

Sant Gadge Baba Amravati University, Amravati

REVISED SYLLABUS FOR ONE YEAR MLISc WITH SEMESTER AND  
CREDIT SYSTEM

1. **Title of course:** Master of Library and Information Science (M.L.I.Sc.)
2. **Duration of the Course:** One year (Two Semesters credit system)
3. **Objectives of the Course:** Master of Library and Information Science (M.L.I.Sc.) of one year duration with semester and credit system has following objectives:-
  - a) To train the students in the advanced skills of information/knowledge gathering, processing, organization and retrieval.
  - b) To include managerial skills in the students for planning and management of LICs.
  - c) To develop research skills in students and enable them to carry out research in LIS.
  - d) To provide thorough understanding of IT application in information environment including network and communication systems.
4. **Eligibility:** A candidate who has secured B.L.I.Sc. degree from any Indian University with at least 50% marks.
5. **External Students:** This course is not open to external students. Only full time regular students are eligible for this course.
6. **Structure of the Course:**
  - a) **Compulsory papers:**

### Semester – I

Paper No./Code	Title of the Paper	Marks		Total Marks
		External	Internal	
ML-101	Marketing of Library and Information Services, Products and Management Consultancy	80	20	100
ML-102	Information Communication	80	20	100
ML-103	Information Analysis, Repackaging and Consolidation	80	20	100
ML-104	Library Networks and Digital Library (Theory)	80	20	100
ML-105				
ML-106				
ML-107				
ML-105				
<b>Total Marks</b>				<b>800</b>

### Semester – II

Paper No./Code	Title of the Paper	Marks		Total Marks
		External	Internal	
ML-201	Research Methods and Statistical Techniques	80	20	100
ML-202	<b>*Three Elective Papers</b>	80	20	100
	A) Health Science Library and Information System			
	B) Agricultural Library and Information System			
	C) Engineering and Technological Library and Information System			
ML-203	Library Networks and Digital Library (Practical)	80	20	100
ML-204	Project & Viva-voce			100
<b>Total Marks</b>				<b>800</b>
<b>Grand Total (Sem-I + Sem-II)</b>				<b>1600</b>

b) **Medium of Instruction:** English (The medium of instruction shall be in English and the question paper shall be set in English)

c) **Medium of writing examination:** English and Marathi

7. **University Terms:** For the award of Master of Library and Information Science (M.L.I.Sc.)

a candidate should fulfill the following conditions:-

- i) He / She shall have kept two terms for the Degree Course in Library & Information Science conducted by the Sant Gadge Baba Amravati University and
- ii) He / She shall have completed the prescribed course to the satisfaction of the concerned Head of the Department/Institute.

- iii) A student should have attended at least 75% of the total number of lectures and practicals in the said course, and shall have secured at least 40% of marks in termwork. A student, who does not thus obtain 40% of marks in the termwork, will have to keep fresh terms.

## 8. Examination:-

### A) Total marks and their allocation per paper:

i)	Semester – I	Four Theory Papers	= 400 Marks
ii)	Semester – II	Two Theory Papers (One Compulsory + one Elective)	= 200 Marks
		One Practical	= 100 Marks
		Project	= 100 Marks
		<b>Total</b>	<b>= 800 Marks</b>

### B) Pattern of Question Paper on the unit system:

#### Theory:

The pattern of question paper as per unit system will be broadly based on the following pattern.

1. Syllabus has been divided into units equal to the number of question to be answered in the paper. On each unit there will be a question either a long answer type or a short answer type.
2. Number of question will be in accordance with the unit prescribed in the syllabi for each paper i.e. there will be one question on each unit.
3. For every question long answer type or short answer type there will be an alternative choice from the same unit. However, there will be no internal choice in a question.
4. Division of marks between long answer and short answer type questions will be in the ratio of 40 and 60. (i.e. Long Question: 16M x 2Q = 32 Marks & Short Questions 4M x 12Q = 48 Marks, Total=80 Marks)
5. Each short answer type question shall contain 4 to 8 short sub questions with no internal choice.
6. Question paper will be of 80 marks and questions will be asked from all the units of the syllabus.
7. Question paper will consist of five questions and all the questions shall be compulsory.
8. The duration of the paper will be three hours.

#### Practical:

1. Question paper will be of 80 marks and questions will be asked from all the units of the syllabus.
2. Question paper will consist of four questions and all the questions shall be compulsory.
3. The duration of the paper will be of two hours.





## ML-101 MANAGEMENT OF LIBRARIES AND INFORMATION CENTERS

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<p><b>Management:</b>            Concept, Definition and Scope, Principles of Scientific Management-Their application to LICs.            School of Thoughts: Classical School, Scientific Management School, Human Behavior and Motivation School, Decision Theory School            Approaches: Behavioral Approach, Mathematical Approach, Formalistic Approach, and Participative School, Organizational Structure: Concept and Scope</p>
<b>Unit – 2</b>	<p><b>Planning:</b>            Concept, Need and Purpose            Steps, Planning of LIC, Forecasting Techniques            Strategic Planning, Methods of Planning</p>
<b>Unit – 3</b>	<p><b>Controlling:</b>            Concept, Definitions, Scope and Use in LIC            Budgetary and Non-budgetary Control            PERT and CPM</p>
<b>Unit – 4</b>	<p><b>Change Management:</b>            Concept of change,            Changes in procedures, methods, tools and techniques            Problems of Incorporating change            Techniques of managing change</p>
<b>Unit – 5</b>	<p><b>Trends in Management Techniques:</b>            Management by Objective (MBO), Management by Organizational Development (MBOD), and Management by Exception (MBE), TQM, SWOT Analysis, Six Sigma, Out Sourcing, Re-engineering, MIS.</p>

