aim and Objectives, Problems and Prospects
- Teaching Method: Lecture, Tutorial, Seminar, Symposium, Panel Discussion, Simulation Approach, Role Playing, Case Studies, Practical Work, Training, Oral Test, Written Test, Assignments, Poster Presentation
- E-learning Tools, Courseware, Software, Content Management
- Student Teacher Relations
- Student Performance, Feedback Mechanism, Curriculum Development, Innovative Assessment Method, Use of Teaching Tools

#### Recommended Books for Study

1. Bardi, U. (2019). Sustainability on University Campuses: Learning, Skills Building and Best Practices. Germany: Springer International Publishing.
2. Chipman, S. F., Segal, J. W., & Glaser, R. (Eds.). (2013). Thinking and learning skills: Volume 2: Research and open questions. Routledge.
3. India (2020). National Education Policy 2020. Ministry of Education.
4. James, N., Busher, H. (2018). Improving Opportunities to Engage in Learning: A Study of the Access to Higher Education Diploma. United Kingdom: Taylor & Francis.
5. Knapper, C., & Cropley, A. J. (2000). Lifelong learning in higher education. Psychology Press.
6. McDaniel, M. A., Brown, P. C., & Roediger III, H. L. (2014). Make It Stick The Science of Successful Learning. Cambridge, MA Harvard Univ Pr.
7. Nilson, L. (2013). Creating self-regulated learners: Strategies to strengthen students' self-awareness and learning skills. Stylus Publishing, LLC.
8. Northup, J., Peno, K. and Mangiante, E.M.S., Eds. (2021). Teaching and Learning for Adult Skill Acquisition: Applying the Dreyfus and Dreyfus Model in Different Fields. (2021). United States: Information Age Publishing, Incorporated.
9. Segal, J. W., Chipman, S. F., & Glaser, R. (Eds.). (2014). Thinking and learning skills: Volume 1: relating instruction to research. Routledge.
10. Wang, V.C. (Ed.). (2015). Handbook of research on learning outcomes and opportunities in the digital age. IGI Global.
11. Westerberg, C., McBride, T. (2020). Acquiring Learning Skills with Digital Technology. United States: Information Science Reference.
12. Zima, B. (2021). Mindsets and Skill Sets for Learning: A Framework for Building Student Agency. United States: Marzano Resources.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER- IV**

**MLI 4T1**  
**Major**  
**SYSTEM ANALYSIS AND BIBLIOMETRICS**

**Learning Outcomes:**

1. Understand systems concepts, system analysis, and system design.
2. Comprehend the role of hardware and software in realizing organizational objectives and automation.
3. Explore the role of systems analysts and software development firms.
4. Recognize the role of system analysis and design in various systems development stages.

**Unit-I : System Study**

- Concepts, Types of System
- Library as a System
- Computerized Information System
- Automated sub-system of a library
- Planning and Development of Computerized Information System
- Database Management System(DBMS)
- Management Information System(MIS)

**Unit-II: System Analysis, System Design and Development**

- System Analysis
- Role of System Analyst
- Professional skills for System Analyst
- System Development Life Cycle (SDLC)
- Structured System Development
- Methodology for System Development
- Flowcharts

**Unit-III: Bibliometric Studies**

- Definitions, Concepts, Growth and Development of Bibliometrics
- Application of Bibliometrics
- Bibliometric Laws: Bradford's Law, Zipf's Law, Lotka's Law
- Citation Analysis
- Bibliographic Coupling
- Obsolescence of Literature
- Ethics of Citations

**Unit-IV: Futuristic Approaches**

- Trends in Bibliometrics
- Scientometrics
- Informetrics
- Cybermetrics
- Webometrics
- Almetrics
- Cyber Laws

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### Recommended Books for Study

1. Awad, E. M. System Analysis and Design 2<sup>nd</sup> Ed. New Delhi. Gollgatia Publications (P) Ltd. 2000.
2. Curtis, G. Business Information Systems: Analysis Design and Practice, London: Wisley Publishing Company, 1990.
3. Gerald, J. F. and Gerald, A. F. Fundamentals of System Analysis: Using Structured Analysis and Design, 3<sup>rd</sup> ed. New York: John Wiley & Sons, 1987.
4. Hirwade, M. A. and Anil W. Hirwade. Chicago Style Manual. Nagpur, Payal Publication, 2008.
5. Hussain, K. M. and Hussain, D. Information Systems: Analysis, Design and Implementation, New Delhi: Tata McGraw Hill, 1995.
6. Rowley, J. The Basics of System Analysis and Design for Information Managers, London: Clive Bingley, 1990.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS) SEMESTER-IV**

