



The University of Burdwan  
Department of Library and Information Science  
**Burdwan – 713 104, West Bengal**

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

**SYLLABUS**  
**(Choice Based Credit System)**

*With effect from 2014-2016 academic session*

**Approved in the PGBS meeting held on 02.07.2014**

**Master of Library and Information Science (MLIS)**  
**Integrated Two Academic Year Four Semester Programme – Choice Based Credit System**  
*(With effect from 2014-2016 academic session)*

**1. Title and Commencement**

- The programme shall be called the full-time Integrated Master of Library and Information Science (MLIS) programme under the Faculty of Arts, Commerce, etc.
- This syllabus shall come into force from the academic session 2014-2016.

**2. Objectives**

- The primary objective is to train the students in the basics of professional skills for information / knowledge management, so that they serve the society through an institution of library or information centre.
- To give the students an understanding of the basic principles of Library and Information Science and to enable them to understand, appreciate and develop professionalism to work in contemporary “Information Age”.
- To acquaint the students with the development of the Universe of Knowledge and methods of its organization in a library/information system.
- To train students in the techniques of Information Management and equip them with skills for applying Information Communication Technologies (ICT) in libraries and information centres.
- To make students fully aware of various sources of information and train them in techniques of dissemination of information in the context of different user groups.

**3. Duration and Semester System**

- The duration of the programme leading to the Degree of Master of Library and Information Science (MLIS) shall be two academic years. A student must complete the programme within four years from the date of admission to the programme..
- Each academic year shall be divided into two semesters. The first and third semesters shall ordinarily commence in the month of July of the first and second academic years and the second and the fourth semesters in the month of January of the first and second academic years or on such dates as may be fixed by the University. There shall be a minimum of 90 days of teaching in a semester.

**3. Academic Calendar**

Academic Calendar will be as approved by the University.

**4. Eligibility & Admission**

- Admission to the Integrated Master of Library and Information Science programme leading to Master of Library and Information Science degree shall be made through Entrance Test conducted by the University. The minimum qualification for appearing in the Entrance Test will be:

Bachelor degree with Honours/Major (in any discipline) at 10+2+3 level from the University, or any other university, accepted as equivalent thereto by the Statutory Bodies of the University/norms prescribed by the Regulatory Bodies as applicable subject to such conditions as may be prescribed thereof.

- Reservation rules shall be as prescribed by the State Government and notified by the authorities concerned from time to time.
- Foreign nationals either residing in India or abroad or Indian nationals residing abroad may be admitted to Integrated Master of Library and Information Science programme according to the policy guidelines laid down by the Government of India/University Executive Council from time to time.

**5. Intake:** Twenty five (25).

## 6. Programme Structure

- MLIS curricula consist of 80 credits distributed in 20 courses in 2 academic years divided into 4 semesters.
- Each credit requires 12 contact hours of teaching for theory or 24 contact hours of teaching for practical in a semester.
- 64 credits are meant for Core Courses (coded as ML-CC-XXX) and required to be completed/earned by each student.
- 16 credits are assigned to Open Courses (coded as ML-OC-XXX). Students of MLIS course may opt for one Open Course in each semester either from open courses offered by this Department or from open courses offered by any other department of the University.
- Students from other departments of this University may opt for Open Courses offered by this Department.
- MLIS course has a total 2000 marks (100 x 16 Core Courses + 100 x 4 Open Courses)
- Internal Assessment marks of a course are either through Continuous Evaluation (CE) or Practical (PRC) or Project (PRJ) or a combination of these elements as decided by the Course Teacher concerned.
- If internal assessment is based on CE, then it will be a combination of Test and/or Term paper and/or Seminar presentation.

## 7. Credit pattern explanation

<b>L</b>	<b>T</b>	<b>P</b>	
3	1	0	pattern: (3 X 12 wks) = 36 hrs = 3 credits + (1 X 12 wks) = 12 hrs = 1 credit + 0 > Altogether 4 credits
2	0	4	pattern: (2 X 12 wks) = 24 hrs = 2 credits + 0 + (4 X 12 wks) = 48 hrs = 2 credits > Altogether 4 credits
2	1	2	pattern: (2 X 12 wks) = 24 hrs = 2 credits + (1 X 12 wks) = 12 hrs = 1 credit + (2 X 12 wks) = 24 hrs = 1 credit > Altogether 4 credits
0	2	4	pattern: 0 + (2 X 12 wks) = 24 hrs = 2 credits + (4 X 12 wks) = 48 hrs = 2 credits > Altogether 4 credits
0	4	0	pattern: 0 + (4 X 12 wks) = 48 hrs = 4 credits + 0 > Altogether 4 credits

### Programme Credit Structure

Sem	Course Code	Course Title	Credit Pattern			Credit Value	Marks Distribution		
			Lecture (L)	Tutorial (T)	Practice (P)		Semester Examination	Internal Assessment	Total Marks
SEM I	LS-CC-101	Library and Society	3	1	0	4	75	25	100
	LS-CC-102	Knowledge Organization	2	1	2	4	75	25	100
	LS-CC-103	Resource Description	3	1	0	4	75	25	100
	LS-CC-104	Library Information Technology	2	0	4	4	75	25	100
	LS-OC-105	Information Sources and Services	2	1	2	4	75	25	100
SEM II	LS-CC-201	Library System Management	3	1	0	4	75	25	100
	LS-CC-202	Document Classification	0	2	4	4	75	25	100
	LS-CC-203	Document Cataloguing	0	2	4	4	75	25	100
	LS-CC-204	Content Designation and Metadata Encoding	2	1	2	4	75	25	100
	LS-OC-205	Information Systems and Users	3	1	0	4	75	25	100
SEM III	LS-CC-301	Information Communication and Management	3	1	0	4	75	25	100
	LS-CC-302	Information Retrieval	3	1	0	4	75	25	100
	LS-CC-303	Automated Library System	2	0	4	4	75	25	100
	LS-CC-304	Digital Resource Management	2	0	4	4	75	25	100
	LS-OC-305	Open Knowledge System	3	1	0	4	75	25	100
SEM IV	LS-CC-401	Research Methodology	3	1	0	4	75	25	100
	LS-CC-402	Digital Library System	2	0	4	4	75	25	100
	LS-CC-403	Elective (any one) LS-CC-403 A: Community Information System LS-CC-403 B: Academic Library System	3	1	0	4	75	25	100
	LS-CC-404	Guided Research Project	0	4	0	4	75 (Text)	25 (Viva/ Presentation)	100
	LS-OC-405	Informetrics	3	1	0	4	75	25	100
<b>Grand Total</b>						<b>80</b>	<b>1500</b>	<b>500</b>	<b>2000</b>

	Course Contents Structure			Marks Distribution		
	Course Code	Course Title	Course Summary	Semester Exam	Internal Assessment	Total Marks
					CE / PRC / PRJ	
S E M I	LS-CC-101	Library and Society	Unit 1: Library as a Social Institution Unit 2: Types of Libraries and other Information Agencies: Levels, Features and Functions Unit 3: Library Policies and Legislations Unit 4: Library Movement and Profession Unit 5: Public Relations and Extension Activities	75	25	100
	LS-CC-102	Knowledge Organization	Unit 1: Basic concepts Unit 2: Schemes of Library Classification Unit 3: General Theory of Library Classification Unit 4: Special Classification Schemes Unit 5: Trends and Future of Library Classification Unit 6: Practical Component (Colon Classification 6 <sup>th</sup> edition)	75	25 (PRC)	100
	LS-CC-103	Resource Description	Unit 1: Basic Concepts and Genesis Unit 2: Principles and Rules Unit 3: Cataloguing Codes Unit 4: Authority Data and Subject Cataloguing Unit 5: Cataloguing – Policies and Initiatives	75	25	100
	LS-CC-104	Library Information Technology	Unit 1: Introduction to ICT Unit 2: Logical Units of ICT: Software Unit 3: Computer Programming Languages Unit 4: Computer Networks and Distributed Information System Unit 5: Database Management System (DBMS) Unit 6: Practical Components	75	25 (PRC)	100
	LS-OC-105	Information Sources and Services	Unit 1: Information Sources Unit 2: Reference and Information Services Unit 3: Information Products Unit 4: Electronic Information Products and Services Unit 5: Technical Writing	75	25	100
S E	LS-CC-201	Library System Management	Unit 1: Management of Libraries and Information Centres Unit 2: Library Housekeeping Operations and System Analysis Unit 3: Managerial Tasks of Library Administration Unit 4: Human Resource Management Unit 5: Monitoring, Quality Control and Change Management	75	25	100

<b>M II</b>	LS-CC-202	Document Classification	Unit 1: Introduction Unit 2: Dewey Decimal Classification - stage 1 Unit 3: Dewey Decimal Classification - stage 2 Unit 4: Universal Decimal Classification - stage 1 Unit 5: Universal Decimal Classification - stage 2	75	25	100
	LS-CC-203	Document Cataloguing	Unit 1: Introduction Unit 2: CCC 5 <sup>th</sup> edition – Rules for description Unit 3: CCC 5 <sup>th</sup> edition – Rendering of access points Unit 4: AACR II – Rules for description Unit 5: AACR II – Rendering of access points	75	25	100
<b>S E M II</b>	LS-CC-204	Content Designation and Metadata Encoding	Unit 1: Introduction to Content Designation Unit 2: Bibliographic Data Formats Unit 3: Authority Data Formats Unit 4: Generic Metadata Schemas Unit 5: Domain-specific Metadata Schemas Unit 6: Practical Components	75	25 (PRC)	100
	LS-OC-205	Information Systems and Users	Unit 1: Information Systems Unit 2: Information Institutions Unit 3: Library Networking and Consortia Unit 4: Information Consolidation and Repackaging Unit 5: Information Users	75	25	100
<b>S E M III</b>	LS-CC-301	Information Communication and Management	Unit 1: Introduction to Information Science Unit 2: Information Communication and Society Unit 3: Economics and Marketing of Information Unit 4: Information and Knowledge Management Unit 5: Information Literacy	75	25	100
	LS-CC-302	Information Retrieval	Unit 1: Introduction to Information Retrieval System Unit 2: Subject Indexing: Principles and Practices Unit 3: Indexing Languages and Vocabulary Control Unit 4: Digital IR Systems Unit 5: IR Systems – Users, Evaluation and Trends	75	25	100
	LS-CC-303	Automated Library System	Unit 1: Introduction to Library Automation Unit 2: Workflow of Automated Library System Unit 3: Components of Automated Library System Unit 4: Standards related to Library Automation Unit 5: Software related to Library Automation Unit 6: Practical Components	75	25 (PRC)	100
	LS-CC-304	Digital Resource Management	Unit 1: Introduction to Digital Information Resources Unit 2: Text Retrieval Engines and Retrieval Support Tools	75	25 (PRC)	100

			Unit 3: Content Management System Unit 4: Web 2.0 and Library 2.0 Unit 5: Semantic Web Technologies Unit 6: Practical Components			
	LS-OC-305	Open Knowledge System	Unit 1: Introduction to Open Knowledge System Unit 2: Mandate, Policies and Licensing Unit 3: Open Access Sources and Services Unit 4: Open Access Interoperability Unit 5: Management and Integration of Open Contents	75	25	100
S E M I V	LS-CC-401	Research Methodology	Unit 1: Introduction to Research Methodology Unit 2: Research Design and Methods Unit 3: Data Collection and Presentation Unit 4: Data Analysis and Interpretation Unit 5: Report Writing and Research Communication	75	25	100
	LS-CC-402	Digital Library System	Unit 1: Historical and Theoretical Foundations Unit 2: Organization of Digital Objects Unit 3: Architecture, Information Retrieval and User interfaces Unit 4: Design and Development of Digital Library Systems Unit 5: Federated and Multilingual Digital Library Systems Unit 6: Practical Components	75	25 (PRC)	100
	LS-CC-403 (Elective: Any one)	LS-CC-403 A: Community Information System	Unit 1: Fundamentals of Community Information Services (CIS) Unit 2: Community Information Resources Unit 3: Local Studies Unit 4: Community Information Resources: Organization and Access Unit 5: Digital Community Information Services	75	25	100
		LS-CC-403 B: Academic Library System	Unit 1: Academic Libraries and their Users Unit 2: Management of Academic Libraries Unit 3: Services in Academic Libraries Unit 4: Change Management in Academic Libraries Unit 5: Introduction of new digital applications in Academic Libraries			
	LS-CC-404	Guided Research Project	On a selected topic pertaining to the applications of the professional techniques and their underlying principles. This guided research project is to be initiated at the 3 <sup>rd</sup> semester and is to be submitted for evaluation before dissolution of the 4 <sup>th</sup> semester classes.	75 (Text)	25 (Viva/Presentation)	100
	LS-OC-405	Informetrics	Unit 1: Introduction to Informetrics Unit 2: Citation analysis and its use Unit 3: Theories, Laws and Indicators Unit 4: Bibliometric and Webometric Tools Unit 5: Applications and Trends	75	25	100

## FIRST SEMESTER

**Course Code: LS-CC-101**

**Course Title: LIBRARY AND SOCIETY**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide theoretical foundations of the course;</li> <li>To learn the features of the different types of libraries and information agencies; and</li> <li>To explore the normative principles, legislation and IPR issues related to the discipline.</li> </ul>

### Unit 1: Library as a Social Institution

- Objectives and functions of social institutions with special reference to libraries and information centers (LICs);
- Historical development of LICs, Information resources, Tools, Techniques and Technologies;
- Five Laws of Library Science, Modifications of Five Laws, other normative principles;
- Historical development of Library and Information Science as a discipline.