**ML-201 MARKETING OF INFORMATION PRODUCTS AND SERVICES**

<b>Unit</b>	<b>Total Number of Credits = 4</b>
<b>Unit – 1</b>	<b>Marketing of Information Services and Products:</b> Concept of Marketing, Marketing for Non-profit Organization, Market Analysis, Market Research and Market Trend, Marketing Services, Marketing Ethics, Marketing Management and Librarianship: Past, Present and Future.
<b>Unit – 2</b>	<b>Pricing, Promotion and Evaluation of Information Product</b> Pricing of Information Services and Products Marketing Tools, Promotion of Products, Branding and Advertising, Evaluation of Information Services and Products.
<b>Unit – 3</b>	<b>System Analysis and Design</b> System Approach: Concept, System Analysis, Library as a system, System Design: System Design Process, Project Management, Time and Motion Study: Time Management, Work Study, Work Measurement
<b>Unit – 4</b>	<b>Management Consultancy</b> Definition of Consultancy, Concept Professional Consultancy: Concept and Evolution, Areas of Application, Need, Pre-requisites, Provision, Impact on Librarianship and Library Information Center
<b>Unit – 5</b>	<b>Organization Development and Effectiveness</b> Organizational Development: Concept, Scope and Objectives Organizational Effectiveness: Concept and Need, Organizational Change: Concept and Need, Effectiveness and Development Skills of Change Agent, Organization Climate and Culture

**References Recommended:**

1. Anderson, A. H. and Barker D. Effective Enterprise and Change Management Oxford: Blackwell Publisher Limited, 1996.
2. Aswathappa, K. Human Resources and Personnel Management. New Delhi: Tata McGraw-Hill, 1997.
3. Baker, David. The Strategic Management of Technology: A guide for Library and Information Services. Oxford (UK): Chandos Publishing, 2004.
4. Drucker, Peter F. The Practice of Management, New York: Holt, Rienchart and Winston, 1958.
5. Evans, Edward G. Management Techniques for Librarians. 2<sup>nd</sup> Ed. New York: Academic Press, 1982.
6. Fayol, Henri, General and Industrial Management. Tr. By Constance Stores. London: Pitman, 1949.
7. FitzGerald, J and Fitz Gerald, Ardra F. Fundamentals of System Analysis. 3<sup>rd</sup> Ed. New York: John Wiley, 1987.
8. French, W. E. and Bell, C. H. Organizational Development. New Delhi: Prentice-Hall of India, 1995.
9. Gupta, D. K. and Jambhekar, Ashok (Ed.). An Integrated Approach to Services Marketing: A book of reading on making of Library and Information Services. Mumbai: Allied Publication, 2003.
10. Hayes, R. M. Strategic Management for Academic Libraries: A Handbook. Westport: Greenwood, 1993.

11. Holloway, J. (ed.) Performance Measurement and Evaluation. New Delhi: Sage, 1995.
12. Koontz, H. and Weithric, H. Essentials of Management. 5<sup>th</sup> Ed. New Delhi: Tata McGraw-Hill Publishing Co. Limited, 1998.
13. Kumar, P.S.G. Management of Library and Information Centers. New Delhi: B. R. Publication, 2003.
14. Lahiri, R. Management of Libraries of Libraries Concepts and Practices. New Delhi: Ess-Ess Publication, 1996.
15. Lawes, Ann. Management Skills for the Information Manager. London: Ashgate Pub, 1993.
16. Luthans, F. Organizational Behaviour. 7<sup>th</sup> Ed., New York: McGraw-Hill, 1995.
17. Mendonca, M. and Kanungo, R. N. Work Motivation. New Delhi: Sage, 1994.
18. Mishra, K. C. 21<sup>st</sup> Century Library Management. New Delhi: Ess-Ess Pub., 2004.
19. Mittal, R. L. Library Administration: Theory and Practice. New Delhi: Metropolitan Book Company, 1996.
20. Narayanan, G. J. Library Management and Information Management. New Delhi: Printice Hall of India, 1991.
21. Pawar, B. S. and Vyas, S. D. Library Management. New Delhi: B. R. Publishing Corporation, 1986.
22. Prytherch, Ray. Gower Handbook of Library and Information Management. Aldershot: Gower, 1998.
23. Robbins, S. P. Organizational Behaviour 7<sup>th</sup> Ed. New Delhi: Prentice Hall of India, 1996.
24. Vasisth, N. Students' Guide to Management. New Delhi: Taxmann, 2002.
25. Wadhawa, R. K. Management Information System and Corporate Communications. New Delhi: Kanishka Publishers, 1998.
26. White, Herbert S. Library Personnel Management. New York: Knowledge Indus Publication, 1985.
27. Woodal, Jack Rebeck, Debrorah, K. and Vochl, Frank. Total Quality in Information Systems and Technology. New Delhi: Vanity Books, 1998.