**MLI 4T2**

**Major**

**EMERGING TRENDS IN LIBRARY & INFORMATION CENTRES**

**Learning Outcomes:**

1. Enhance professional competence and skills.
2. Utilize ICT tools for effective user services.
3. Produce need-based instructional materials for users.
4. Explore the application of machine learning, artificial intelligence, and other technologies in serving the library community.
5. Identify new roles for LIS professionals to adapt to the changing LIS environment.

**Unit-I: Content Management System**

- CMS: Concept, Definition and Scope, Benefit, Principals, Architecture
- CMS Tools/Software: Features and Functionalities of Drupal, Joomla, Word press, Moodle: Selection, Implementation and Evaluation.
- E-learning Platforms: MOOCS : Concept, Features and Functionalities  
SWAYAM Course: Concept, Features and Functionalities

**Unit-II: Legal Issues**

- IPR in Digital Libraries and LMS
- Copyright infringement, Licensing
- Fair use of Digital Information
- Creative Commons
- Plagiarism: Definition, Concept, Types, Rules
- Plagiarism Software: Urkund, Turnitini, Tenticate, OSS

**Unit-III: Technological Trends**

- Ontology-Tools (RDF, RDFS, Protégé)
- Semantic Web
- Linked data, Big data
- Data Mining and Harvesting
- Internet of Things
- AI Tools

**Unit-IV: Application and Implementation**

- Web-Scale Discovery Services
- Library Apps, Mobile based Library Services and Tools
- Application of Artificial Intelligence
- Application of Expert System
- Assistive/Disruptive Technologies
- Virtual Reality (VR), Augmented Reality(AR), Mixed Reality (MR), Extended Reality(ER)

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### Recommended Books for Study

1. Alemu, G., Stevens, B. (2015). An Emergent Theory of Digital Library Metadata: Enrich Then Filter. Netherlands: Elsevier Science.
2. Andrews, J. (2017). Digital Libraries: Policy, Planning and Practice. United Kingdom: Taylor & Francis.
3. Banerjee, K., Reese, T. (2018). Building Digital Libraries: Second Edition. United States: American Library Association.
4. Blaney, J., Milligan, S., Steer, M., & Winters, J. (2021). Doing digital history: A beginner's guide to working with textas data. Manchester University Press.
5. Boczkowski, P. J. and Mitchelstein, E. (2021). The digital environment: How we live, learn, work and play now, MIT Press
6. Chowdhury, G. G. & Foo, Schubert. (2012). Digital Libraries and Information Access: Research Perspectives. London: facet publishing
7. Evans, W. & David B. (2013). A Handbook of Digital Library Economics: Operations
8. Frazier, A. (Eds.) (2017). Managing Digital Cultural Objects: Analysis, Discovery and Retrieval.
9. Fritz, A. I. (2021). Sustainable Enterprise Strategies for Optimizing Digital Stewardship: A Guide for Libraries, Archives, and Museums. Rowman & Littlefield.
10. Hughes, L. M. (2004). Digitizing Collections: strategic issues for the information manager. New York: Neal Schuman.
11. Lawson, N. (2018). Digital Library Preservation Strategies. United Kingdom: EDTECH.
12. Miller, S. J. (2014). Metadata for digital collections: A how-to-do-it manual. New York: Neal-Schuman
13. Naidu, Shraddha & Lihitkar, Shalini "E-learning Programmes for Library and Information Science Education" published by Scholars Press ISBN-13:978-3-639-70732-8 ISBN-10:363970732X EAN:9783639707328, Pages:284,2015
14. Oleck, J. (2012). Creating the digital library. New York: Primary Research Group, Inc.
15. Papy, Fabrice. (2016). Digital Libraries. London: ISTE Press
16. Pedley, P. (2009). Digital Copyright. 2nded. London: Facet Publishing.
17. Pomerantz, J. (2015). Metadata. Massachusetts: MIT Press
18. Purcell, A. D. (2016). Digital library programs for libraries and archives: Developing, managing, and sustaining unique digital collections. Massachusetts: MIT Press
19. Tabakova, V. (2020). E-learning in medical physics and engineering: building educational modules with Moodle. CRC Press.
20. Tom Dieck, M.C. (2021). Augmented Reality and Virtual Reality: New Trends in Immersive Technology. Springer Nature.
21. Bishop, L., Van den Eynden, V., Corti, L., Woollard, M. (2019). Managing and Sharing Research Data: A Guide to Good Practice. United Kingdom: SAGE Publications.
22. Cox, A., & Verbaan, E. (2018). *Exploring research data management*. Facet publishing.