### Unit 2: Types of libraries and other Information Agencies: Levels, features and functions

- National and Copyright libraries,
- Academic libraries,
- Public libraries,
- Special libraries and Information centres,
- Other information agencies and concerns, Automated, Digital and Virtual library systems

### Unit 3: Library Policy and Legislation

- IFLA/UNESCO public library manifesto, IFLA/UNESCO guidelines;
- Acts relating to information with special reference to India, including Press and

Registration of Books Act, Delivery of Books (Public Libraries) and Newspapers Act, Intellectual Property Rights;

- Library legislation – needs, Indian scenario, WB Public Libraries Act, 1979 (including amendments), Comparative study of library legislations in Indian states;
- International, and national programmes and policies – NAPLIS, Recommendations of National Knowledge Commission, India;

### Unit 4: Library Movement and Profession

- Occupation, Vocation and Profession, Attributes of Profession, Librarianship as a profession in India and abroad,
- Professional ethics and duties of Library and Information workers;
- Professional associations and their role in library development;
- Library movement and development in India with special reference to West Bengal;

### Unit 5: Public relations and Extension activities

- Library Public relations and Extension Service
- Community Information Service
- Local History collection
- Resource sharing and networking,



## FIRST SEMESTER

Course Code: LS-CC-101

Course Title: LIBRARY AND SOCIETY

### Reading List

- Bandyopadhyay, A.K. (2008). *Our public libraries*. Burdwan: R.Bandyopadhyay.
- Cornish, Graham P. (2001). *Interpreting the law for libraries, archives and information services*. Rev. 3<sup>rd</sup> ed. London: Facet Publishing.
- Davis, D. W. (1975). *Public libraries as cultural and social centres*. New York: Scarecrow.
- Greer, Roger C., Grover, Robert J. & Fowler, Susan G. (2013). *Introduction to the library and information professions*. 2<sup>nd</sup> ed. Westport, CT: Libraries Unlimited.
- IFLA. (1977). *Standards for library service*. 2nd ed. Munich: Verlag.
- India. (1959). *Advisory Committee for Libraries, Report*. Delhi: Manager of Publications.
- Khanna, J. K. (1987). *Library & society*. Kurukshetra: Research Publications.
- Koontz, C. & Gubbin, B., Eds. (2010). *IFLA public library service guidelines*. Berlin: De Gruyter Saur.
- Krishan Kumar (1986). *Library organization*. Delhi: Vikas.
- Kumar, P.S.G. (2001). *Indian encyclopedia of library & information science*. Vol. 3. New Delhi: S. Chand.
- Kumar, P.S.G. (2002). *A student's manual of library & information science*. Delhi: BR Publishing House.
- Laxman Rao, N., Vishwa Mohan, & Sudarshan Rao, S. (2001). *Changing dimensions of LIS education*. Hyderabad: IATLIS.
- Mittal, R. L. (1984). *Library administration: theory & practice*. 5th ed. Delhi: Metropolitan.
- Norman, S. (2001). *Practical copyright for information professional*. London: Facet Publishing.
- Pilling, S., & Kenna, S. (2002). *Co-operation in action: Collaborative initiatives in the world of information*. London: Facet Publishing.
- Ranganathan, S. R. (1957). *Five laws of library science*. Madras: Madras Library Association.
- Ranganathan, S. R., & Neelamegha, A. (1972). *Public library system*. Bangalore: Sarada Ranganathan Endowment.
- Rout, R. K. (1991). *Library legislation in India*. New Delhi: Reliance.
- Ray, Swapna (2005). *Public library act in Indian perspective*. Kolkata: Prova Prakashani.
- Sahai, S. (1973). *Library and community*. New Delhi: Today & Tomorrow.
- Sandy, N. (1999). *Copyright in further and higher education libraries*. 4th ed. London: Facet Publishing.
- Sharma, Pandey S.K. (1987). *Library and society*. New Delhi: Ess Ess Publications.
- Shera, J. H. (1970). *The foundations of education of librarianship*. Bombay: Asia.
- Shera, J. H. (1970). *Sociological foundations of librarianship*. New York: Asia Pub. House.
- UNESCO. (2000). *Unesco school library manifesto: the school library in teaching and learning for all*. The Hague: IFLA Headquarters.
- UNESCO & International Federation of Library Associations and Institutions. (1995). *Public library manifesto*. The Hague, Netherlands: IFLA.
- Vashisht, C. P. (1994). *Library movement and library development in India*. Delhi: ILA.
- Venkatappaiah, V. (1990). *Indian library legislation*. 2 vols. New Delhi: Daya.
- Withers, F. N. (1974). *Standards for library service: an international survey*. Paris: Unesco.

## FIRST SEMESTER

**Course Code: LS-CC-102**

**Course Title: KNOWLEDGE ORGANIZATION**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	1	2	4	75	Nil	25	Nil	100	<ul style="list-style-type: none"> <li>To provide historical and theoretical foundation of knowledge organization;</li> <li>To explore the features of traditional library classification schemes; and</li> <li>To know the methods related to designing depth schedule and to study the use of technologies in library classification.</li> </ul>

### Unit 1: Basic concepts

- Meaning, purpose and function of classification, Knowledge classification and Document classification;
- Universe of Subjects and Modes of formation of subjects;
- Categories – Ranganathan, Farradane, Vickery, etc;
- Facets and Facet Analysis, Speciators and their kinds, Phase relations: levels and kinds/nature;
- Isolates: Common and Special.

### Unit 2: Schemes of Library Classification

- Classification schedule and its components, Kinds of scheme: Enumerative and Faceted;
- Major Classification Schemes: structure and features;
- Steps involved in practical classification, Call Number and its parts;
- Study of classification schemes – DDC, UDC, CC;
- Switching Languages – BSO.

### Unit 3: General Theory of Library Classification

- Three planes of work;
- Normative principles – Laws, Canons, Principles and Postulates, Application in DDC, UDC and CC;
- Theory of Integrative Levels;
- Contributions of CRG, FID/CR and DRTC;
- Notational techniques in different classification systems.

### Unit 4: Special Classification Schemes

- Need and purpose of special classification schemes;
- Theories of facet analysis and depth schedule;
- Application of theories of facet analysis: Ranganthan's theory, CRG's theory and Louise Spiteri's theory;
- Study of special classification schemes;
- Design of special classification schemes: steps and processes.

### Unit 5: Trends and Future of Library Classification

- Classification and Computers: Digital versions of classification schemes;
- Automatic classification - Application of NLP and AI techniques, Projects and initiatives, Indian school of research in automatic classification;
- Classification and Digital resource organization;
- Classification and Ontology (dewey.info, udcdata.info);
- Classification and SKOS;

### Unit 6: Practical Component (Colon Classification 6<sup>th</sup> edition)

- Colon Classification – History, Genesis and Structure;
- Colon Classification – structure and rules;
- Building of class number - simple and compound subjects;
- Building of class number - complex subjects;
- Colon Classification – use of index.

## FIRST SEMESTER

**Course Code: LS-CC-102**

**Course Title: KNOWLEDGE ORGANIZATION**

### Reading List

- Broughton, Vanda. (2004). *Essential classification*. London: Facet Publishing.
- Batty, C. D. (1966). *An introduction to Colon Classification*. London: Bingley.
- Chan, L. M. (1985). *Cataloguing and classification: an introduction*. New York: McGraw Hill.
- Chan, L. M., Richmond, P. A., & Svenonius, E. (1985). *Theory of subject analysis: a sourcebook*. Littleton, Colo: Libraries Unlimited.
- Dhiman, A. K. & Yashoda Rani. (2005). *Learn library classification*. New Delhi: Ess Ess.
- Dhyani, P. (1998). *Library classification: theory and principles*. New Delhi: Wishwa Prakashan.
- Dhyani, P. (1983). *Classification schemes and Indian libraries*. New Delhi: Metropolitan.
- F.I.D. (1993). *Universal Decimal Classification*. IME. London: BSI.
- Forest Press. (2002). *WebDewey*. Dublin, Ohio: OCLC Forest Press.
- Foskett, D. J. (1974). *Classification and indexing in social sciences*. London: Aslib.
- Foskett, A. C. (1996). *The subject approach to information*. 5th ed. London: Clive Bingley.
- Halgamuge, S. K., & Wang, L. (2005). *Classification and clustering for knowledge discovery*. Berlin: Springer.
- Hunter, E. J. (1988). *Classification made simple*. Aldershot: Gower.
- Husain, Sabahat. (2004). *Library classification: facets and analysis*. Delhi: B. R. Publishing.
- Jennex, Murray E. (2008). *Knowledge management: concepts, methodologies, tools and applications*. New York: Information Science Reference.
- Kaula, P. N. (1985). *A treatise on Colon Classification*. New Delhi: Sterling.
- King, B., & Reinold, K. (2008). *Finding the concept, not just the word: a librarian's guide to ontologies and semantics*. Burlington: Elsevier Science.
- Krishan Kumar. (1980). *Theory of classification*. New Delhi: Vikas.
- Kumbhar, R. (2011). *Library classification trends in the 21st century*. Burlington: Elsevier Science.
- Lim, E. H. Y., Liu, J. N. K., & Lee, R. S. T. (2011). *Knowledge seeker: Ontology modelling for information search and management: a compendium*. Berlin: Springer.
- Maltby, A. (1975). *Sayers' manual of classification for librarians*. 5th ed. London: Andre Deutsch.
- Navalani, K., & Gidwani, N. N. (1981). *A practical guide to colon classification*. New Delhi: Oxford & IBH.
- Needham, C. D. (1971). *Organizing knowledge in libraries*. 2nd ed. London: Andre Deutsch.
- Pathak, L. P. (2000). *Sociological terminology and classification schemes*. New Delhi: Mittal Publications.
- Quinn, B. (1994). Recent theoretical approaches in classification and indexing. *Knowledge Organization*. 21(3); p.140-147.
- Raju, A. A. N. (1984). *Decimal, Universal Decimal and Colon Classification: a study in comparison*. Delhi: Ajanta.
- Ranganathan, S. R. (2006). *Philosophy of library classification*. Bangalore: Ess Ess.
- Ranganathan, S.R. (1966). *Elements of library classification*. 2nd ed. Bombay: UBS.
- Ranganathan, S.R. (1967). *Prolegomena to library classification*. 3rd ed. Bombay: UBS.
- Ranganathan, S. R. (1987). *Colon Classification*. Bangalore: SRELS.
- Rowley, J.E. & Farrow, J. (2000). *Organizing knowledge: an introduction to managing access to information*. 3<sup>rd</sup> ed. Aldershot: Gower.
- Satija, M. P. (2011). *A guide to the theory and practice of Colon Classification*. New Delhi: Ess Ess Publications.
- Sood, S. P. (1998). *Universe of knowledge and universe of subjects*. Jaipur: G. Star Printers.
- Taylor, A. G. (2007). *Introduction to cataloguing and classification*. 10th ed. New Delhi: Atlantic.
- Vickery, B. C. (1968). *Faceted classification: a guide to construction and use of special schemes*. London: Aslib.

## FIRST SEMESTER

**Course Code: LS-CC-103**

**Course Title: RESOURCE DESCRIPTION**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide historical and theoretical foundation of resource description;</li> <li>To help in understanding normative principles and cataloguing codes; and</li> <li>To know the authority data management and to study the initiatives and trends of library cataloguing.</li> </ul>

### Unit 1: Basic Concepts and Genesis

- Library catalogue – historical and theoretical foundations, Difference of Library catalogue from Library Accession Register, Shelf List and Bibliography;
- Objectives (objectives propounded by Cutter, Osborn, Lubetzky, Svenonious and FRBR) and Functions of library catalogue;
- Cataloguing rule base – need, types and applications;
- Physical forms – book, sheaf, card and machine-readable (including OPAC) forms – their advantages and disadvantages and suitability in different types of libraries, Inner forms – dictionary, classified and alphabetic-classed forms and their comparative studies;
- Entries – types, formats and their functions, Filing of entries – rules and tools.

### Unit 2: Principles and Rules

- Normative principles – objectives, scope and applications;
- Normative principles – History and time line of development, International Conference on Cataloguing Principles (ICCP), 1961;
- Canons and principles of cataloguing as propounded by Ranganathan;
- IME/ICC principles;
- Standardization of Bibliographic Description – ISBDs, Consolidated ISBD, FRBRized ISBDs.

### Unit 3: Cataloguing Codes

- Cataloguing codes – definition, objectives, scope, need, components;
- Cataloguing codes - historical development;

- Features of Anglo-American Cataloguing Rules (AACR 2);
- Features of Classified Catalogue Code (CCC 5<sup>th</sup> edition);
- Features of RDA (Resource Description and Access).