**ML – 102 INFORMATION COMMUNICATIONS**

<b>Unit</b>	<b>Total Number of Credits = 4</b>
<b>Unit – 1</b>	<p><b>Data, Information and Knowledge:</b>            Data, Information and Knowledge: Definitions and Conceptual Difference            Information Nature and Characteristics            Generation of Information and knowledge: Information Transfer Chain            Value and Use of Information</p>
<b>Unit – 2</b>	<p><b>Communication of Information:</b>            Information Communication: Concept, and Scope, Information Communication Channels, Models and Barriers, Trends in Scientific Communication, Agencies promoting Communication of Information</p>
<b>Unit – 3</b>	<p><b>Information Science:</b>            Definitions, Objectives and Scope,            Growth and development of Library Science            Documentation and Information Science            Interdisciplinary Nature of Information Science</p>
<b>Unit – 4</b>	<p><b>Information Programmes, Policies and Acts</b>            National Information Policy: Concept, Need and Guidelines, National and International Policy Issues, Information Super Highway.            National Information System (NATIS): Concept and Need, Universal Availability of Publication (UAP)            Intellectual Property Rights: WIPO and WIPONET, Right to Information, Freedom of Information, Censorship, Fair Use, Data Security.</p>
<b>Unit – 5</b>	<p><b>Information System and Information Unit</b>            National &amp; International Information System: NISSAT, NASSDOC, NISCAIR, DESIDOC, INIS, AGRIS, INSPEC.            Information Unit: Aims and Objective, Types and Need of Information Unit,            Information Center: Clearing House, Data Centers and Data Banks, Liaison Services, Information Analysis Center, Referral Service Center, Information Call Center.</p>

## ML-202 COMPUTER GENERATED INDEXES AND RETRIEVAL TECHNIQUES

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<b>Computer Generated Indexes</b> Role of computer in generation of Indexes, Manual vs Computerized Indexes Computer base Indexing System: KWIC, KWOC etc. Citation Indexing
<b>Unit – 2</b>	<b>Search Process:</b> Search Strategy: Concept and Steps Search Strategies in Computer Generated Indexing System Offline and Online Information Retrieval Techniques Natural Language Processing and their Retrieval
<b>Unit – 3</b>	<b>Evolution and Trends:</b> Evolution of Information Retrieval Techniques Recent Trends in Information Retrieval System
<b>Unit – 4</b>	<b>Information and Knowledge Management:</b> Concept, Scope and Nature of Information Management Steps in Information Management Knowledge Management: Concept and Need of Knowledge Management Types of Knowledge: Tacit and Explicit Tools and Techniques of Knowledge Management
<b>Unit – 5</b>	<b>Bibliographical Control:</b> Concepts and Need of Bibliographical Control Historical Development of National and Universal Bibliographical Control Role of UNESCO and IFLA in Bibliographical Control Bibliography of Non-documentary Sources: Need and Functions

### Recommended Books:

1. Ahuja, B. N. and Chhabra, S. S. Communications. New Delhi: Surjeet Publication, 1989.
2. Babu, B. Ramesh and et.al. Information Management: Trends and Issues. New Delhi: Researchco Book Centre, 2003.
3. Babu, B. Ramesh and Gopalakrishnan (Ed.) Knowledge Management: Today and Tomorrow. New Delhi: Ess-Ess Publication, 2003.
4. Babu, B. Ramesh and Gopalakrishnan, S. (Ed). Information Communication, Library and Community Development. New Delhi: B. R. Publishing Corporation, 2004.
5. Jain, A. K. Bhatia, Pravin S. R. and Sheikh, A. M. Professional Communication Skills. New Delhi: S. Chand and Company, 2001.
6. Kamala, Vijayan D. and et.al. (Ed). International Conference on Information Management in a Knowledge Society. Vol.-I. New Delhi: Allied Publishers, 2005.
7. Kamalavijayan, D. Information and Knowledge Management. New Delhi: Macmillan India Limited, 2005.
8. Kumar, P.S.G. Fundamental of Information Science. New Delhi: S. Chand and Company, 1998.
9. Kumar, P.S.G. Information and Communication. New Delhi: B. R. Publication, 2004.
10. Sahib, Singh. Library and Literacy Movement for National Development. New Delhi: Concept Publishing Company, 2003.

11. Toffer, Alvin. *The Power Shift: Knowledge wealth and violence at the Edge of the 21<sup>st</sup> Century*, New York: Bantam House, 1991.
12. Vickery, B. C. and Vickery, A. *Information Science in Theory and Practice*. London: Butterworth, 1987.

## ML-103 INFORMATION STORAGE AND RETRIEVAL

<b>Unit</b>	<b>Total Number of Credits = 4</b>
<b>Unit – 1</b>	<b>Information Storage and Retrieval</b> Concepts, Objectives, Functions and Components of Information Storage and Retrieval Content Analysis: Concept, Need, Scope and Steps in Content Analysis, Methods of Content Analysis
<b>Unit – 2</b>	<b>Document Representation and Document Description:</b> Document Description: Principles and Practice Standards for bibliographic description at National and International level Current Trends in Standardization and Information Exchange Trends in Information Retrieval Models
<b>Unit – 3</b>	<b>Subject Indexing:</b> Concept, Objectives, Functions and Need of Index History and Development of Subject Indexing
<b>Unit – 4</b>	<b>Indexing Models:</b> Pre-co-ordinate Indexing: Chain Indexing, PRECIS, POPSI Post-Co-ordinate Indexing: Uniterm Indexing; Zatocoding system; Optical coincidence methods (Peek-a-Boo-system)
<b>Unit – 5</b>	<b>Indexing Languages:</b> Characteristics and Types Vocabulary Control: Natural and Control Language, Semantic and Syntax Subject Heading Lists: LCSH, SLSH, Thesaurus: Purpose, Function and Structure, Steps in construction of Thesaurus, Thesaurfacet and Classarus.