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23. Griffey, J. (2019). AI and Machine Learning: The challenges of artificial intelligence in libraries. *American Libraries*, 50(3), 4.
24. Khan, H. R., Du, Y. (2020). Data Science for Librarians. United States: ABC-CLIO.
25. Kruse, F., & Thestrup, J. B. (Eds.). (2017). *Research data management- A European perspective*. Walter de Gruyter GmbH & Co KG.
26. Kumar, K. (2018). Identification of library location through Arc GIS software: Geographical information system. *IJ Agri. L. Inf. Serv.*, 34 (3), 227.
27. Singh, A., Rai, P., & Singh, S. (2019). Scaling Bots in Libraries: Trending Aptness of Artificial Intelligence in Information System. *Available at SSRN3861818*.
28. Slayton, E., & Benner, J. (2020). The Role of Libraries in Geography and GIS Education: Report on a series of conversations about libraries, geography, GIS, and education in 2020.
29. Soares, L. (2020). Artificial Intelligence in Canadian Law Libraries. *Can. L. Libr. Rev.*, 45, 16.
30. Stoddart, R., & Godfrey, B. (2020). Gathering Evidence of Learning in Library Curriculum Center Spaces with Web GIS. *Evidence Based Library and Information Practice*, 15(3), 21-35.
31. Strasser, C. A., Krier, L. (2014). Data Management for Libraries: ALITA Guide. United States: American Library Association.
32. Tian, Z. (2021, June). Application of Artificial Intelligence System in Libraries through Data Mining and Content Filtering Methods. In *Journal of Physics: Conference Series* (Vol.1952, No. 4, p. 042091). IOP Publishing.
33. Wheatley, A., & Hervieux, S. (2019). Artificial intelligence in academic libraries: An environmental scan. *Information Services & Use*, 39(4), 347-356.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER-IV**

**MLI 4T3**

**Major**

**INTELLECTUAL PROPERTY RIGHTS**

**Learning Outcomes:**

1. Gain an understanding of intellectual property laws in India.
2. Explore the concept of intellectual property and intellectual property rights at national and international levels.
3. Study copyright, including ownership, assignment, infringement, and remedies.

**Unit-I : Fundamentals of Intellectual Property Rights (IPR)**

- IP-Concept, Intellectual Property Rights, Industrial Property
- Facets of Intellectual Property Rights: Patents, Industrial Design, Trademark, Geographical Indication, Trade Secret
- IPR System in India
- World Intellectual Property Organization (WIPO)

**Unit-II : Patents**

- Patents: Concept, Definition, Need
- Patent as a Primary Source of Information
- Patenting System in India, Registration Process
- Patent Databases: Indian, International (USPTO, Espace net)

**Unit-III: Industrial Design, Trademarks and Geographical Indication**

- Industrial Design: Need and Advantages, Industrial Design System in India
- Trademark: Need, Advantages, Types, Trademark System in India, Trademark Databases
- Geographical Indication: Need, Advantages, Registration Process in India, Indian Geographical Indication Database

**Unit-IV: Copyright and Traditional Knowledge**

- Copyright System in India, Indian Copyright Act, Fair Use and Copyright Infringement
- Traditional Knowledge: Concept, Definition, Need for Protection, Bio piracy, Cases of Bio piracy in India, Traditional Knowledge Digital Library

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### Recommended Books for Study