### Unit 4: Authority Data and Subject Cataloguing

- Authority data – name authority and subject authority, Rendering of Indic names;
- General principles of subject cataloguing;
- Subject heading lists and their features - Sears List of Subject Headings (SLSH);
- Subject heading lists and their features - Library of Congress Subject Headings (LCSH);
- Subject cataloguing by chain procedure.

### Unit 5: Cataloguing – Policies and Initiatives

- Cataloguing Policies: need, purpose and advantages, Organization of cataloguing department;
- Centralized and co-operative cataloguing and Limited and selective cataloguing, Union Catalogue – layout, compilation, services (Indian and International);
- Content Designation initiatives – CCF, MARC, UNIMARC;
- IFLA initiatives – FRBR, FRAD, FRSAD, etc;
- Subject and Name authority initiatives – Program for Cooperative Cataloguing (BIBCO, CONSER, SACO, NACO) and VIAF.

## FIRST SEMESTER

**Course Code: LS-CC-103**

**Course Title: RESOURCE DESCRIPTION**

### Reading List

- ALA (1968). *ALA Rules for filing Catalog Cards*. Chicago: ALA.
- Bean, C.A., & Green, R. (2001). *Relationships in organization of knowledge*. London: Kluwer.
- Bowman, J. H. (2003). *Essential cataloguing*. London: Facet Publishing.
- Chan, L. M. (1994). *Cataloging and classification: an introduction*. New York: McGraw-Hill.
- Chapman, Liz. (1984). *How to catalogue: a practical handbook*. London: Clive Bingley.
- Delsey, T. (1999). *The logical structure of AACR – Part I & Part II*. Retrieved from <http://www.nlc-bnc.ca/jsc/aacrdel.htm>
- Heaney, M. (1995). Object-oriented cataloguing. *Information Technology and Libraries*, 14(3), 135–153.
- Horner, J. (1975). *Cataloguing*. London: AAL.
- Hunter, E. J. (1986). *Computerised cataloguing*. London: Clive Bingley.
- Hunter, E. J., & Blackwell, K.G.B. (1983). *Cataloguing*. London: Clive Bingley.
- IFLA. (1998). *IFLA: Functional requirements for bibliographic records: final report*. Munchen: K.G. Saur.
- International Conference on the Principles and Future Development of AACR, & Weihs, J. R. (1998). *The principles and future of AACR: Proceedings of the International Conference on the Principles and Future Development of AACR, Toronto, Ontario, Canada, October 23-25, 1997*. Ottawa: Canadian Library Association.
- JISC (2006). *RDA online*. Retrieved from <http://www.rdaonline.org>
- Girja Kumar & Krishan Kumar (1988). *Theory of cataloguing*. 5th ed. New Delhi: Vikas.
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## FIRST SEMESTER

**Course Code: LS-CC-104**

**Course Title: LIBRARY INFORMATION TECHNOLOGY**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	0	4	4	75	Nil	25	Nil	100	<ul style="list-style-type: none"> <li>To provide basic ICT concepts;</li> <li>To explore the possibilities of ICT in designing library services; and</li> <li>To know the use of database and networking technologies in developing library systems and services.</li> </ul>

### Unit 1: Introduction to ICT

- Data, information and knowledge, ICT – definition, scope, application in human activities, social implication, Application of ICT in activities of library and information centres;
- Brief history of computer development, Generation of computers, Characteristics and classification of digital computers;
- Anatomy of digital computers - System hardware, Memory units and auxiliary storage devices, Peripheral devices (Input and output devices);
- Communication devices, Transmission media (Bound links and Unbound links), Switches;
- Data Representation in Computer - Bits, bytes and word, Number system (Binary, Octal, Decimal, Hexadecimal and their conversion), Text representation codes (ASCII, ISCII, EBCDIC and UNICODE), 7 bit & 8 bit ASCII and UTF-8 & UTF-16.

### Unit 2: Logical Units of ICT: Software

- System software – Operating System, Simulators, Emulators, Translators;
- Application software, System utility software, Software packages and their domains of application;
- Operating Systems – Types and functions, Basic concepts related to MSDOS, Windows and Linux operating system;
- Open source software and open standards;
- Software and standards related to LIS domain.

### Unit 3: Computer Programming Languages

- Definition, scope and use of programming languages, Types of programming languages – machine language, assembly language and high level language;
- High level programming languages – classification, application domain and generations;
- Program development tools – compiler, interpreter, loader, linker and locator;
- Programming process – steps, algorithm and flowcharting;

- Overview of popular high-level languages – C, C++, Java etc.

### Unit 4: Computer Networks and Distributed Information System

- Computer networks – definition, scope, purpose, features and advantages, Types of network – LAN, MAN and WAN;
- Internet – origin, development, architecture, connection options; Internet in India – GIAS, ISPs and connection options; Internet addressing system – IP address and domain name system, Intranet and Extranet;
- Internet resource access tools – Telnet, FTP, Gopher, Archie, Mosaic and WWW;
- Web retrieval tools – subject directories, search engines and meta search engines;
- Distributed information system and library – Web 2.0, Library 2.0, Linked data, Cloud computing, Semantic Web.

### Unit 5: Database Management System (DBMS)

- Concept, scope, purpose and advantages of DBMS;
- Entity, attributes and properties, Field, record and database;
- Data models – hierarchical, network and relational, Basics of RDBMS;
- Bibliographic databases, Search strategy and techniques of data retrieval, CDROM database searching;
- WINISIS as bibliographic database management system.

### Unit 6: Practical Components

- Operating Systems - MSDOS, Windows OS, Linux basics;
- Office Management Software Group;
- Programming language – Basic tasks and problem solving;
- DBMS – Multipurpose DBMS and Bibliographic DBMS; and
- Bibliographic and Full-text database searching.

## FIRST SEMESTER

Course Code: LS-CC-104

Course Title: LIBRARY INFORMATION TECHNOLOGY

### Reading List

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## FIRST SEMESTER

**Course Code: LS-OC-105**

**Course Title: INFORMATION SOURCES AND SERVICES**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	1	2	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To help in understanding the types and scopes of information sources;</li> <li>To know features of different forms and sources of information; and</li> <li>To know the process of retrieving databases and on-line /web information resources in network environment.</li> </ul>

### Unit 1: Information Sources

- Information Sources – categories and features, Information sources vs. resources, Organization of information sources;
- Documentary Sources: Primary, Secondary and Tertiary, Institutional and Human Sources;
- Non print materials including digital information sources, Traditional Vs. Digital sources of information;
- Reference Books: Meaning, Differences with traditional book, Categories of reference books, Indian reference sources;
- Evaluation of Reference and Information Sources.

### Unit 2: Reference and Information Services

- Concept, definition, scope and types;
- Reference Referral, Documentation and Information Services: Definition, Need, Characteristics and Differences;
- Theories of reference services, Reference Process: Search strategy and techniques, Reference Questions and Reference Interview;
- Alerting Services – Newspaper clippings and News brief services, CAS and SDI services, Abstracting and Indexing Services;
- Translation Services: Tools and Pools, Document Delivery Services, Reference services – advancements and trends.

### Unit 3: Information Products

- Information products: Meaning and objectives, Techniques of production and Design issues;
- Abstract and Abstracting: Types and Guidelines for preparation of Abstract;
- In-house Communications: Newsletters, House bulletins and other In-house communications;

- Trade and Product bulletins, Reports, Reviews and related products;
- Other secondary information products.

### Unit 4: Electronic Information Products and Services

- Electronic information sources and services – Conceptual foundations, Types and characteristics, Traditional Vs. Digital information sources;
- Bibliographic databases, Citation databases, Full-text databases, Portals, Vortals and Gateways, Multimedia based information products, Open access knowledge system: products and services;
- Alerting services (CAS & e-CAS, SDI & e-SDI, RSS based services), Bibliographic, Referral, Literature search, Electronic document delivery and machine translation services;
- Virtual Reference Services: Tools and Techniques (Publishers based services – Xrefer, Credo etc, Library based services – QuestionPoint, VRD etc, Use of asynchronous and synchronous virtual communication tools);
- Trends and future.

### Unit 5: Technical Writing

- Scope, structure and functions of technical communication, Creative vs. Technical writing;
- Categories of technical communication – academic (summary, reports, digests, reviews, manual etc), business (MoU, License, Contract, brochure etc) and policy (mission statement, plan and policy statement, action statement etc);
- Technical editing and editorial tools;
- Citation management – styles, standards and tools;
- Preparation of short communications, review articles, technical reports, house bulletins, newsletters, conference/seminar brochure etc.



## FIRST SEMESTER

Course Code: LS-OC-105

Course Title: INFORMATION SOURCES AND SERVICES

### Reading List

- Bopp, R. E., & Smith, L. C. (1995). *Reference and information services: An introduction*. Englewood, Colo.: Libraries Unlimited.
- Cassell, K. A., & Hiremath, U. (2013). *Reference and information services: An introduction*. 3<sup>rd</sup> ed. London: Facet Publishing.
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- Pugh, L. (2007). *Change management in information services*. Aldershot, Hampshire, England: Ashgate.
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- Ranganathan, S. R. (2006). *Reference service*. Bangalore: Sarada Ranganathan Endowment for Library Science.
- Ross, C.S., Nilsen, K., & Dewdney, P. (2002). *Conducting the reference interview: a how-to-do manual for librarians*. London: Facet Publishing.
- Smith, L. C., & Clinic on Library Applications of Data Processing. (1989). *Questions and answers: Strategies for using the electronic reference collection*. Urbana-Champaign, Ill: Graduate School of Library and Information Science, University of Illinois.
- Stevens, R. E., & Smith, L. C. (1986). *Reference work in the university library*. Littleton, Colo.: Libraries Unlimited.
- Wood, M. Sandra, & Seeds, Robert S. (1974). *Development of SDI services from a manual current awareness service to SDILINE*.
- Woodsworth, A., & Williams, J. F. (1994). *Managing the economics of owning, leasing, and contracting out information services*. Aldershot, England: Gower.

## SECOND SEMESTER

**Course Code: LS-CC-201**

**Course Title: LIBRARY SYSTEM MANAGEMENT**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to organization, administration and management of libraries and information centres;</li> <li>To help in understanding library housekeeping , maintenance, planning and finance; and</li> <li>To know the management processes related with human resource and quality cycle.</li> </ul>

### Unit 1: Management of Libraries and Information Centres

- Functions and principles of management;
- Management philosophy and schools of thought;
- Application of management principles in libraries and information centres;
- Library administration – concept, definition and scope;
- Library administration vs. Library organization, Library organization – structure, process of structuring, charts (horizontal and vertical).

### Unit 2: Library Housekeeping Operations and System Analysis

- Different sections of libraries and information centres and their functions;
- Acquisition and technical processing of library materials;
- Serials control and Circulation control;
- Collection development – policies, procedures, evaluation and weeding, Stock maintenance and Stock verification – policies and procedures;
- System analysis and design, Library as a system, System analysis of library workflow.

### Unit 3: Managerial Tasks of Library Administration

- Library committee and Library authority – Types, functions and need, Librarian and his role in decision making, Library rules and regulations;
- Library records and reports - Records management, Reports – types, compilation, annual reports, Library statistics;
- Maintenance - Stock management, Preservation and Conservation;

- Planning – purpose, types and steps, Building and space management, Library furniture;
- Finance – Source, Budgeting techniques, Financial estimation and cost benefit analysis;

### Unit 4: Human Resource Management

- Objectives of human resource management, Manpower Planning, Categories of staff, Staffing requirements;
- Method of manpower planning – Job analysis, Job description, Selection, Recruitment, Induction and deployment, Training and Development;
- Performance appraisal, Interpersonal relation, Group dynamics, Johari Window;
- Leadership – theories, styles, approaches and models;
- Motivation – theories of motivation, sources of motivation.

### Unit 5: Monitoring, Quality Control and Change Management

- Performance measurement, standards, and time-motion study;
- Monitoring and controlling techniques – OR, MIS, MBO, SWOT, DFD, Network Analysis, PERT/CPM, PEP, MAP, PCS.
- Quality Indicator in LIS domain – LibQUAL+. COUNTER, EQUINOX, ISO-9000,
- Quality improvement cycle, Total Quality Management (TQM);
- Change management in library and information centres.