## ML – 203 INFORMATION ANALYSIS, REPACKAGING AND CONSOLIDATION

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<p><b>Information Analysis:</b>                      Concept, Definitions and Need, Methods of Information Analysis                      Abstract and Abstracting: Definitions and Need,                      Types of Abstract, Techniques of Abstracting, Steps in Abstracting, Standard and Guidelines for Preparation of Abstract</p>
<b>Unit – 2</b>	<p><b>Information Repackaging:</b>                      Concept and Need of Repackaging,                      Repackaging and Formatting, Agencies dealing with Repackaging of Information,                      Electronic Content Creation: Meaning, Need, Objectives and Techniques                      CAPS: Definition, Concept and Importance</p>
<b>Unit – 3</b>	<p><b>Information Consolidation</b>                      Definition and Concept of Information Consolidation                      Objectives and Need of Information consolidation                      Value and benefits of Consolidation.                      Methods of Information Consolidation                      Pre-requisites and Stages/Steps in the Preparation of Information consolidation, Tools for Consolidation</p>
<b>Unit – 4</b>	<p><b>Information Consolidation Products (ICP)</b>                      Nature of Information Consolidation Product, Design and Development of ICP,                      Types of Information Consolidation Product: User Manual, Indexes, Bibliographies, Union Catalogues, Abstract Bulletin , Library Bulletin, Trend Report, State of the Art etc.</p>
<b>Unit – 5</b>	<p><b>Information Analysis and Consolidation Centers:</b>                      Information Analysis and Consolidation Centers: Genesis, Types, Functions and Activities                      Planning and Management of Information Analysis and Consolidation                      Centers: Policy formulation, Management and Resource needed                      Recent Trends in Information Analysis and Consolidation</p>

### Recommended Books:

1. Bhattacharya, G. DRTC Annual Seminar on IASLIC: A Review. (DTRC Annual Seminar. 18, 1981; paper IA.)
2. Brandreth, M. Specialized Information/Analysis centre in International development: Report of a meeting held at Montebello, Quebec, Canada 4-8, October, 1982. 12DC Manuscript series. March, 1984.
3. Bryson, J. O. Effective Library and Information Centre Management. USA: Gower Publishing Company, 1980.
4. Chandra, A. and Saxena, P. Style Manual for writing thesis, dissertations and papers in social science. New Delhi: Metropolitan, 1979.
5. Dinesh, E. and Ramachandran, M. Organization and set up of an Information Analysis Centres. DTRC Annual Seminar 18, 1981. Paper HB.
6. Ellis, D. New Horizons in Information Retrieval. London: Library Association, 1990.
7. Fosket, A.C. Subject Approaches to Information. 3<sup>rd</sup> ed. London: Clive Bingley, 1977.
8. Gopinath, M. A. Preparation of an Index to a book: A Case Study Library Science with a Slant Documentation, 1967, Paper E.

9. Gopinath, M. A. Typology of structural relations for Information Analysis and consolidation products, feedback and evaluation: a case study. DTRC Annual seminar. 18; 1981. Paper EA.
10. Kumar, P.S.G. Information Analysis, Repackaging, Consolidation and Information Retrieval. New Delhi: B. R. Publishing, 2004.
11. Lancaster, F. W. Vocabulary Control for Information Retrieval. New York: Information Resources Press, 1972.
12. Matcalfe, J. R. Organization of ICU: Centralized or decentralized Information analysis and consolidation; who page (paper presented at the third meeting of UNISIST wording group on information analysis and consolidation. Kaula lampir 12-16 Sep 1983.
13. Narayana, G. J. Library and Information Management. New Delhi: Prentice Hall India, Pvt. Ltd. 1991.
14. Saracevic, T. and Wood, J. S. Consolidation of Information: A hand book of evaluation restructuring and repackaging of scientific and technical information. Paris: UNESCO, 1981.
15. Seetharama, S. Costing of Information System and services: Some General Considerations. DTRC Annual Seminar 24, 1990. Paper B.
16. Seetharama, S. Evaluation measures in information retrieval system IASLIC conference 1992.
17. Seetharama, S. Guidelines for Planning of Libraries and Information Centers. Calcutta: IASLIC, 1990.
18. Seetharama, S. Information Consolidation and Repackaging: Frame work, Methodology, Planning. New Delhi: Ess-Ess Publications, 1997.
19. Seetharama, S. Libraries and Information Canters as Profit Marking Institutions. New Delhi: Ess-Ess Publications, 1998.
20. Raju, A A N and Ramaiah, L. S. National Bibliographical Control: Problems and Perspectives. Allied Publishers, 2003.

**ML – 104 LIBRARY NETWORKS**

<b>Unit</b>	<b>Total Number of Credits = 4</b>
<b>Unit – 1</b>	<b>Library Networks:</b> Library Networks: Concept and Definition Aims and Objective of Library Network Need of Library Networks, Uses of Library Network, Pre-requisites for Network Organization
<b>Unit – 2</b>	<b>Network Services:</b> Types of Network Services, Importance of Network Services Types of Networks: DELNET, INFLIBNET, BONET, ERNET, NICNET, JANET, BLAISE, OCLC.
<b>Unit – 3</b>	<b>Resource Sharing and Consortia:</b> Concept and Needs, Modern Trends in Resource Sharing Consortia: Concept, Definitions, Benefits and Limitations Types of Consortia, International Initiatives – FORSAA Indian Initiatives – UGC-INFONET, J-Gate, INDEST, CSIR e-journal consortium
<b>Unit – 4</b>	<b>Web Technologies in Libraries:</b> WEBOPAC , Web 2.0 Functions and Features, Web 2.0Toolsand Their application in Libraries: RSS Feed, Weblogs, PODCASTS, Instant Messaging, Flicker, Wikkis and Social Networking
<b>Unit – 5</b>	<b>Creation of Web Documents:</b> Website Designing, Markup Languages: SGML, HTML and XML Website Designing Languages-HTML, Contents of Library Web page, Website Evaluation Criteria