1. Nithyananda, K V. (2019). Intellectual Property Rights: Protection and Management. India, IN: Cengage Learning India Private Limited. (Textbook)
2. Neeraj, P., & Khusdeep, D. (2014). Intellectual Property Rights. India, IN: PHI learning Private Limited. (Textbook)
3. Hirwade Mangala & Hirwade Anil, Fundamentals of Intellectual Property Rights, Himalaya Publishing House. (Reference book)
4. Ahuja, V K. (2017). Law relating to Intellectual Property Rights. India, IN: Lexis Nexis. (Reference book)
5. Subramanian, N., & Sundararaman, M. (2018). Intellectual Property Rights- An Overview. Retrieved from <http://www.bdu.ac.in/cells/ipr/docs/ipr-eng-ebook.pdf> (E-resource)
6. World Intellectual Property Organization. (2004). WIPO Intellectual property Handbook. Retrieved from [https://www.wipo.int/edocs/pubdocs/en/intproperty/489/wipo\\_pub\\_489.pdf](https://www.wipo.int/edocs/pubdocs/en/intproperty/489/wipo_pub_489.pdf) (E-resource)
7. Journal of Intellectual Property Rights (JIPR):NISCAIR (Reference Journal)
8. Cell for IPR Promotion and Management (<http://cipam.gov.in/>) (Useful Website)
9. World Intellectual Property Organization (<https://www.wipo.int/about-ip/en/>) (Useful Website)
10. Office of the Controller General of Patents, Designs & Trademarks (<http://www.ipindia.nic.in/>) (Useful Website)

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER- IV**

**MLI 4T4**  
**(Disciplinary Elective Course)(Choose anyone)**

**ARCHIVALS, MUSEUMS AND ARCHEOLOGICAL INFORMATION SYSTEM**  
**(Elective-1)**

**Learning Outcomes:**

1. Understand the concepts of archives and museums.
2. Identify the materials managed by archives and museums.
3. Explore working areas in archives and collections management.
4. Learn about the history of archival science and museology.
5. Develop digitization techniques and their application in archives and museums.

**Unit-I: History and Development**

- Archives:
- History and Development of Archives in India
- Objectives and Functions
- Types of Archival Centers
- Museums
- History and Development of Museums in India
- Objectives and Functions
- Types of Museums

**Unit-II: Collection, Organization and Management**

- Collection of Archival and Museum
- Acquisition, Classification, Cataloguing and Indexing of Archival Material
- Source Material on archives, Manuscripts
- Machine Readable and Microfilming of Archival Records
- Databases and Digitization of Archives
- Building Design, Planning and furniture and fittings

**Unit-III: Preservation of Archives**

- Objectives and Purpose
- Causes of Deterioration
- Environmental Pollution: Physical, Chemical and Atmospheric
- Biological Endemics of materials: Mounds, Fungi, Insects and Rodents

**Unit-IV: Rehabilitation of Documents**

- Cleaning, removal of stains
- Fumigation and DE acidification
- Repair and Restoration Techniques
- Lamination
- Standards for Storage condition

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### Recommended Books for study

1. Chakrabarti, Band Mahapatra, P. K. Library Collection: Selection and preservation, Calcutta: World Press, 1991.
2. Cook, M. The Management of Information from Archives. Hants, UK. Gower, 1986.
3. Hedson, J. H. The Administration of Archives, New York: Pergamon Press, 1972.
4. Henderson, K. Land Henderson, W. T. Eds: Conserving and preserving Library Materials. Illinois, University Graduate School of Library and Information Science, 1983.
5. Kumar, P. S. G. Archival Librarianship MLISc Elective paper: Kumar's Curriculum series in Library & Information Science 12, 2008, x, 368, 23 cm, B. R. Publication, New Delhi.
6. Lihitkar, Shalini, R. Libraries and Information centers in Maharashtra. Pimplasure Publication. Nagpur, 2012.
7. Peace, Nancy E Ed: Archival Chains: Managing the Historical Records in the Age of abundance. Laxington. Mss. Laxington Books, 1984.
8. Winger, H. W. Deterioration and Preservation of Library materials, Chicago: University of Chicago Press, 1970.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-IV**

**MLI 4T4  
(Disciplinary Elective Course) (Choose anyone)**

**BIOTECHNOLOGY INFORMATION SYSTEM  
(Elective-2)**

**Learning Outcomes:**

1. Understand the concepts and importance of biotechnological libraries in India.
2. Analyze biotechnological information systems at national and international levels.
3. Develop skills to organize various sources in biotechnological information systems.