## SECOND SEMESTER

Course Code: LS-CC-201

Course Title: LIBRARY SYSTEM MANAGEMENT

### Reading List

- Bakewell, K. G. B. (1997). *Managing user-centred libraries and information services*. 2<sup>nd</sup> ed. London: Maxwell.
- Bryson Jo. (1996). *Effective library and information management*. Bombay: Jaico Pub. House
- Cook, C. (2002). *The maturation of assessment in academic libraries: The role of LibQUAL+ TM*. Bradford, England: Emerald Group Pub.
- Coote, H. & Batchelor, B. (1997). *How to market your library services effectively*. 2<sup>nd</sup> ed. London: Aslib.
- Crawford, J. (1997). *Evaluation of library and information services effectively*. 2<sup>nd</sup> ed. London: Aslib.
- Evans, G. E. (1983). *Management techniques for librarians*. 2<sup>nd</sup> ed. New York: Academic Press.
- Evans, G. Edward and Layzell, Patricia. (2007). *Management basics for information professionals*. 2<sup>nd</sup> ed. London: Libraries Unlimited.
- Georgi, C., Bellanti, R., & Holbrook, F. K. (2013). *Excellence in Library Management*. Hoboken: Taylor and Francis.
- Gautam, J. N. (1991). *Library and information management*. New Delhi: Prentice-Hall India.
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- Hernon, P., & Altman, E. (1998). *Assessing service quality: Satisfying the expectations of library customers*. Chicago: American Library Association.
- Jain, A. K. (1999). *Marketing information products and services: a primer for library and information professionals*. New Delhi: Tata McGraw-Hill.
- Katz, W.A. (1980). *Collection development, the selection of materials for libraries*. New York: Holt, Rinehart & Winston.
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- Lancaster, F. W., & Sandore, B. (1997). *Technology and management in library and information services*. Champaign, Ill: University of Illinois Graduate School of Library and Information Science.
- Laughlin, S., & Wilson, R. W. (2008). *The quality library: A guide to staff-driven improvement, better efficiency, and happier customers*. Chicago: American Library Association.
- Martin, J. (2009). *Human resource management*. Los Angeles: SAGE.
- Mittal, R.L. (1984). *Library administration: theory and practice*. 5<sup>th</sup> ed.. Delhi: Metropolitan.
- Moran, Barbara B., Stuart, Robert D. & Morner, Claudia. (2012). *Library and information center management*. 8<sup>th</sup> ed. Santa Barbara, CA: Libraries Unlimited.
- Narayana, G J. (1991). *Library and information management*. New Delhi: Prentice Hall of India.
- Peter, C., & Gorman, G.E. (2001). *Managing information resources in libraries and information services: collection management in theory and practice*. London: Facet Publishing.
- Prytherch, R. ed. (1998). *Gower handbook of information management*. London: Gower.
- Pugh, L. (2007). *Change management in information services*. Aldershot, Hampshire, England: Ashgate.
- Ranganathan, S.R. (1959). *Library administration*. 2<sup>nd</sup> ed. Bombay: Asia.
- Rowley J. (2001). *Information marketing*. Aldershot: Ashgate.
- Shera, J. S. (1978). *Library organization*. New Delhi: Vikas.
- Simmons-Welburn, J., & McNeil, B. (2004). *Human resource management in today's academic library: meeting challenges and creating opportunities*. Westport, Conn: Libraries Unlimited.
- Spiller, David. (1974). *Book selection: an introduction to principles and practice*. Rev. 2<sup>nd</sup> ed. London: Clive Bingley.

## SECOND SEMESTER

**Course Code: LS-CC-202**

**Course Title: DOCUMENT CLASSIFICATION**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
0	2	4	4	75	25	Nil	Nil	<ul style="list-style-type: none"> <li>To help in understanding the structure and rules of DDC and UDC;</li> <li>To know the processes related to building class numbers by using DDC (DDC edition will be decided by department) ; and</li> <li>To know the processes related to building class numbers by using UDC (UDC edition will be decided by department)</li> </ul>	

### Unit 1: Introduction

- History and Genesis of DDC;
- Structure and rules of DDC, Steps in practical classification;
- History and Genesis of UDC;
- Structure and rules of UDC, Steps in practical classification;
- Comparative study of DDC, UDC and CC.

### Unit 2: Dewey Decimal Classification – stage 1 (Edition as decided by Department)

- Summary;
- Schedule;
- Tables;
- Building class number for simple and compound subjects;
- Building class number for complex subjects.

### Unit 3: Dewey Decimal Classification – stage 2 (Edition as decided by Department)

- Relative index;
- Call number (use of Cutter number, use of Dewey Cutter Program of OCLC (<http://www.oclc.org/support/services/dewey/program/license.en.html>);
- Shelf order;
- WebDewey trial

(<http://www.oclc.org/content/forms/worldwide/en/webdewey-free-trial.html>);

- Use of DDC for organization of digital resources (CyberDewey, DDC Linked Data – Dewey.info).

### Unit 4: Universal Decimal Classification – stage 1 (Edition as decided by Department)

- Main tables;
- Auxiliary tables;
- Common auxiliaries;
- Special auxiliaries;
- Facetisation and Synthesis.

### Unit 5: Universal Decimal Classification – stage 2 (Edition as decided by Department)

- Building class number for simple and compound subjects;
- Building class number for complex subjects;
- Call number and Shelf order;
- Use of UDC in organization of digital resources, UDC consortium (<http://www.udcc.org/>), UDC in Indic Scripts (<http://www.udcc.org/udccsummary/php/index.php>);
- UDC Linked Data (<http://udccdata.info/>).

## SECOND SEMESTER

Course Code: LS-CC-202

Course Title: DOCUMENT CLASSIFICATION

### Reading List

- Aida, S. (January 01, 2008). Use of the Universal Decimal Classification: A world-wide survey. *Journal of Documentation*, 64, 2, 211-228.
- British Standards Institution. (1963). *Guide to the Universal Decimal Classification (UDC)*. London: BSI.
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- Gopinath, M. A., Mangai, M. A. A. M., Neelameghan, A., & Prasad, K. N. (2004). *Subject classification practice: S. R. Ranganathan's postulational approach ; worked out examples using CC, DDC, and UDC schemes*. New Delhi: Published by Ess Ess Publications for Sarada Ranganathan Endowment for Library Science, Bangalore.
- Kaushik, S. K. (2004). *DDC 22: A practical approach*. New Delhi: Ess Ess Publications.
- Raju, A. A. N. (1995). *Dewey Decimal Classification (DDC 20): theory and practice, a practical & self instructional manual*. Madras: T.R. Publications.
- Rigby, M. (1981). *Automation and the UDC, 1948-1980*. The Hague: Fédération Internationale de Documentation.
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- Rozman, D. (January 01, 2009). The practical value of classification summaries in information management and integration. *Extensions and Corrections to the UDC*, 31, 275-283.
- Satija, M. P. (2011). *A guide to the theory and practice of Colon Classification*. New Delhi: Ess Ess Publications.
- Satija, M. P. (2011). *The theory and practice of the Dewey Decimal Classification System*. Oxford: Chandos Publishing.
- Satija, M. P. (2012). *Exercises in the 23rd edition of Dewey Decimal Classification*.
- Sharma, P. S. K. (1998). *Practical approach to DDC: Dewey Decimal Classification made easy*. New Delhi: Ess Ess.
- Singh, K. P. (2013). *UDC: A manual for classification practical and information resources*. New Delhi: Today & Tomorrow's Printers and Publishers.
- Slavic, A., Civallero, E., & The International UDC seminar. (2011). *Classification & ontology: Formal approaches and access to knowledge : proceedings of the international UDC seminar 19-20 September 2011, The Hague, The Netherlands, organized by UDC Consortium, The Hague*. Würzburg: Ergon.

## SECOND SEMESTER

**Course Code: LS-CC-203**

**Course Title: DOCUMENT CATALOGUING**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
0	2	4	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To help in understanding the rules of bibliographic description and rendering of access points;</li> <li>To know document cataloguing by using CCC; and</li> <li>To know document cataloguing by using AACR II.</li> </ul>

### Unit 1: Introduction

- Entries related with AACR II – main entry, added entry, reference entry, analytical entry;
- AACR II – structure and rules (description and access points);
- Entries related with CCC;
- CCC – structure and rules;
- Filling rules related with AACR entries and CCC entries;

### Unit 2: CCC 5<sup>th</sup> edition – Rules for description

- Simple books, Multi-volume books and Composite books;
- Government documents and reports;
- Serials and Conference proceedings;
- Special materials;
- Other forms.

### Unit 3: CCC 5<sup>th</sup> edition – Rendering of access points

- Personal authors;
- Corporate authors;

- Title;
- Conflict of authorship;
- Subject access through Chain indexing.

### Unit 4: AACR II – Rules for description

- Monographs, Multi-volume books and composite books;
- Government documents and reports;
- Serials and Conference proceedings;
- Cartographic materials, Special materials and Electronic resources;
- Other forms.

### Unit 5: AACR II – Rendering of access points

- Persons;
- Corporate bodies;
- Title;
- Conflict of authorship;
- Subject access by Sears List of Subject Headings.

## SECOND SEMESTER

Course Code: LS-CC-203

Course Title: DOCUMENT CATALOGUING

### Reading List

- Clack, D. H. (1990). *Authority control: Principles, applications, and instructions*. Chicago: American Library Association.
- Hasan, N. (1984). *Cataloguing practice: According to classified catalogue code (Ed 5)*. New Delhi: Gitanjali Pub. House.
- Hoffmann, C. F. B. (1980). *Getting ready for AACR 2: The cataloger's guide*. White Plains, NY: Knowledge Industry Publications.
- Hunter, E. J. (1979). *AACR 2: An introduction to the second edition of Anglo-American cataloguing rules*. London: C. Bingley.
- Hunter, E. J., & Fox, N. J. (1980). *Examples illustrating AACR 2: Anglo-American cataloguing rules second edition*. London: Library Association.
- Hunter, E. J. (1989). *An introduction to AACR 2: A programmed guide to the second edition of the Anglo-American cataloguing rules, 1988 revision*. London: C. Bingley.
- Hunter, E. J. (1989). *Examples illustrating AACR 2 1988 revision*. London: Library Association.
- IFLA International Programme for UBC. (1984). *Guidelines for authority and reference entries*. London: IFLA International Programme for UBC.
- Lehnus, D. J. (1971). *How to determine author and title entries according to AACR: An interpretive guide with card examples*. Dobbs Ferry, N.Y: Oceana Publications.
- Maxwell, Robert and Maxwell, Margaret F. (1997). *Maxwell's handbook of AACR2R: Explaining and illustrating the Anglo American Cataloguing Rules and the 1993 amendments*. Chicago: ALA.
- Olson, N. B., Intner, S. S., & Swanson, E. (1992). *Cataloging of audiovisual materials: A manual based on AACR 2*. DeKalb, Ill: Minnesota Scholarly Press.
- Olson, N. B., Swanson, E., & Intner, S. S. (1985). *Cataloging of audiovisual materials: A manual based on AACR 2*. Mankato, Minn: Minnesota Scholarly Press.
- Parameswaran, M. (1988). *Headings and access points for personal authors and corporate bodies: A comparative study of the Anglo-American Cataloguing Rules (2nd ed.) and the Classified Catalogue Code (5th ed.)*. Thesis (MSc) -- Loughborough University of Technology.
- Ranganathan, S. R., & Neelameghan, A. (1964). *Classified Catalogue Code, with additional rules for dictionary catalogue code*. 5<sup>th</sup> ed. London: Asia Pub. House.
- Rogers, J. A. V., & Saye, J. D. (1987). *Nonprint cataloging for multimedia collections: A guide based on AACR 2*. Littleton, Colo.: Libraries Unlimited.
- Salinger, F. A., & Zagon, E. (1985). *Notes for catalogers: A sourcebook for use with AACR 2*. White Plains, NY: Knowledge Industry Publications.
- Sharma, C. D. (1973). *Classified catalogue code in theory and practice*. Delhi: Metropolitan Book Co.
- Sharma, C. D., & Ranganathan, S. R. (1972). *Practical cataloguing, classified catalogue*. Delhi: Metropolitan Book Co.
- Singh, S. N., & Prasad, H. N. (1985). *Cataloguing manual AACR-II*. New Delhi: B.R. Pub.
- Swanson, E., & Minnesota AACR 2 Trainers. (1982). *A Manual of advanced AACR 2 examples*. Lake Crystal, Minn.: Published for the Minnesota AACR 2 Trainers by Soldier Creek Press.
- Swanson, E., & Minnesota AACR 2 Trainers. (1985). *A manual of AACR 2 examples for "in" analytics: With MARC tagging and coding*. Lake Crystal, Minn.: Published for the Minnesota AACR 2 Trainers by Soldier Creek Press.
- Swanson, E., McClaskey, M. J., & Minnesota AACR 2 Trainers. (1980). *A Manual of AACR 2 examples*. Lake Crystal, Minn.: Soldier Creek Press.
- Taylor, A. G. (1982). *AACR 2 headings: A five-year projection of their impact on catalogs*. Littleton, Colo.: Libraries Unlimited.
- Varma, A. K. (1987). *Classified catalogue code: Entries and procedure*. Delhi: Vishwa-Kala Prakashan.
- Welsh, A., & Batley, S. (2012). *Practical cataloguing: AACR, RDA and MARC 21*. Chicago: Neal-Schuman, an imprint of the American Library Association.

## SECOND SEMESTER

**Course Code: LS-CC-204**

**Course Title: CONTENT DESIGNATION AND METADATA ENCODING**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	1	2	4	75	Nil	25	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to content designation and content designators;</li> <li>To introduce metadata schemas and encoding rules in organizing digital resources; and</li> <li>To explore the practical applications of content designators and metadata schemas in library systems.</li> </ul>

### Unit 1: Introduction to Content Designation

- Machine-readable cataloguing and Content designation – definition, scope, objectives, advantages and application in bibliographic data management;
- Role of content designation in bibliographic data exchange;
- Content designation standards – Physical standards (ISO-2709, Z 39.2, MARC-XML etc.);
- Content designation and Logical standards (ISBDs, AACR, FRBR, FRAD, FRSAD etc);
- Content designation standards – Framework standards (CCF, UNIMARC and MARC 21 family of standards etc.).