## ML-204 DIGITAL LIBRARIES

Unit	Total Number of Credits = 4
Unit – 1	<b>Digital Library:</b> Digital library: Definition, Objectives, Scope, and Services History of Digital Libraries Electronic Library: Development and Services Virtual Library: Development and Services
Unit – 2	<b>Building Digital Libraries:</b> Pre-requisites for building of Digital Library, Digitization Process, Challenges. Digitization Hardware and Software, OCR, Image Editing Software, Open Source Software for Digitization: D-Space, Green Stone, Fedora and E-print.
Unit – 3	<b>Design and Organization of Digital Library:</b> Collection Development (e-Books, e-Journals etc.), Organization and Preservation of Digital Material, Data Warehousing and Data Mining, Metadata: Nature, Standards (Dublin Core), Creation and Standards.
Unit – 4	<b>Digital Rights Management:</b> Digital Rights Management: Concept and Need Digital Millennium Copyright Act IPR issues in Digitization, Fair Use (Fair Deal) of use of Digital Information, Plagiarism and Copyright Infringement Cyber Crimes and Cyber Laws
Unit – 5	<b>Digital Library Initiatives:</b> Digital Library Initiatives World Wide, Digital Libraries Initiatives in India, Open Access Movement, Case study of selected Digital Libraries: Digital Library of India, National Digital Library, California Digital Library, and Alexandria Digital Library. Institutional Repositories, ETD Repositories.

### Recommended Books:

1. Ackermann, F. and Hartman, K. The Information Specialist's guide to Searching and Researching on the Internet and the World Wide Web. Chicago: Fitzroy Dearborn Publishers, 1999.
2. Ali, Amjad. Digital Libraries and Information Networks. New Delhi: Ess-Ess Publication, 2007.
3. Arms, William Y. Digital Libraries. Rev. Ed. Ane Books, 2005.
4. Asok Babu and Ramaiah, L S. Developing Cyber Libraries. New Delhi: Allied Publisher, 2006.
5. Baker, David. The Strategic Management of Technology: A guide for Library and Information Services, Oxford (UK): Chandos Publishing, 2004.
6. Bavakutty, M., Veeran, M. K. and Muhammed Salih, T. K. (Ed). Information: Access, Management and Exchange in the Technological Age. New Delhi: Ess-Ess Publication, 2003.
7. Bhatnagar, S. C. and Ramani, K. U. Computers and Information Management: A Printer for Practicing Managers. New Delhi: Prentice Hall of India, 1989.
8. Bradeley, P. And Smith, A. World Wide Web: How to design and Construct home pages. London: ASLIB, 1996.
9. Chaudhary, G. G. Introduction to Digital Libraries. London: Facet, 2003.
10. Chaudhary, G. G. Text Retrieval System in Information Management. New Delhi: New Age International, 1996.
11. D'Souza, Monica and D'Souza, Jude. Web Publishing, New Delhi: Tata McGraw –Hill Company Limited, 2001.

12. Godia, Kundan. Electronic Services in Library and Information Services. New Delhi: Adhyayan Publishers and Distributors, 2007.
13. Gopinath, M. A. and Reddy, E. Rama. Information Access through Networks. Hyderabad: Book links Corporation, 1996.
14. Hirwade, Mangala and Hirwade, Anil. Fundamentals of Intellectual Property Rights. Nagpur: Himalaya Publications, 2007.
15. Horak, Ray. Communication Systems and Networks. 2<sup>nd</sup> Ed. New Delhi: IDG, 2000.
16. Kumar, P. S. G. Computerization of Indian Libraries. New Delhi: B. R. Publishing, 1987.
17. Leon, A. and Leon, M. Fundamentals of Information Technology. Chennai: Lion Tech World, 1999.
18. Malwad, N. M. and et. al (Ed). Digital Libraries: Dynamic Storehouse of digitized Information. New Delhi: New Age International, 1996.
19. Murthy, S. S., Ravi, Anuradha and Moorthy, A. Lakshmana (Ed.) Bibliographic Databases and Networks. New Delhi: Tata McGraw- Hill Publishing Company, 1989.
20. Naik, Dilip C. Internet Standards and Protocols. New Delhi: Prentice Hall India Limited, 2001.
21. Parthan, S. and Jeevan, V. K. J. Information Management in E-Libraries. New Delhi: Allied Publisher, 2002.
22. Pedley. Digital Copyright. 2<sup>nd</sup> Ed. London: Facet, 2005.
23. Rao, N. Laxman. Responding to users' need in changing Information Landscapes: Journey of Libraries from Palm-Leaf to Palmtop. New Delhi: Indian Library Association, 2004.
24. Ravichandra Rao, I. K. Library Automation. New Delhi: Wiley Eastern, 1993.
25. Saffady, W. Introduction to Automation for Librarians, 3<sup>rd</sup> Ed. London: American Library Association, 1994.
26. Satarkar, S. P. Intellectual Property Rights and copyright matters. Nanded: Swapnil Mudranalaya, 2002.
27. Singh, Pravin C. Digital Libraries Tools and Techniques. New Delhi: Alfa Publications, 2008.
28. Sinha, Kamala. Access to Information Technology in Modern Libraries. Delhi: Vista International Publishing House, 2005.
29. Sinha, Kamala. Changing role of Digital Librarian. Delhi: Vista International Publishing House, 2007.
30. Thomas, R. And Yeats, J. A. User's guide to the Unix System. 2<sup>nd</sup> Ed. New Delhi: Tata McGraw-Hill, 1995.
31. Vengan, R., Mohan, H. R. and Raghavan, K. S. Information Services in a Networked environment in India. Ahmadabad: INFLIBNET Centre, 2000.
32. Ramaiah, L. S. E-libraries: Problems and perspectives (Festschrift in honour of shri Ashok Babu tummala). New Delhi: Allied Publisher, 2007.
33. Sirurmath, Sangayya S. Electronic Libraries (Prof. P Sadasivamurthy Festschrift). New Delhi: Allied Publisher, 2002.