**Unit-I: Biotechnology Growth and Development**

- Growth and development of Biotechnology Education in India
- Growth and development of Biotechnology Research in India
- Role of Libraries in Biotechnology Research and extension
- Development of Biotechnology Institutes and their libraries in India
- Biotechnology Information Systems and Networks : Biotechnology and allied Information Systems in India-BTIS: Structure and Organization
- Networking and Resource Sharing in Biotechnology Information Systems

**Unit-II: Information Sources and Services, Products and Centers in Biotechnology**

☐ **Information Sources in Biotechnology:**

- Documentary
- Non-Documentary
- Electronic Resources
- Biotechnology Databases

☐ **Biotechnology Services and Products:**

- Information Services rendered to faculty and research scholars
- Web based Services
- Advanced Information Services and Products

☐ **Biotechnology Information Centers**

- National
- International

**Unit-III: Organization and Management of Resources**

- Biotechnology Information: Collection, Organization, Processing and Dissemination
- Developing Skills of Personnel
- Managing the finance: Funds, Generation of extra financial, Programmes and Projects

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#### Unit-IV: Information Needs of the Users and Professional Associations

- Special information needs of Biotechnology faculty
- Special information needs of Biotechnology Research workers
- User studies of Local Biotechnology Research Organizations
- Preparing a report on user needs (survey)
- Professional associations and their Role in Biotechnology

#### Recommended Books for study

1. Allent Kent. Encyclopedia of Library and Information Science Vo. Mercel, New York.
2. Annual Report of Biotechnology Information System, 1998.
3. Annual Reports. Department of Biotechnology. Govt. of India, New Delhi.
4. Annual Reports of National Environmental Engineering Research Institute, (NEERI) Nagpur.
5. Biotechnology: Research Development and Demonstration: Thrust Areas. Department of Biotechnology Annual Report 1993-94, Ministry of Science and Technology, Government of India. Department of Biotechnology (2001)
6. Chaturvedi, Sachin. Asian Biotechnology Market. Emerging investment trends. Ag. Biotech.Net, CAB International, Vol.1. March.
7. Chaturvedi, Sachin. Bio safety policy and implicative in India. Biotechnology and Development Monitor No. 30 March, 1997.
8. Directory of Biotechnology Equipments in India, DISC, NEERI, Nagpur, 1997.
9. Dubey, R. C. A Text Book of Biotechnology: New Delhi, S. Chand, 2004. P480.
10. Gangreddiwav, A. P. Information consolidation on Biotechnology, MLISc Project Report, RTM Nagpur University. Supervisor: D. Rajyalakshmi, Co-guide: Mangala Hirwade, 2009.
11. Gilbirt, C. R. Biotech laboratories, Experiments, equipment's and institutions. Anmol Publications, New Delhi, 2008. P. 245-295.
12. Jeevan, V. J. bioinformatics Resources on Internet, Library Herald Vo. 40, N2, 2002, p271-287.
13. Kedar, A, Rajyalakshmi, C. D., and Gupta, Activities of Distributed Information sub centers of BTIS: An Overview. Proceedings of Environmental Biotechnology Symposium. 28-29 March, 1994, DISC, NEERI, Nagpur.
14. Lihitkar, S. Information Systems and Networks in India Today and Tomorrow Pub. New Delhi, 2012.
15. Lihitkar, Shalini, R. Libraries and Information centers in Maharashtra. Pimplapure Publication. Nagpur, 2012.
16. Mc Graw Hill Encyclopedia of Science & Technology.
17. Padole, K. Directory of Biotechnology Educational and Research Institutions in India. MLISc project report, RTM Nagpur University, Supervisor: D. Rajyalakshmi. (2005)
18. Pental, Deepak . Plant molecular biology and biotechnology in India. Plant molecular biology reporter Vol.16, p.93-97.
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- their Access facilities in India. In International Conference BIOCHEM'97. Dean 26-28, Dept. of Biotechnology, Nagpur University, (DISC, NEERI, Nagpur).
20. Sharma, K. H. A study of biotechnology related research institution libraries in Nagpur city. MLISc project report. RTM Nagpur University. Supervisor: Nikose, S. M. (2005).
  21. Shewale, J.G. Biotechnology in Healthcare (No.6) National Institute of Science Communication CSRR, Govt. of India. Dissemination of biotechnology of information DBT. 2000p. 33-37.
  22. Sugdev, S. S. Study of Distributed Information sub centres of BTIS. MLISc project report RTM Nagpur University. Supervisor D. G. Kapde. (2005).