### Unit 2: Bibliographic Data Formats

- Scope, objectives, nature and features of bibliographic data formats;
- Common Communication Formats: CCF/B and UNIMARC;
- MARC 21 bibliographic data format;
- Comparison of CCF, UNIMARC and MARC 21 bibliographic formats;
- Distributed cataloguing (Z 39.50 protocols and services).

### Unit 3: Authority Data Formats

- Authority data and Authority lists – what, why, types and use;
- Definition, scope, objectives and use of authority data format;
- Authority lists and their integration with library catalogue;
- MARC 21 authority data format;
- FRAD and FRSAD model.

### Unit 4: Generic Metadata Schemas

- Metadata - what, why, types and use;
- Metadata models and Best practice guidelines;
- Generic metadata schema – Dublin Core (Simple and Qualified);
- Metadata encoding – rules and standards;
- RDF, XML and Metadata schemas.

### Unit 5: Domain-specific Metadata Schemas

- Need, advantages and use of domain-specific metadata schemas;
- Metadata schemas in different domains;
- Learning object domain – GEMS, IEEE-LOM, CanCore;
- ETD domain – ETD-MS, UKETD, Shodhganga;
- Other domains – Geographical data, Music, Image, News items, Publishing, Science etc.

### Unit 6: Practical Components

- CCF/B;
- MARC 21 bibliographic format;
- Authority lists and MARC 21 authority format;
- Dublin Core – Simple & Qualified and Selected domain-specific metadata schemas;
- Use of WINISIS, ISIS-MARC, MARCEdit, Cataloguing editors, and Metadata editors in application of above standards.



## SECOND SEMESTER

Course Code: LS-CC-204

Course Title: CONTENT DESIGNATION AND METADATA ENCODING

### Reading List

- Aalberg, T., Merčun, T., & Žumer, M. (January 01, 2011). Coding FRBR-structured bibliographic information in MARC. *Digital Libraries*.
- Cathy, W., & Jia, M. (January 01, 2006). Towards accessibility to digital cultural materials: a FRBRized approach. *OCLC Systems & Services: International Digital Library Perspectives*, 22, 3, 217-232.
- Delsey, T., & Library of Congress. (2002). *Functional analysis of the MARC 21 bibliographic and holdings format*. Washington, D.C.: Network Development and MARC Standards Office.
- Doerr, M., Riva, P., & Žumer, M. (January 01, 2013). FRBR entities: Identity and identification. *The FRBR Family of Conceptual Models*, 163-187.
- Hjelm, J. (2001). *Creating the semantic Web with RDF: Professional developer's guide*. New York: Wiley.
- Hopkinson, A., Hopkinson, A., Unesco., & UNISIST (Program). (1993). *Implementation notes for users of the common communication format for bibliographic information (CCF/B)*. Paris: General Information Programme and UNISIST, United Nations Educational, Scientific and Cultural Organization.
- Jones, W., Ahronheim, J. R., & Crawford, J. (2002). *Cataloging the Web: Metadata, AACR, and MARC 21*. Lanham, Md: Scarecrow Press.
- Library of Congress. (2000). *MARC 21 concise formats*. Washington, D.C: Library of Congress, Cataloging Distribution Service.
- Library of Congress. (2003). *Metadata encoding & transmission standard*. Washington, DC: The Office.
- Library of Congress & National Library of Canada. (1999). *MARC 21 format for authority data: Including guidelines for content designation*. Washington: Library of Congress, Cataloging Distribution Service.
- Library of Congress & National Library of Canada. (2000). *MARC 21 format for classification data: Including guidelines for content designation*. Washington: Library of Congress, Cataloging Distribution Service.
- Library of Congress, Library and Archives Canada, British Library, & National Library of Canada. (2000). *MARC 21 format for holdings data: Including guidelines for content designation*. Washington: Library of Congress, Cataloging Distribution Service.
- Library of Congress, Library and Archives Canada, British Library, National Library of Canada, & British Library. (1999). *MARC 21 format for bibliographic data: Including guidelines for content designation*. Washington: Library of Congress, Cataloging Distribution Service.
- Library of Congress, Library and Archives Canada, British Library, National Library of Canada, & British Library. (2000). *MARC 21 format for community information: Including guidelines for content designation*. Washington: Library of Congress, Cataloging Distribution Service.
- Liu, J. (2007). *Metadata and its applications in the digital library: Approaches and practices*. Westport, Conn.: Libraries Unlimited.
- Miller, S. J. (2011). *Metadata for digital collections: A how-to-do-it manual*. New York: Neal-Schuman Publishers.
- Mukhopadhyay, A. (2007). *Guide to MARC 21: For cataloging of books and serials: with functional definitions, examples, and working resources*. Oxford, England: Chandos Publishing.
- Simmons, P. (1984). *The Common Communication Format: CCF*. Paris: Unesco.
- Simmons, P. A., Hopkinson, A., Unesco., & UNISIST. (1984). *CCF, the Common Communication Format*. Paris: United Nations Educational, Scientific, and Cultural Organization.
- Simmons, P., Hopkinson, A., Unesco., & UNISIST. (1992). *CCF/B: The common communication format for bibliographic information*. Paris: Unesco.
- Smiraglia, R. P. (2005). *Metadata: A cataloger's primer*. Binghamton, NY: Haworth Information Press.
- Welsh, A., & Batley, S. (2012). *Practical cataloguing: AACR, RDA and MARC 21*. Chicago: Neal-Schuman, an imprint of the American Library Association.
- Willer, M., & Dunsire, G. (2013). *Bibliographic Information Organization In The Semantic Web*. Burlington: Elsevier Science.
- Žumer, M., Zeng, M. L., & Salaba, A. (2010). *FRBR: A generalized approach to Dublin Core application profiles*. (Pittsburgh proceedings, 21-30.)

## THIRD SEMESTER

**Course Code: LS-OC-205**

**Course Title: INFORMATION SYSTEMS AND USERS**

Credit Structure				Marks Distribution				Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks
					CE / PRJ	PRC	Viva	
3	1	0	4	75	25	Nil	Nil	<ul style="list-style-type: none"> <li>To know features of information sources, institutions, and information systems;</li> <li>To train students with the practical skills for preparation of IA+C products; and</li> <li>To impart to students thorough understanding of the study of information users and their education</li> </ul>

### Unit 1: Information Systems

- Information System: Objectives, Scope, Characteristics, Features and Components, Types and Categories (Mission-oriented, Discipline-oriented and Problem-oriented), Library as an information system;
- Information System: General System Theory, Design issues and principles, Information Systems and Networking: Meaning, Importance and Structure, Design and development of information systems – theories, models and steps;
- Structure and Services of Global and Regional Information Systems and Networks like UNISIST, AGRIS, INIS, DEVSIS, MEDLARS / MEDLINE, INFOTERRA, HELLIS, APINMAP, OCLC Inc., DIALOG, etc.;
- Structure and Services of National Information Systems and Networks like INFLIBNET, INDEST, UGC-Infonet, DELNET, BTIS and ENVIS;
- Evaluation of Information Systems.

### Unit 2: Information Institutions

- Information Institutions: Evolution, growth and role in information transfer cycle;
- Information centres: types, activities and their organization;
- Data Centres & Data Banks: Activities and services;
- Referral Centres and Clearing Houses, Information Analysis Centres: Activities, services and products;
- Role of International organizations in the development of systems and services: IFLA, UNESCO, FAO, UNEP, UNDP, FID, CILIP, etc.

### Unit 3: Library Networking and Consortia

- Resource sharing and Library Networking: Need, structure and management;
- Global Library Networks – their objectives, scope, structure and services: OCLC, RLIN, WLN, BLAISE, etc;
- Indian Library Networks – their objectives, scope, structure and services:

INFLIBNET, DELNET, etc.;

- Library consortia: Scope, Need, Objectives, Functions, Features and Services;
- Global and Indian library consortia initiatives: (ICOLC, SPARC, INDEST, UGC-Infonet, FORSA, NKRC etc.

### Unit 4: Information Consolidation and Repackaging

- Meaning, Purpose, Value and benefits of Information Consolidation, Levels of Information Analysis, Packaging and Repackaging of Information. Packaging media and formats;
- IA+C Products: Newsletters, State-of-the-art reports, Reviews, Trend reports and Technical digests, and other IA+C products;
- Dissemination Channels: Interpersonal delivery, group delivery, strategic placement, in-house delivery, local depository, mass media, mail, telephone, and computer networks;
- Users of IA+C products, Role of various specialists in Design and Development of Information Consolidation Products;
- Methodology for preparation of IA+C Products, Information Consolidation Unit (ICU).

### Unit 5: Information Users

- Users and Non-users : Characteristics, Categories of Information Users;
- Users in Different types of Libraries and Information Centres;
- Users' Study : Types and Techniques;
- Information Needs: Definition, models and different approaches, Information Seeking Behaviour (theories and models);
- User Education: Objectives, Types and Programmes, Information literacy.

### THIRD SEMESTER

Course Code: LS-OC-305

Course Title: INFORMATION SYSTEMS AND USERS

#### Reading List

- Atherton, P. (1977). *Handbook for information systems and services*. Paris: Unesco.
- Barua, B. P. (1992). *National policy on library and information systems and services for India: Perspectives and projections*. Bombay: Popular Prakashan.
- Bawden, D. (1990). *User-oriented evaluation of information systems and services*. Aldershot: Gower.
- Chaddha, K. (January 01, 2014). *Marketing of Library and Information Products and Services*.
- Chatterjee, Amitabha (2013). *Elements of information analysis, consolidation and repackaging (IACR)*. Kolkata: Prova Prakashani.
- Checkland, P., & Holwell, S. (1998). *Information, systems, and information systems: Making sense of the field*. Chichester: Wiley.
- Chowdhury, G. G., & Chowdhury, S. (2011). *Information users and usability in the digital age*. New York: Neal-Schuman Publishers, Inc.
- Choukhande, V. G. (2008). *Information needs and information seeking behaviour: Library and information science research*. Amravati, India: Shivneri Publisher
- Cochrane, P. A. (1977). *Handbook for information systems and services*. Paris: Unesco.
- Guinchat, C., Menou, M., & Unesco. (1983). *General introduction to the techniques of information and documentation work*. Paris: Unesco.
- Hayes, R. M. (1974). *The national library network: its economic rationale & funding*. Washington: National Commission on Libraries and Information Science.
- International Atomic Energy Agency. (1979). *Orientation manual for INIS and AGRIS*. Vienna: International Atomic Energy Agency.
- Kruzas, A. T., & Sullivan, L. V. (1978). *Encyclopedia of information systems and services: A guide to information storage and retrieval services, data base producers and publishers, online vendors*. Detroit: Gale Research Co.
- Kumar, P. S. G. (2004). *Information analysis, repackaging, consolidation & information retrieval: Paper X and XI of UGC model curriculum*. Delhi: B.R. Publishing Corporation.
- Lancaster, F. W. (1978). *Guidelines for the evaluation of information systems and services*. Paris: Unesco.
- Lancaster, F. W. & Smith, L. C. (1983). *Compatibility issues affecting information systems and services*. Paris: Unesco, PGI & UNISIST.
- Lancaster, F. W. (1978). *Toward paperless information systems*. New York: Academic Press.
- Martin, J. (1984). *An information systems manifesto*. Englewood Cliffs, NJ: Prentice-Hall.
- Organisation for Economic Co-operation and Development. (1971). *Inventory of major information systems and services in science and technology*. Paris: OECD.
- Saracevic, T. (1986). *A course in information consolidation: a handbook for education and training in analysis, synthesis and repackaging of information (preliminary version)*. Paris: Unesco, PGI and UNISIST.
- Saracevic, T. & Wood, J. B. (1981). *Consolidation of information: A handbook on evaluation, restructuring, and repackaging of scientific and technical information*. Paris: Paris: Unesco, PGI and UNISIST.
- Seetharama, S. (1997). *Information consolidation and repackaging: Framework, methodology, planning*. New Delhi: Ess Ess Publications.
- Singh, Sewa. (2014). *Information analysis, consolidation and repackaging*. New Delhi: Atlantic Publishers & Distributors.
- Society of Management Accountants of Canada. (1993). *Information systems and services management, accountability*. Hamilton, Ont.: Society of Management Accountants of Canada.
- UNESCO. (1981). *Guidelines on studies of information users: (pilot version)*. Paris: Unesco.
- UNISIST International Symposium on Information Systems and Services in Ongoing Research in Science, Unesco, & Smithsonian Science Information Exchange. (1976). *UNISIST International Symposium on Information Systems and Services in Ongoing Research in Science: Proceedings*. Budapest: Hungarian Central Technical Library and Documentation Centre (Distributed by OMKDK-Technoinform).
- Weisman, H. M. (1972). *Information systems, services, and centers*. New York: Becker and Hayes.