## ML-105 RESEARCH METHODOLOGY

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<b>Research:</b> Concept, Meaning, Need and Purpose of Research Types of Research-Fundamental and Applied including Interdisciplinary and Multidisciplinary Research Research in Librarianship: Need, Nature and History, Areas of Research in LIS
<b>Unit – 2</b>	<b>Research Design:</b> Research Design: Objectives and Steps in Research Design, Types of Research Design, and Characteristics of a Good Research Design Research Problem: Identification and Formulation of Research Problem, Selection of Research Problem, Hypothesis: Need, Purpose and Characteristics, Types of Hypothesis Designing of Research Proposal
<b>Unit – 3</b>	<b>Research Methods:</b> Research Methods: Scientific Methods, Historical Methods, Descriptive Methods, Survey Methods, Case Study Methods, Experimental Method and Delphi Techniques
<b>Unit – 4</b>	<b>Research Techniques and Tools:</b> Data Collection Techniques: Primary and Secondary Data Collection Tools: Questionnaire, Schedules, Interview, Observation Scales, Check Lists, Library Records and Reports
<b>Unit – 5</b>	<b>Sampling Techniques:</b> Concept, Meaning and Purpose of Sampling Sampling Techniques: Types, Purpose and Steps in Sampling

## ML-205 STATISTICAL TECHNIQUES FOR REPORT WRITING

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<b>Data analysis, Methods and Tools:</b> Descriptive Statistics: Measures of Central Tendency, Mean, Mode, Median Measures of Central Tendency: Standard Deviation Measures of Dispersion, Variance and Covariance
<b>Unit – 2</b>	<b>Data Presentation:</b> Tabulation and Generalization, Graphical presentation of data: bar, pie-line graphs, Histograms etc. Testing of Hypothesis using Statistical Test: Chi-square, T-Test, Z-Test
<b>Unit – 3</b>	<b>Research Reporting:</b> Research Reporting: Structure, Style and Contents Presentation of Findings Citation of Print, Electronic and Internet Sources using Style Manual: Chicago, APA, and Harvard. Writing Research Report, Qualities of Good Research Report
<b>Unit – 4</b>	<b>Research Ethics and Trends:</b> Ethical aspects of Research, Qualities of a Good Researcher Statistical Packages: SPSS and MICROSTAT Current Trends in LIS Research
<b>Unit – 5</b>	<b>Bibliometrics, Scientometrics and Informetrics:</b> Bibliometrics: Concept and Definition Bibliometric Laws: Lotka’s Law, Bradford’s Law, Zipf’s Law Bibliographic Coupling, Obsolescence, Citation Studies, Impact Factor (H-Index) Scientometrics, Informetrics, Webometrics: Concept and Definition

### Recommended Books:

1. Best, John W. and Khan, James. V. Research in Education. 9<sup>th</sup> Ed. New Delhi: Pearson Education, 2007.
2. Busha, Charles. H. and Harter, Stephen P. Research Methods in Librarianship: Techniques and Interpretation. New York: Academic Press, 1980.
3. Elhance, D. N. and Elhance, Veena. Fundamentals of Statistics. Allahabad: Kitab Mahal, 1996.
4. Fowlwe, Floyed J. Jr. Survey Methods. 2<sup>nd</sup> Ed. Sage Publication, 1993.
5. Garreti, Henery. E. Statistics in Psychology and Education. New Delhi: Surjeet Publication, 2006.
6. Gaur, Ajani. S. and Gaur, Sanjaya. S. Statistical Method for Practice and Research: A guide to data analysis using SPSS. New Delhi: Sage Publication, 2006.
7. Gorman, G. E. and Clayton, P. Qualitative Research for Information Professionals: A Practical Handbook.
8. Goswami, M. Research Methodology in Library Science. New Delhi: Common Wealth Publications, 1995.
9. Gupta, S. P. Statistical Methods, 30<sup>th</sup> Ed. New Delhi: S.Chand, 2001.

10. Gupta, Santosh. Research Methodology: Methods and Techniques. 2<sup>nd</sup> Rev. Ed. New Delhi: Willey, 1990.
11. Kothari, C. R. Research Methodology: Methods and Techniques. 2<sup>nd</sup> Revised Edition. New Delhi: New Age International Publishers, 2009.
12. Krishna, Kumar. Research Methods and Information Science. New Delhi: Haranand Publication, 1999
13. Kumar, P.S.G. A Student's Manual of Library and Information Science. New Delhi: B. R. Publishing House, 2002.
14. Kumar, P.S.G. Research Methods and Statistical Techniques. New Delhi: B. R. Publishing House, 2004
15. Kumar, Ranjit. Research Methodology: A step-by-step guide for beginners. New Delhi: Sage Publications, 1999.
16. Lancaster, F. W. Bibliometric Methods in assessing productive and impact or research. Bangalore: Sarada Ranganathan Endowment for library science, 1991.
17. Line, Maurice B. Library Surveys. 2<sup>nd</sup> Ed. London: Clive Bingley, 1982.
18. Mahapatra, Gayatri. Bibliometric studies on library and information science literature. New Delhi: Ess-Ess, 1997.
19. Panda, B. D. Research Methodology for Library Science. New Delhi: Anmol Publication, 1997.
20. Ravichandra Rao, I. K. Quantitative Methods for Library and Information Science. New Delhi: Wiley Eastern Ltd, 1983.
21. Ray, G. L. and Mondal, Sagar. Research Methods in Social Sciences and Extension Education. Calcutta: Naya Prokash, 1999.
22. Reilly, Kevin D. The Delphi Technique: Fundamentals and applications. New Delhi: Commonwealth, 1995.
23. Saravanavel, P. Methodology. 15<sup>th</sup> Ed. Allahabad: Kitab Mahal, 2003.
24. Wilkinson, T. S. and Bhandarkar, P. L. Methodology and Techniques of Social Research. Bombay: Himalaya Publishing House, 1984.