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)**  
**SEMESTER- IV**

**MLI 4T4**  
**(Disciplinary Elective Course) (Choose anyone)**

**ENGINEERING AND TECHNOLOGICAL LIBRARY AND INFORMATION  
SYSTEM**  
**(Elective-3)**

**Learning Outcomes:**

1. Understand the importance of engineering and technological information systems.
2. Analyze engineering and technological information systems at national and international levels.
3. Develop skills to manage engineering and technological information systems.

**Unit-I: Engineering and Technological Education and Research**

- Growth and development to engineering and technology education and research in India.
- Development of Engineering and Technology Libraries in India
- Role of Engineering and Technology Libraries in India
- Role of Agencies in growth and development of Engineering and Technology Libraries in India

**Unit-II: Engineering and Technological Sources, Services and Product**

- Information Sources: Engineering and Technology
- Documentary and Non-documentary Sources
- Electronic resources: Open Access and Commercial
- Databases: offline and online
- Web based Services
- Information services rendered to faculty and research scholars
- Resource sharing, networks and consortia

**Unit-III: Organization and Management of Resources**

- Organizational Structure
- Collection, Processing and Dissemination
- Managing the finance, sources of finance, budget
- Programmes and Projects
- Developing skills and competency of personnel, responsibility and duties

**Unit-IV: Information needs of users and Professional Associations**

- Information needs of faculty members and students
- User studies of engineering and technology libraries (one report)
- Preparing are port of one engineering and technology libraries
- Professional associations

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- Engineering and technological centers
- Information Literacy Programme
- Norms and Standards

#### **Recommended Books for Study**

1. AllentKent. Encyclopedia of Library and Information Science Vo. Mercel, New York.
2. Jeevan, V. J. bioinformatics Resources on Internet, Library Herald Vo.40, N2, 2002, p271-287.
3. Kedar, A, Rajyalakshmi, C. D., and Gupta, Activities of Distributed Information sub centres of BTIS: An Overview. Proceedings of Environmental Biotechnology Symposium. 28-29 March, 1994, DISC, NEERI, Nagpur.
4. Lihitkar, S. Information Systems and Networks in India Today and Tomorrow Pub. New Delhi, 2012.
5. Lihitkar, Shalini, R. Libraries and Information centers in Maharashtra. Pimplapure Publication. Nagpur, 2012.
6. Mc Graw Hill Encyclopedia of Science & Technology.
7. Chakrabarti, B and Mahapatra, P. K. Library Collection: Selection and preservation, Calcutta: World Press, 1991.
8. Henderson, K.L and Henderson, W. T. Eds: Conserving and preserving Library Materials. Illinois, University Graduate School of Library and Information Science, 1983.
9. Lihitkar, Shalini, R. Libraries and Information Centers in Maharashtra. Pimplapure Publication. Nagpur, 2012.
10. Peace, Nancy EEd: Archival Chains: Managing the Historical Records in the Age of abundance. Laxington. Mss. Laxington Books, 1984.
11. Winger, H. W. Deterioration and Preservation of Library materials, Chicago: University of Chicago Press, 1970.

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**MASTER OF LIBRARY AND INFORMATION SCIENCE (CBCS)  
SEMESTER-IV**

**PRACTICAL**

**Learning Outcomes:**

1. To gain the knowledge of problem identification, review literature and various Research Methodologies.
2. To gain the knowledge of tools and techniques of data collection and hypotheses formulations.
3. To develop the ability to data analyzing, report writing and Hypotheses testing.

**MLI4L1: Project Work (Major)**

**Marks: 150**

The project work to be prepared by students and report should be submitted, it consists of 100 marks and viva-voce will be conducted which consist of 50 marks.

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