## THIRD SEMESTER

**Course Code: LS-CC-301**

**Course Title: INFORMATION COMMUNICATION AND MANAGEMENT**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To study the features of Information Society and Knowledge Society;</li> <li>To understand the value of information as an economic resource and its management; and</li> <li>To understand the importance of being information literate.</li> </ul>

### Unit 1: Introduction to Information Science

- Information and knowledge: Definition, kinds, attributes, sources, use;
- Conceptual relation between data, Information, knowledge and wisdom;
- Process of Cognition: views and methodologies;
- Information Science: Origin and development, scope and coverage, relationship with other disciplines and professions;

### Unit 2: Information Communication and Society

- Information Communication: Types, Models, Barriers, Process and Theories, Information transfer process - Generation to Utilisation
- Information Society: Social implications; Genesis; Changing role of information institutions and information professionals;
- Information Policies: National and International plans, policies and programmes relating to information for development with special reference to India and developing countries;
- Politics of information: Universal data flow, Free flow of information vs. New world information communication order, Information poverty, Digital divide;
- Recent trends in Information Communication

### Unit 3: Economics and Marketing of Information

- Economics of information: Concept, scope and objectives; Information as a commodity,

- Information economics vs. Economics of information;
- Theories and Models: Demand and supply of information; Economic principles relevant to information,
- Production, distribution and consumption of information and knowledge, Machlup's model;
- Marketing of information product and services, Planning, process and strategies, Economic analysis models, cost-benefit analysis and cost effectiveness, Market research;

### Unit 4: Information and Knowledge Management

- Document management vs. Information management vs. Knowledge management;
- Information Industry
- Knowledge society and Knowledge economics,
- Knowledge Management: Concepts and tools.

### Unit 5 Information Literacy

- Definition: Information Literacy, Computer Literacy, E-Literacy
- Information Literacy: Skills and Competencies
- Information Literacy and Bridging the Digital Divide
- Policies and Guidelines: UNESCO, IFLA and ALA

## THIRD SEMESTER

Course Code: LS-CC-301

Course Title: INFORMATION COMMUNICATION AND MANAGEMENT

### Reading List

- Bawden, David & Robinson, Lyn (2012). *Foundations of information science*. London: Facet Publishing.
- Bell, D. (1980). *The social framework of the information society*. In Derrouzos M C & Moses, L. (eds), *The computer age: a twenty year view*. Cambridge: MIT Press.
- Benjamin, J.B. (1986). *Communication: concept and contexts*. New York: Harper & Row.
- Dearnley, J. & Feather, J. (2001). *The wired world: an introduction to the theory and practice of the information society*. London: Library Association.
- Debons, Anthony and Larson, Arvid G., Ed. (1983). *Information science in action: system design*. 2 vols. Boston: Martinus Nijhoff Publishers.
- Delanty, G. (2001). *Challenging knowledge: the university in the knowledge society*. Open University Press.
- Dordick, H.S. & Wang, G. (1993). *The information society: a retrospective view*. Newbury Park, CA: Sage.
- Drucker, P. (1998). From capitalism to knowledge society. *The knowledge economy*, 15-34.
- Feather, J. (2008). *The information society: a study of continuity and change*. 5<sup>th</sup> ed. London: Facet Publishing.
- Gilchrist, Alan, Ed. (2009). *Information science in transition*. London: Facet Publishing.
- Machlup, F. (1984). *The economics of information and human capital*. Princeton: Princeton University Press.
- Martin, W. J. (1995). *The global information society*. Brookfield, VT: Gower.
- McGarry, K. J. (1993). *The changing concept of information: an introductory analysis*. (2nd. ed.). London: Facet Publishing.
- Masuda, Y. (1980). *The information society as post-industrial society*. Washington, D.C.: World Future Society.
- Salvaggio, J.L. (1989). *The information society: economic, social, and structural issues*. Hillsdale, NJ: Lawrence Erlbaum.
- SinghaRoy, D. K. (2014). *Knowledge society: new identities in emerging India*. New York: Cambridge University Press.
- Taragowski, A.S. (1998). *Global information infrastructure: the birth, vision and architecture*. Harrisburg: Idea Group.
- Vickery B. C. & Vickery A. (1987). *Information science in theory and practice*. London: Butterworth.
- Webster, F. (2002). *Theories of the information society*. 2<sup>nd</sup> Ed. London: Routledge.

## THIRD SEMESTER

**Course Code: LS-CC-302**

**Course Title: INFORMATION RETRIEVAL**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to information retrieval system, subject indexing and indexing languages;</li> <li>To introduce features, components, types and models of digital IR system;</li> <li>To help in understanding information seeking behaviour and IR evaluation methods.</li> </ul>

### Unit 1: Introduction to Information Retrieval System

- Information Retrieval (IR) – meaning, history and development, differences with data retrieval;
- IR Systems - meaning, purpose, functions, operational stages, components, and kinds;
- Digital IR systems, Multilingual/Cross-lingual IR and Multimedia IR;
- Designing IR Systems;
- Query representation and IR – retrieval techniques (Boolean, Relational, Positional operators, Fuzzy search) and retrieval approaches (building-block, snowballing, successive fraction approach, most specific facet approach, convenient approach);

### Unit 2: Subject Indexing: Principles and Practices

- Subject Headings: Contributions of Cutter, Kaiser, Ranganathan, Farradane, Coates, Austin, and Bhattacharyya;
- Derived and Assigned Indexing
  - Derived indexing system: printed (keyword and citation indexing) and automatic/full-text indexing (MGPP, Lucene, HTDig etc.);
  - Assigned indexing system (Syntax): Pre-coordination and Post-coordination;
- Pre-coordinate indexing system: Chain, PRECIS, POPSI, COMPASS, etc;
- Post-coordinate indexing system: Computerized indexing system, Database Vs. Card based (Item entry and Term entry) systems, Tools for improving Post-coordinate retrieval (Links, Roles, and Weights);
- Intelligent IR and NLP – concept and applications.

### Unit 3: Indexing Languages and Vocabulary Control

- Indexing Languages: generations, types, and characteristics;
- Natural Language Indexing Vs. Controlled Language Indexing, Problems of Assigned indexing (Semantics);

- Vocabulary Control: need, purpose, tools (alphabetical and classed);
- IR Thesaurus: structure, standards (ISO-2788, ISO-25964-1 and ISO-25964-2), SKOS compatibility;
- Design and development of integrated on-line thesaurus: tools and methods.

### Unit 4: Digital IR Systems

- Digital IR – types, features, file design and organization;
- IR models - Boolean logic model, Vector space model, Probability model, Cognitive model, Natural language model;
- Digital IR types - On-line IR, Optical-disk based IR, OPAC and Web IR;
- Multiple database searching, Common Command Language, NISO and ISO standards, Multi-lingual/Cross-language information retrieval systems and projects;
- Web IR: Meaning scope & characteristics, Models and standards, Operational aspects of the Web, Web Indexing, Search Engines, Meta Search Engines, Subject Directories, Subject Gateways, Institutional/Subject Repositories, Digital Libraries, Text retrieval engines, Semantic Web.

### Unit 5: IR Systems – Users, Evaluation and Trends

- Users: Nature, Types of information needs, Information seeking behaviour (ASK, Sense-making etc);
- Meaning, Purpose, and Levels of IR Evaluation (System effectiveness, Cost effectiveness, Cost benefit evaluation), Evaluation – measures, criteria and methodology;
- Evaluation initiatives (Cranfield 1 and 2, SMART, MEDLARS Test, STAIRS, TREC experiments, FIRE etc.);
- Recent developments and Future trends in IR.

## THIRD SEMESTER

Course Code: LS-CC-302

Course Title: INFORMATION RETRIEVAL

### Reading List

- Aitchison, J., Gilchrist, A. & Bawden, D. (2000). *Thesaurus construction and use: a practical manual*. 4th ed. London: Aslib.
- Anderson, James D. (1997). *Guidelines for indexes and related information retrieval devices: a technical report*. Bethesda, Maryland: National Information Standard Organization.
- Baeza-Yates, R. & Ribeiro-Neto, Berthier (1999). *Modern information retrieval*. New York: ACM Press; Harlow, England: Addison-Wesley.
- Bawden, D. (2007). Information seeking and information retrieval: the core of the information curriculum. *Journal of Education for Library and Information Science*, 48 (2), pp.125-138.
- Ceri, S., Bozzon, A., Brambilla, M., Della Valle, E., Fraternali, P. & Quarteroni, S. (2013). *Web information retrieval*. Heidelberg: Springer.
- Chu, H. (2003). *Information representation and retrieval in the digital age*. Medford, N.J: Published for the American Society for Information Science and Technology by Information Today.
- Chowdhury, G. G. (2010). *Introduction to modern information retrieval*. 3<sup>rd</sup> ed. London, Facet Publishing.
- Foskett, A. C. (1996). *Subject approach to information*. 5<sup>th</sup> Ed. London: The Library Association.
- Fugmann, R.: *Subject analysis and indexing: theoretical foundation and practical advice*. Frankfurt: Verlag, 1983.
- Ghosh, S. B. and Satpathi, J. N., Eds. (1998). *Subject indexing systems: concepts, methods and techniques*. Calcutta. IASLIC.
- Gilchrist, A.: *From classification to knowledge organization*, 1997.
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- ISO 2788:1986. *Guidelines for the establishment and development of monolingual thesauri*. Geneva: International Organization for Standardization.
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### THIRD SEMESTER

**Course Code: LS-CC-303**

**Course Title: AUTOMATED LIBRARY SYSTEM**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	0	4	4	75	Nil	25	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to library automation including global recommendations;</li> <li>To introduce standards and software related to library automation; and</li> <li>To explore the practical applications of library automation software and standards.</li> </ul>

**Unit 1: Introduction to Library Automation**

- Library automation – what, why, advantages;
- Historical development and generation of library automation;
- Integrated Library System (ILS) - general requirements, steps and implementation;
- Global recommendations and best practice guidelines (OLE, ILS-DI etc);
- Role of standards and software;
- RFP (Request For Proposal) for library automation.

**Unit 2: Workflow of Automated Library System**

- Library system and subsystems;
- Procedural model of library automation;
- Software-level requirements for automation workflow;
- Recommendations and best practices;
- Multilingual automated library system.

**Unit 3: Components of Automated Library System**

- Acquisition subsystem;
- Cataloguing subsystem;
- Circulation subsystem;
- Serials control subsystem;
- User interface subsystem (OPAC, Web-OPAC, OPAC 2.0), Administration;

**Unit 4: Standards related to Library Automation**

- Library standards – scope, objectives, types and advantages;
- Library automation standards – global and national;
- Open standards – features, application and advantages;
- Interoperability and other essential standards of library automation;
- Trends and future of standards applications.

**Unit 5: Software related to Library Automation**

- Library automation software – generations and development;
- Library automation software – functional requirements, global recommendations and RFPs;
- ILSs available in India – types and features;
- Open source software in library automation;
- Trends and future of library automation software – Web-scale discovery, Linked open data, Cloud based library automation, Library mashup etc.

**Unit 6: Practical Components**

- ILSs – installation, configuration and customization;
- ILSs - subsystems/modules – acquisition, cataloguing, circulation, serials control and administration;
- Multilingual data processing and retrieval;
- Web-OPAC and OPAC 2.0;
- Backup, restoration and privilege control.



### THIRD SEMESTER

Course Code: LS-CC-303

Course Title: AUTOMATED LIBRARY SYSTEM

#### Reading List

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### THIRD SEMESTER

**Course Code: LS-CC-304**

**Course Title: DIGITAL RESOURCE MANAGEMENT**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	0	4	4	75	Nil	25	Nil	100	<ul style="list-style-type: none"> <li>To provide nature, features, scopes and limitations of digital information resources;</li> <li>To know the use of text retrieval and support tools in organizing digital resources; and</li> <li>To explore the use of content management system, web 2.0 and semantic web technologies in library systems.</li> </ul>

**Unit 1: Introduction to Digital Information Resources**

- Definition, scope, features and advantages of digital information resources;
- Types of digital information resources and traditional vs. digital information resources;
- Management and integration of digital information resources (including open access resources);
- Socio-legal aspects of digital information resources (copyright, DRM, other IPR issues, licensing issues);
- Use of knowledge organization tools in managing digital information resources.

**Unit 2: Text Retrieval Engines and Retrieval Support Tools**

- Text retrieval engines – scope, features and utilities;
- Retrieval features of selected text retrieval engines – Apache-Solr, Lucene, MGPP and Zebra;
- Application of text retrieval engines in software and services;
- Online thesaurus – development and integration, Ontology-driven retrieval – rules and tools;
- Search techniques – advanced operators and facilities.

**Unit 3: Content Management System**

- Content Management – what, why, types and use;
- Use of Mark-up languages in content management (SGML, HTML, XML and XHTML);
- Content management – principles, models, workflows and best practices;
- Content management software;
- Managing open contents and learning contents.

**Unit 4: Web 2.0 and Library 2.0**

- Web 2.0 - what, why, components and use;
- Web 2.0 tools and technologies;
- Library 2.0 – application of Web 2.0 tools in library services;
- Information mashpup;
- Trends and future.

**Unit 5: Semantic Web Technologies**

- Semantic Web – what, why, nature and features;
- Semantic Web – components, tools and technologies;
- RDF, XML and Semantic Web;
- Ontology as Semantic Web tool, Use of SKOS in knowledge organization;
- Linked Open Data (LOD).