**ELECTIVE PAPERS**  
**ML-106(A) HEALTH SCIENCE INFORMATION SYSTEM**

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<b>Health Science Education and Health Science Libraries:</b> Growth and Development of Health Science (Medical and Paramedical) Education and Research in India Role of libraries in Health Science Education, Research and Extension Recent Growth and Development of Health Science Libraries in India Information Polices in Health and Family Welfare
<b>Unit – 2</b>	<b>Health Science Information Sources and Services:</b> Specialized Collections and Information Sources (Print & Electronic) Health Science Information Center- National and International Information Services and Products in Health Science National and International Health Science Databases
<b>Unit – 3</b>	<b>Organizations Health Science Libraries and Information Centers:</b> Information Management: Concept and Principles Collection Management, Information Organization, Processing and Dissemination Developing need based and on-demand specialized services.
<b>Unit – 4</b>	<b>Information Needs:</b> Information Needs: Concept, Definitions and Purpose Information Requirement of Faculty, Researcher and Scientist User Studies and Survey of Local Health Science Libraries User Studies and Survey of Regional Health Science Libraries
<b>Unit – 5</b>	<b>Management of Health Science Information Systems and Networks:</b> Current Trends in Health Science Information Systems and Networks Human Resource Development- Staffing, Training and Professional Skills Resources Sharing and Networking in Health Science Libraries in India Professional and Research Association engaged in Medical and Health Sciences

**Recommended Books:**

1. Carmell, Michael. (Ed). Medical Librarianship. London: Library Association, 1982.
2. Chinnappa, S. L. Information retrieval methods in health science. Proceedings of the National Seminar on Health Science Libraries in India. Bangalore: 1980.
3. Kaula, P. N. and et. al. (Ed) International and comparative Librarianship and Information Systems. New Delhi: B. R. Publishing Corporation, 1996.
4. Kochar, Ved B. Development of Medical Library and Information Resources in India. 5<sup>th</sup> International Congress on Medical Librarianship, 1985.
5. Krishan Kumar. Information needs and Information seeking Behaviour. National seminar on Health Information, 1990.
6. Sasikala, C. Industrial Library Systems. New Delhi: Reliance Publishing House, 1994.
7. Varalakshmi, R.S.R. Information Services in Medical College Libraries. New Delhi: Ess Ess Publications, 1993.
8. Vickery, B. C. Information Systems. England: Butterworth and Company Limited, 1973.

## ML-106(B) AGRICULTURAL INFORMATION SYSTEM

Unit	Total Number of Credits = 4
<b>Unit – 1</b>	<b>Agricultural Education and Agricultural Libraries:</b> Growth and Development of Agricultural Education and Research in India Role of Libraries in Agricultural Education, Research and Extension Development of Agricultural Libraries in India, Information Policies in Agricultural Science
<b>Unit – 2</b>	<b>Agricultural Information Sources and Services:</b> Specialized Collections and Information Sources (Print & Electronic) Information Services and Products in Agricultural Science Agricultural Information Centers-National and International National and International Agricultural Databases
<b>Unit – 3</b>	<b>Organization of Agricultural Libraries and Information Centers:</b> General Principles of Information Management Collection Management Information Organization, Processing and Dissemination Developing need based and on demand specialized services
<b>Unit – 4</b>	<b>Information Needs:</b> Information Needs: Concept, Definitions and Purpose Information Requirement of Agricultural Faculty and Researchers User Studies and Survey of Local Agriculture Libraries User Studies and Survey of Regional Agriculture Libraries
<b>Unit – 5</b>	<b>Management of Agricultural Information Systems and Networks:</b> Current Trends in Agricultural Systems and Networks, Human Resource Development-Staffing, Training and Professional Skills Resources Sharing and Networking in Agricultural Libraries in India, Professional and Research Association engaged in Agricultural Sciences.

### References Recommended:

1. Alan Card, J. R. and Farrel, Lois. Guide to Agricultural and Biological Research. Beriveley: University of California, 1981.
2. Association of Indian Universities. Handbook of Agricultural Education. New Delhi: AIU, 1986.
3. Association of Indian Universities. Universities Handbook. New Delhi: AIU, 1985.
4. Bannerjee, S. R. and Moitra, S. Agricultural Documentation Services in India. New Delhi: ICAR Library (Unpublished).
5. Bose, P. C. AGRIS: International information system in Agricultural science and technology (In Gupta, B. M. and et. al. Handbook of Libraries, Archives and info cultures in India. V6. New Delhi: Info Resources Centre, 1988.
6. Deshmukh, P. P. (Ed.) Information Systems for Agricultural Sciences and Technology. New Delhi: Metropolitan, 1987.
7. Deshmukh, P. P. Indian Council of Agricultural Research (Delhi). Agricultural University Libraries on Committee, Final Report. New Delhi: ICAR, 1969.
8. Deshmukh, P. P. Standardization of Library and Information Services with special reference to scientific and agricultural libraries. New Delhi: ABC, 1990.