**Unit 6: Practical Components**

- Markup languages – HTML and XML;
- Text retrieval engines;
- Online thesaurus (TemaTres, MultiTes etc), SKOS and Ontology Editors.
- CMS software – CMS and their integration with ILS, Learning Content Management System (LCMS);
- Web 2.0 and Library 2.0– RSS, Wikimedia, Blog, Social networking, Social bookmarking, Carousel etc;

## THIRD SEMESTER

Course Code: LS-CC-304

Course Title: DIGITAL RESOURCE MANAGEMENT

### Reading List

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### THIRD SEMESTER

**Course Code: LS-OC-305**

**Course Title: OPEN KNOWLEDGE SYSTEM**

Credit Structure				Marks Distribution					Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment				Total Marks	
					CE	PRJ	PRC	Viva		
3	1	0	4	75	15	10	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide concepts, features, scopes and advantages of open access resources;</li> <li>To introduce open access sources, policies and licensing; and</li> <li>To explore the use of open contents in education, research and their integration with library systems.</li> </ul>

**Unit 1: Introduction to Open Knowledge System**

- Scholarly communication and Open knowledge movement (history and landmarks);
- Open Access (OA) resources – nature, features, need and advantages (including citation advantages through article-level metrics);
- Open library system (O<sup>3</sup> library) – open contents, open source software and open standards;
- OA declarations – global and national;
- OA initiatives – global and national levels.

**Unit 2: Mandate, Policies and Licensing**

- OA mandate and policies – need and types;
- OA policy levels – institutional, publishers, and funders;
- OA rights (author addenda) and licensing (Creative Commons and others);
- OA policy framework and legislations;
- OA policy tools – SHERPA/RoMEO, SHERPA/JULIET, OpenDOAR.

**Unit 3: Open Access Sources and Services**

- OA Pathfinders – DMOZ, DOAB, OATD;
- Gold path of OA – DOAJ and Green path of OA - OpenDOAR, ROAR;
- Open Data;

- OA gateways – SSRN, PloS, OA federation – BASE, CORE;
- OA educational resources and OA citation services.

**Unit 4: Open Access Interoperability**

- OA interoperability – what and why;
- OA interoperability initiatives – metadata-level, content-level, network-level, identifier-level, object-level and usage data-level;
- OA interoperability standards – Z 39.50, SRU/SRW, OAI/PMH, ORE and others;
- Linked Open Data (LOD);
- Trends and future.

**Unit 5: Management and Integration of Open Contents**

- OA content management - overview;
- OA content management workflow;
- Content management in Gold OA;
- Content management in Green OA;
- Integration of OA contents.

## THIRD SEMESTER

Course Code: LS-OC-305

Course Title: OPEN KNOWLEDGE SYSTEM

### Reading List

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- Swan, A., & Chan, L. (2009). *Open access scholarly information sourcebook: practical steps for implementing open access*. S.I.: Openoasis.org.
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## FOURTH SEMESTER

**Course Code: LS-CC-401**

**Course Title: RESEARCH METHODOLOGY**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To support in understanding concepts related to research methods in general;</li> <li>To introduce research support tools and research communication process; and</li> <li>To help in identifying research information sources in LIS and to explore the trends of LIS research in India and abroad.</li> </ul>

### Unit 1: Introduction to Research Methodology

- Concept, meaning, objectives and process of research;
- Types of research – Fundamental and Applied Research, Qualitative and Quantitative Research;
- Ranganathan's spiral of scientific method; Indian approaches to research;
- Ethical aspects of research.

### Unit 2: Research Design and Methods

- Research Design, Research Proposal; Identification and formulation of research problem and Hypothesis;
- Sampling Technique;
- Literature Search and Review of Literature;
- Types of research method – Descriptive method, Historical method, Experimental method, Survey method and Case Study.

### Unit 3: Data Collection and Presentation

- Data Collection Tools and Techniques – Questionnaire, Interview, Observation, Library records, Reports;
- Data Types, Scales;

- Data presentation – Generalization, Tabulation and Graphical presentation.

### Unit 4: Data Analysis and Interpretation

- Application of statistical techniques in LIS;
- Measures of Central Tendency – Mean, Median and Mode;
- Measures of Dispersion, Correlation and regression;
- Hypothesis Testing, Null and Alternative Hypothesis, Sampling Error, Chi-Square Test.

### Unit 5: Report writing and Research communication

- Research reporting – Formats, Structure, styles, contents,
- Guidelines, Style manuals and Citation standards,
- Research support tools – on-line survey tools, research profile, research guides, plagiarism checker;
- Research communication channels (Research-in-progress, ETD repositories, Institutional repositories, Subject repositories).
- Trends in LIS research

## FOURTH SEMESTER

Course Code: LS-CC-401

Course Title: RESEARCH METHODOLOGY

### Reading List

- Boyce, R.R., Meadow, C.T. & Kraft, D.H. (1994). *Measurement in information science*. San Diego, CA: Academic Press.
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- Mellon, Constance A. (1990). *Naturalistic inquiry for library science: methods and applications for research, evaluation, and teaching*. New York: Greenwood.
- Moore, N. (2006). *How to do research*. 3<sup>rd</sup> ed. London: Facet Publishing.
- Pickard, Alison Jane. (2012). *Research Methods in Information*. 2<sup>nd</sup> ed. London: Facet.
- Prytherch, Ray. (1994). *Information management and library science: a guide to the literature*. Brookfield, VT: Gower.
- McClure, Charles R. & Hernon, Peter, Ed. (1991). *Library and Information science research: perspectives and strategies for improvement*. Norwood, NJ: Ablex Publishing Corporation.
- Simpson, I. S. (1990). *How to interpret statistical data: A guide for librarians and information scientists*. London: Library Association.
- Slater, Margaret, Ed. (1990). *Research methods in library and information studies*. London: Library Association.
- Stephen, Peter, & Hornby, Susan. (1995). *Simple statistics for library and information professionals*. London: Library Association.
- Williamson, K., Ed. (2002). *Research methods for students, academics and professionals: Information management and systems*. 2<sup>nd</sup> ed. Wagga Wagga, Australia: Center for Information Studies, Charles Stuart University

## FOURTH SEMESTER

**Course Code: LS-CC-402**

**Course Title: DIGITAL LIBRARY SYSTEM**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
2	0	4	4	75	Nil	25	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to digital library systems;</li> <li>To introduce standards and software related to digital library systems; and</li> <li>To explore the applications of software and standards in developing digital library systems.</li> </ul>

### Unit 1: Historical and Theoretical Foundations

- Nature, concepts, scopes, definitions and types of digital libraries;
- History of digital library initiatives, institutional repositories and open knowledge movement;
- Social, legal and economic issues;
- Digital information resources and Digital archiving
  - Digital information resources – features, types and bit stream formats;
  - Analog (traditional) vs. Digital information resources;
  - Digital archiving – features, advantages and applications;
- Traditional, automated, digital and virtual library systems – comparative study.

### Unit 2: Organization of Digital Objects

- Metadata encoding– generic and domain-specific schemas (Including DCMES, GILS, AGLS, ONIX, TEI, IEEE LOM, GEMS, SeamlessUK etc.);
- Metadata encoding standards - Markup languages (HTML, XHTML, XML), Encoding standards (W3C and IETF standards) and Resource Description Framework (RDF);
- Resource identifiers (Naming services) – URN, URI, CNRI's handle, PURL, DOI;
- Subject access systems – standards and tools;
- Crosswalks and Interoperability - Crosswalks of metadata schemas and Interoperability initiatives and standards (OAI/PMH, Z 39.50, ZING, SRU/W; ORE etc).

### Unit 3: Architecture, Information Retrieval and User interfaces

- Web architecture – models, standards, protocols, tools and technologies;
- Web databases - technologies, standards and tools; products and services;
- Architecture of digital library systems - design issues, design principles and models;
- Information retrieval in digital library systems - retrieval models for digital library systems, use of vocabulary control devices, text retrieval tools – types, features and

- comparisons (Lucene, MGPP, Solr), search techniques – Boolean, relational and positional operators etc and study of information retrieval features of selected digital library systems;
- User interfaces of digital library systems – models, frameworks, design issues, principles, standards and study of user interfaces of selected digital library systems.

### Unit 4: Design and Development of Digital Library Systems

- Digitization and collection development (hardware, software, process, file formats, issues, policies and principles, collection management);
- Standards related to digital library system;
- Software related to digital library system – features and selection parameters;
- Centralized processing and distributed access software (WWWISIS, GSDL etc);
- Distributed processing and distributed access software (Eprint, DSpace etc).

### Unit 5: Federated and Multilingual Digital Library Systems

- Federated search service – metadata-level and content-level harvesting;
- Metadata harvesting – standards, process and software;
- Multi-lingual digital library – Indic scripts, standards, tools;
- Web-scale resource discovery, Semantic web and digital libraries;
- Trends and future.

### Unit 6: Practical Components

- DL type - Centralized processing and distributed access – installation, configuration and collection development;
- DL type - Distributed processing and distributed access – installation, configuration and collection development;
- Metadata harvesting – installation, configuration and collection development;
- Web-scale resource discovery software – installation, configuration and collection development;
- Indic scripts based digital library.



## FOURTH SEMESTER

Course Code: LS-CC-402

Course Title: DIGITAL LIBRARY SYSTEM

### Reading List

- Argerich, K. (2004). *Professional PHP programming*. Mumbai: SPD/Apress Reprints.
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- Fox, E. A., & Torres, R. S. (2014). *Digital Library Technologies: Complex Objects, Annotation, Ontologies, Classification, Extraction, and Security*. San Rafael: Morgan & Claypool Publishers.
- Fox, E. A., Logan, E., & International Conference on Asian Digital Libraries. (2004). *An Asian digital libraries perspective*. Amsterdam: Elsevier Ltd.
- Gorman, G.E, & Dorner, D.G. (2004). *Metadata applications and management*. London: Facet Publishing,.
- Jean, G. (2011). *Digital library*. New Delhi: World Technologies.
- Kruk, S. R., & McDaniel, W. D. (2009). *Semantic digital libraries*. Berlin: Springer.
- Lesk, M. (1997). *Practical digital libraries: books, bytes and bucks*. San Francisco: Morgan Kaufmann.
- Lesk, M. (2004). *Understanding digital libraries*. 2<sup>nd</sup> ed. San Francisco: Morgan Kaufman.
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- Myers, D. (2004). *Professional Java XML programming with servlet and JSP*. Mumbai: Shrof Publishers.
- Oleck, J., & Primary Research Group. (2012). *Creating the digital library*. New York: Primary Research Group, Inc.
- Raymond, E. S. (2001). *The cathedral and the bazaar: musings on Linux and open source by an accidental revolutionary*. (Rev. ed.). Cambridge: O'reilly and Associates Inc.
- Shen, R., Gonçalves, M. A., & Fox, E. A. (2013). *Key issues regarding digital libraries: Evaluation and integration*. San Rafael, Calif.: Morgan & Claypool.
- Stewart, C. (2010). *The academic library building in the digital age: A study of construction, planning, and design of new library space*. Chicago, Ill: Association of College and Research Libraries.
- Tanenbaum, A.S. (2001). *Computer networks* (3rd ed.). New Delhi: Prentice-Hall.
- Thomas A. Peter. (2000). Library Trends: Special issue: Assessing digital library services, 49(2).
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- Witten, I. H., Bainbridge, D., & Nichols, D. M. (2010). *How to build a digital library*. Burlington, MA: Morgan Kaufmann.
- Wright, A.S. (2004). *Professional PERL programming*. Mumbai: SPD/Apress Reprints.
- Yu, P. K. (2007). *Intellectual property and information wealth: Issues and practices in the digital age*. Westport, Conn: Praeger Publishers.

## FOURTH SEMESTER

**Course Code: LS-CC-403A**

**Course Title: COMMUNITY INFORMATION SYSTEM**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to community information system and services;</li> <li>To introduce resources, standards and software related to CIS; and</li> <li>To explore the applications of software and standards in developing digital community information system and services.</li> </ul>

### Unit 1: Fundamentals of Community Information Services (CIS)

- Nature, scope, use and users of community information, Survival Information and Citizen Action Information, Community of place vs. community of interest;
- Community Information Services – Definition, Need, Features and objectives;
- Providers of Community Information Services – Systems, Agencies and Institutions, Libraries as CIS Providers: Global and Indian scenario;
- Role of public libraries — IFLA/UNESCO Public Library Manifesto, Library Outreach Programmes, Library Publicity and Public Relation, E-Governance: Meaning, scope and purposes, E-Governance institutions in India;
- Community Information Systems and Services: Global and National Scenario.

### Unit 2: Community Information Resources

- Nature and Scope, Differences with bibliographical resources;
- Documentary Sources: vital statistics, land records, official publications, magazines, maps & atlases, photographs, personal collections, leaflets, local history materials, etc;
- Institutional Sources: Publications of local governments and government agencies, educational and religious institutions, NGOs, political parties, labour and peasant organizations, etc;
- Human Resources: village level leaders, field extension personnel, religious leaders, government officials, etc;
- Cultural heritage resources and Digital resources.

### Unit 3: Local Studies

- Definition and Scope, Types and kinds of local studies materials;
- Local studies — Collection and Organization in libraries;
- Government agencies, local organizations including the calendar of local events;

- Area Profile — Meaning, Structure and compilation;
- Local history, Local heritage and Oral history.

### Unit 4: Community Information Resources: Organization and Access

- Community Information Resources – data formats and metadata initiatives, bibliographic format vs. Community information format, CCO and other initiatives;
- Organization of Community Information Resources
  - Need of organization and Requirements for organization;
  - Content designators – CCF/F and MARC 21 CIF.
  - Metadata – Schemas and Encoding;
- Integrated processing of Community Information Resources and Bibliographic Resources, Subject Access to Community Information Resources – Vocabulary control tools;
- Access to Community Information Resources – Media and Mechanisms;
- Projects and initiatives on community information organization.

### Unit 5: Digital Community Information Services

- Digital Community Information Services – Need, Advantages, Tools and Techniques;
- Software Framework for Community Information Services: Models, Components, Clusters, and Integration;
- Community Communication and Interaction: Tools, Techniques and Processes;
- User Interface of Community Information Services: Models and Applications;
- Multilingual Community Information Services: Indic Script based interface, processing and retrieval.

## FOURTH SEMESTER

Course Code: LS-CC-403A

Course Title: COMMUNITY INFORMATION SYSTEM

### Reading List

- Ainley, P. (1980). *Basics of community information: an action handbook for librarians*. London: Association of Assistant Librarians.
- American Library Association. (1966). *Minimum standards for public library systems*. Chicago: ALA.
- Bunch, A. (1982). *Community information services: the origin, scope and development*. London: Clive Bingley.
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- Durrance, J. C., & Fisher, K. E. (2002). *Online community information: creating a nexus at your library*. Chicago, Ill: American Library Association.
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- Rowlat, M. (2002). A new profile for citizens' (or community) information? *Ariadne*, 19, 1-10.
- Sarkhel, J. K. (2000). A generalized framework for the design and development of an area profile. *Vidyasagar University Journal of Library and Information Science*. 5; 2000; pp. 3 - 16.
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## FOURTH SEMESTER

**Course Code: LS-CC-403B**

**Course Title: ACADEMIC LIBRARY SYSTEM**

Credit Structure				Marks Distribution					Objectives
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE / PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to academic library systems and services;</li> <li>To introduce resources, services and management issues pertaining to academic libraries; and</li> <li>To get a clear idea about the application of new ICT in academic library management.</li> </ul>

### Unit 1: Academic Libraries and their Users

- Higher education and libraries in India;
- Academic libraries – definition, meaning, importance, functions and types;
- Users of academic libraries – types of users and their needs, user study and user education;
- Structure and hierarchies of academic libraries, Role of UGC, AICTE, NCTE and other bodies in academic library development;
- Changing role of academic libraries – National and global scenario, Recommendations, Standards and Best practices.

### Unit 2: Management of Academic Libraries

- Records management and library planning
- Collection Development/Resource Optimization ;
- Human Resource Management;
- Financial Management;
- Application of MIS, OR and TQM;
- Library Co-operative Organizations and Network services.

### Unit 3: Services in Academic Libraries

- Traditional services;
- Documentation services;

- ICT enabled services;
- Advanced Scholars specific services; and
- Reference and information services to Research Scholars.

### Unit 4: Change Management in Academic Libraries

- Effects of Globalization on Libraries;
- Generation Gap due to Knowledge based society;
- Change of academic environment and management style;
- Change of users interest and learning techniques; and
- Leadership style and Qualities of Librarians.

### Unit 5: Introduction of new digital applications in Academic Libraries

- Application of Academic Library 2.0;
- International academic library scenario;
- Academic Library Repositories;
- Library e-resource management, policy and programmes; and
- Future trends in academic library development.

## FOURTH SEMESTER

Course Code: LS-CC-403B

Course Title: ACADEMIC LIBRARY SYSTEM

### Reading List

- Applegate, Rachel (2010). *Managing the small college library*. Englewood, CO: Libraries Unlimited.
- Bavakutty, M. (1986). *College Libraries in India, Vol.7: A case study*. West Yorkshire: MCB University press.
- Bavakutty, M. (1988). *Libraries in higher education*. New Delhi: Ess Ess.
- Brophy, Peter (2005). *The academic library*. 2<sup>nd</sup> rev. ed. London: Facet Publishing.
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- Cohen, Laura B. (2008). *Library 2.0 initiatives in academic libraries*. Chicago: ALA.
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- Deshmukh, S. (2013). *Academic library: design and planning*. New Delhi: Neha Publishers & Distributors.
- Fontichiaro, Kristin (2013). *21st-century learning in school libraries*. Englewood, CO: Libraries Unlimited.
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- Hingwe, K S. (1982). *Management of university libraries in India*. Calcutta: The World Press.
- Hulbert, J. N. Ed. (2007). *Defining relevancy: managing the new academic library*. Englewood, CO: Libraries Unlimited.
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- Ingersoll, P. & Culshaw, J. (2004). *Managing information technology in academic libraries: a handbook for systems librarians*. Westport, CT: Greenwood Press.
- Isaac, Dorothy, Raju A.A.N., & Ramaiah, L.S., Ed. (1993). *Academic libraries: role in the national development*. T R Publications.
- Jenkins C. & Mary M. (1996). *Collection development in academic libraries*. Brookfield, VT: Gower.
- Johnson, Doug A. (2013). *The indispensable librarian: surviving and thriving in school libraries in the information age*. 2<sup>nd</sup> ed. Santa Barbara, CA: Linworth Books.
- Mathur, M.V., Arora, R.K. & Sogani, M. (1994). *Indian university system: revitalization and reform*. New Delhi: Wiley Eastern.
- McDonald, Joseph & Micikon, Basney. (1994). *Academic libraries: the dimensions of their effectiveness*. Westport, CT: Greenwood Press.
- McNeil, B. (2004). *Human resource management in today's academic library*. Westport, CT: Greenwood Press.
- Poole, Herbert, Ed. (1977). *Academic library by the year 2000*. New York: Bowker.
- Prashar, R G. (1991). *Managing university libraries*. New Delhi: Today & Tomorrow.
- Saini, B.S. (1976). *Library organisation for higher education*. New Delhi: Ess Ess.
- Singh, Sewa and Arora, M., Ed. (1995). *Handbook of college libraries: problems, finance and related aspects*. New Delhi: Beacon Books.
- Srivastava S.N. and Verma S.C., (1980). *University libraries in India*. New Delhi: Vikas.
- Trehan, G.L., (1985). *College library development*. New Delhi: Sterling Publishing.
- University Grants Commission. (2001). *Model curriculum: library and information Science*. New Delhi: UGC.

## FOURTH SEMESTER

Course Code: LS-CC-404

Course Title: **GUIDED RESEARCH PROJECT**

Credit Structure				Marks Distribution			Objectives
Lecture	Tutorial	Practice	Total Credit	Research report	Viva/Presentation	Total Marks	<ul style="list-style-type: none"><li>To complete a research project on a selected topic pertaining to the applications of the professional techniques and their underlying principles by following research methods and standards; and</li><li>To develop research skills and independent thinking.</li></ul>
0	4	0	4	75 (Text)	25	100	

## FOURTH SEMESTER

**Course Code: LS-OC-405**

**Course Title: INFORMETRICS**

Credit Structure				Marks Distribution				Objectives	
Lecture	Tutorial	Practice	Total Credit	Semester Examination	Internal Assessment			Total Marks	
					CE/PRJ	PRC	Viva		
3	1	0	4	75	25	Nil	Nil	100	<ul style="list-style-type: none"> <li>To provide basic concepts related to application of quantitative techniques in LIS;</li> <li>To help in understanding laws, indicators, techniques, tools and services related to bibliometrics, informetrics, webometrics and altmetrics; and</li> <li>To explore the future applications of informetrics.</li> </ul>

### Unit 1: Introduction to Informetrics

- Librametry, Bibliometrics, Scientometrics, Informetrics – Meaning, Scope and features;
- Cybermetrics and Webometrics – Meaning, scope, features;
- Citations vs. Hyperlinks (Citations vs. Situations);
- Altmetrics and Article-Level Metrics.

### Unit 2: Citation analysis and its use

- Definition, Theory of citing, Why cited and why not cited;
- Different forms of citations and Citation counts;
- Journal Ranking; Age study and obsolescence;
- Authorship Collaboration; Self-citation, Productivity;
- Mapping of Science; Bibliographic coupling: Co-word, Co-citation coupling.

### Unit 3: Theories, Laws and Indicators

- Bibliometric Laws: Lotka's Law, Bradford's Law, Zipf's Law;
- Other Empirical Laws of Price, Garfield, Sengupta, etc;

- Application of Bibliometric Laws in Web;
- Bibliometric indicators (Journal Impact factor, h-index and its derivatives, etc);
- Webometric indicators (Web Impact Factor, WISER, etc).

### Unit- 4: Bibliometric and Webometric Tools

- Bibliometric tools – SCI, SSCI, A&HCI, SCOPUS, Google Scholar, etc;
- Webometric tools – Generic search engines and specialized tools (LexiURL, SocSciBot, Internet Archive, Pajek, etc.);
- Altmetrics tools (Altmetric, ImpactStory, PloS, etc);

### Unit 5: Applications and Trends

- Bibliometrics projects, initiatives and services;
- Webometrics projects, initiatives and services;
- Altmetrics projects, initiatives and services;
- OA movement and Informetrics, Trends and future.

## FOURTH SEMESTER

Course Code: LS-OC-405

Course Title: INFORMETRICS

### Reading List

- Andres, A. (2009). *Measuring academic research: how to undertake bibliometric study*. Oxford: Chandos Publishing.
- Andrews, Penny & Leeds Metropolitan University. (2013). *Amplifying your research and academic profile – a researcher's guide to social media and altmetrics*.
- Bandyopadhyay, A.K. (2003). *Bibliometrics with the help of computer*. Burdwan: R. Bandyopadhyay.
- Borgman, C. L. (1990). *Scholarly communication and bibliometrics*. Newbury Park: Sage Publications.
- Braun, T. (2007). *The impact factor of scientific and scholarly journals: Its use and misuse in research evaluation: a selection of papers reprinted mainly from the journal Scientometrics*. Budapest: Akadémiai Kiadó.
- Cronin, B., & Sugimoto, C. R., Ed. (2014). *Beyond bibliometrics: harnessing multidimensional indicators of scholarly impact*. Cambridge, Mass.: MIT Press
- De Bellis, N. (2009). *Bibliometrics and citation analysis: from the Science citation index to cybermetrics*. Lanham, MD: Scarecrow Press.
- Egghe, L. (2005). *Power laws in the information production process: Lotkaian informetrics*. Amsterdam: Elsevier/Academic Press.
- Egghe, L., & Rousseau, R. (1990). *Introduction to informetrics: quantitative methods in library, documentation, and information science*. Amsterdam: Elsevier Science Publishers.
- Egghe, L., Neelameghan, A., & Sarada Ranganathan Endowment for Library Science. (2000). *Lectures on informetrics and scientometrics*. Bangalore: Sarada Ranganathan Endowment for Library Science.
- Egghe, Leo. (2009). *Lotkaian informetrics and applications to social networks*. The Belgian Mathematical Society.
- Eom, S. B., & IGI Global. (2009). *Author co-citation analysis: quantitative methods for mapping the intellectual structure of an academic discipline*. Hershey, PA: IGI Global.
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- Hjerppe, R. (1978). *An outline of bibliometrics and citation analysis*. Stockholm: Royal Institute of Technology Library.
- Ingwersen, P. (2012). *Scientometric indicators and webometrics – and the poly representation principle information retrieval*. New Delhi: Ess Ess Publications.
- Jalal, Samir Kumar, Biswas, S. C., & Mukhopadhyay, P. (2009). Bibliometrics to webometrics. *Information Studies*, 15(1), 3–20.
- Jalal, Samir Kumar, Biswas, S. C., & Mukhopadhyay, P. (2010). Web presence of selected Asian countries: A Webometric study. *COLLNET Journal of Scientometrics and Information Management*.
- Mukhopadhyay, Parthasarathi. (2002). The calculation of web impact factors for educational institutes of India: a webometric study. *Proceedings of the National Seminar on Information Management in Electronic Libraries (ImeL), Kharagpur, 2002. Indian Institute of Technology, Kharagpur 2002.* (pp. 531–539).
- Potter, W. G. (1981). *Bibliometrics*. Champaign, Ill: University of Illinois Graduate School of Library and Information Science.
- Sen, B. K., Indian National Science Academy, & Indian National Commission for History of Science. (2005). *Growth of scientific periodicals in India (1901-1947)*.
- Tague-Sutcliffe, J. (1992). *Informetrics*. New York: Pergamon Press.
- Tague-Sutcliffe, J. (January 01, 1992). An Introduction to Informetrics. *Information Processing and Management*, 28, 1, 1-3.
- Tattersall, A. (2014). *Altmetrics: A practical guide for librarians, researchers and academics*. London: Facet Publ.
- Thelwall, M.A. (2004). *Link analysis: an information science approach*. London: Elsevier Academic.
- Thelwall, M. (2009). *Introduction to webometrics: quantitative web research for the social sciences*. San Rafael: Morgan & Claypool.
- Wilson, Virginia & University of Saskatchewan. (2013). *Research methods: altmetrics*. University of Alberta Learning Services.