9. Dutta, S. Planning for an Agricultural information system in India.
10. Gupta, S.R. Stock verification in Libraries: Problems and Solutions. Delhi: Ken Pub., 1990.
11. Indian Council of Agricultural Research (New Delhi). Agricultural Universities (Review Committee) Report. New Delhi: ICAR, 1978.
12. Khanna, J. K. handbook of Library and Info Systems and Services. Delhi: Beacon, 1996.
13. Kumar, P. S. G. Agricultural Librarianship: MLISc. Elective paper. (Kumar curriculum series in Library & Information Science; 13). New Delhi: B. R. Publishing Corporation, 2008.
14. Lilley, P. Information Sources in Agriculture and Food Science. London: Butter Worths, 1981.
15. Maharashtra Government of Report of the Advisory Committee for Establishment of Agricultural University. Bombay: Govt. of Maharashtra, 1965.
16. Ramtirth, Aris. Information System for Agriculture Science and Technology in perspective in Library and Information Science. 1982.
17. Sangameswaran, S. V. and Gopinath, M. V. Transfer of Post-harvest technologies etc. (in Kapoor, S. V. and others ed. National Seminar of IASLIC, 1980.
18. Schmid, Helga. AGRIS: Database and Software development. (in Murthy, S. S. and et. al. Bibliographic databases and networks. New Delhi: Tata McGraw Hill, 1989.
19. Subbaiah, R. Agricultural Librarianship in India: An overview. New Delhi: Metropolitan, 1988.
20. Vashisth, C. P. International Info System in Agricultural Science and Technology (AGRIS) (in Agarwal D. S. Ed. Workshop on computer techniques information processing. Delhi.

**ML-206 (A) ENGINEERING AND TECHNOLOGICAL INFORMATION SYSTEM**

<b>Unit</b>	<b>Total Number of Credits = 4</b>
<b>Unit – 1</b>	<b>Engineering Education and Engineering Libraries:</b> Growth and Development of Engineering Education and Research in India. Role of Libraries in Engineering Education, Research and Extension. Development of Engineering and Technological Libraries in India. Information Policies in Engineering and Technology.
<b>Unit – 2</b>	<b>Engineering Information Sources and Services:</b> Specialized Collections and Information Sources (Print & Electronic) Information Services and Products in Engineering and Technology Engineering and Technological Information Centers-National and International, National and International Databases for Engineering Technology
<b>Unit – 3</b>	<b>Organization of Engineering and Technological Information Centers:</b> Principles of Information Management Collection Management Information Organization, Processing and Dissemination Developing need based and on demand specialized services
<b>Unit – 4</b>	<b>Information Needs</b> Information Needs: Concept, Definitions and Purpose Information Requirement of Engineering Faculty, Researchers and Engineers User Studies and Survey of Local Engineering and Technological Libraries User Studies and Survey of Regional Engineering and Technological Libraries
<b>Unit – 5</b>	<b>Management of Engineering and Technological Information Systems and Networks:</b> Current Trends in Engineering and Technological Systems and Networks, Resources sharing and Networking in Engineering and Technological Libraries in India, Professional and Research Association engaged in Engineering and Technology

**References Recommended:**

1. Cowley, John (Ed). The Management of Polytechnic Libraries. London (UK): Gower Publishing Company, Reprint 1987.
2. Dhawan, S. M. and others. Shaping the future of special libraries beyond Boundaries. New Delhi: Ane books Pvt. Ltd., 2009.
3. Gadgil, P. G. Industrial economy of India. Delhi: Eurasia, 1985.
4. Gaur, Ramesh C. Reengineering Library and Information Services: Process people and technology. New Delhi: Allied Publisher Pvt. Ltd., 2003.
5. Hirwade, Anil. Patent information services on Internet: An evaluation. Nagpur: Himalaya Publishing house, 2008
6. Kumar, P. S. G. Business/Industrial Librarianship: MLISc. Elective paper. (Kumar curriculum serie0s in Library & Information Science; 14). New Delhi: B. R. Publishing Corporation, 2008.
7. Lamb, J. P. Commercial and Technical libraries. London: George Allen and Unwin Ltd, 1955.
8. Lancaster, F. W. Libraries and Librarians in an age of Electronics. Arlington: Information Resources Press, 1982.
9. Sasikala, C. Industrial Library Systems. New Delhi: Reliance Publishing House, 1994.



- i) Creation and maintenance of bibliographic database : 05 Marks
- ii) Study of CD-ROM Databases or Online Databases : 05 Marks
- iii) Digitization of documents and Record : 05 Marks
- iv) Creation of web page using HTML and publishing over internet explorer : 05 Marks

**3. Note: \*For Elective Papers:**

- i) The Semester-II theory part shall consist of TWO theory papers including ONE elective paper out of three elective papers.
- ii) THREE elective papers {ML-202 (A), ML-202 (B), and ML-202 (C), have been given in the syllabus.
- iii) Students need to offer any ONE selective paper out of THREE elective papers.
- iv) The Department of Library and Information Science, Sant Gadge Baba Amravati University, Amravati and its affiliated Colleges running this course, may offer either ONE or more than ONE elective papers to the M.L.I.Sc. students depending upon the available expertise, resources etc.
- v) Minimum number of students for each elective paper should not be less than FIVE students.