

Sadhu Ram Chand Murmu University of Jhargram
Jhargram, West Bengal



Syllabus
of

**Integrated Programme on Bachelor of Library and
Information Science (One year) and Master of Library and
Information Science (One year)**

Under Semester System

Course Duration: 2 years, 4 Semesters

[W.e.f. : 2022-2023]

Programme Structure

Semester	Course Code	Course Title	Full Marks	Credit
I	LIS -101	Foundation of Library & Information Science	40+10	4
	LIS -102	Library Organization & Administration	40+10	4
	LIS 103	Knowledge Organization	40+10	4
	LIS -104	Resource Description	40+10	4
	LIS -105	Application of Information Technologies in Libraries	40+10	4
	LIS -106	Library and Information Services	40+10	4
	LIS -107	Knowledge Organization (Practice-1)	40+10	4
	LIS -108	Resource Description (Practice-1)	40+10	4
	Total		400	32
II	LIS -201(CBCS)	Fundamentals of Information Sources	40+10	4
	LIS -202	Application of ICT (Information Communication Technology) in Libraries	40+10	4
	LIS 203	Library Automation and Networking	40+10	4
	LIS -204	Preservation and Conservation of Library Materials	40+10	4
	LIS -205	Knowledge Organization (Practice-2)	40+10	4
	LIS -206	Resource Description (Practice-2)	40+10	4
	LIS -207	Information Sources and Services practice (Project)	40+10	4
	LIS -208	Library Automation & Networking (Practical)	40+10	4
	Total		400	32
III	LIS -301(CBCS)	Information and Communication Process	40+10	4
	LIS -302	Information Representation and Retrieval	40+10	4
	LIS 303	Research Methodology	40+10	4
	LIS -304	Management of Library System & Organization	40+10	4
	LIS -305	Knowledge Management & Research Data Management	40+10	4
	LIS -306	Content Design, Technical Writing and Scholarly Publishing	40+10	4
	LIS -307	Information Consolidation and Repackaging	40+10	4
	LIS -308	Digital Library System	40+10	4
	Total		400	32

IV	LIS -401	Open Knowledge System	40+10	4
	LIS -402	Information Consolidation and Repackaging (Practice)	40+10	4
	LIS 403	Library Data Analytics	40+10	4
	LIS -404	Digital Content and Preservation (Practice)	40+10	4
	LIS -405	Elective (choose any One) Community Information System (A) Community Information System and Services (B) Agricultural Information System and Services (C) Medical Information System and Services (D) Industrial Information System and Services (E) Science and Technology Information System and Services (F) Social Science Information System and Services (G) Legal Information System and Services	40+10	4
	LIS -406	Elective (Choose any one) (A) Library Planning and Design (B) Open Access Publication (C) E-Resource Management (D) Bibliography and Book Selection	40+10	4
	LIS -407	Guided Dissertation	40+10	4
	LIS -408	Internship	40+10	4
			400	32
Grand Total			1600	128

SEMESTER I

LIS 101: Foundation of Library & Information Science

Unit 1: Social foundation: Society-Definition, Library foundation history, social institutions; Library as a social institutions; History of libraries/information centres and development of librarianship as a service profession; Basic laws including Five laws of library science – Different interpretations and implications. Some eminent thinkers of libraries. Different types of libraries and their roles and functions, with special reference to India-National libraries, Academic libraries, Public libraries, Special libraries and information centres.

Unit 2: Information: Definition, characteristics and its role in changing society. Freedom of access to information. Information explosion, UAP. Intellectual property rights - copyright, patents censorship. Information society- evolution and implications. Knowledge Society – characteristics.

Unit 3: User communities-Users, their characteristics, User study, literacy programme; community survey; community information centres and services to users. Library extension services. Library and education-Formal, non-formal and distance education.

Unit 4: Library movement and information activities with special reference to India- Library legislation- Need, the Model Bill. Library and information service profession- criteria of the profession, Information Ethics, Governance, Duties, Role of Library Association /Professional associations- Local, Regional, National and International. Library and information policy in India. Organizations involving the development of libraries and information system. UGC- Committees and Commissions for the development of libraries and library education. Role of UNESCO.IFLA.

LIS 102 Library Organization & Administration

Unit 1: Organizational structure of a library, different sections, ordering, acquisition, technical processing, maintenance, collection development: stock verification, Different Charging and Discharging Methods. Library Personnel: Job description and Job analysis, recruitment, training and development. Library Committee, Library Reports, Library Rules.

Unit 2: Management Principles, Library standards, Reengineering, Empowerment, Benchmarking, Down Sizing and Learning Organizations. 6 SIGMA and New Technologies, Qualities of a good Manager.

Unit 3: Financial Management, budgeting techniques and methods, budgetary control, cost benefit analysis. Human resource management - job evaluation, delegation, decision making, performance appraisal, organizational communication. Budgeting techniques and methods, budgetary control.

Unit 4: Security, Maintenance. Moving a library, General Words of Wisdom, International construction and design codes, selection of notable and award- winning libraries for inspiration- AIA/ALA Library Buildings Award Program, National Libraries, Carnegie Libraries, Other Libraries of Note, Some Indian examples.Public Spaces, Reinventing Libraries, History of Library Buildings, Initial stages of construction or renovation; Modular building, Planning Process: Needs Assessment, the Building Program, Site Selection, Requests for Proposals, Space Planning, Selecting and Working with an

Architect, Colour, and Signage. Standards and information for designing an accessible library, Health issues, Furniture Selection, standards and specification.

LIS 103 Knowledge Organization

Unit 1: Library classification –need and purpose; Classification schedule and its components. Kinds of schemes – Enumerative, Faceted. Introducing different concepts – Isolate, facet, array, chain, notation etc.

Unit 2: Universe of subjects. Subjects - kinds – Basic subject (simple, basic and compound basic), Compound subject, complex subjects, phase relations. Isolates of auxiliaries – common (standard subdivisions) and specials; Speciators – kind 1 & kind 2.

Unit 3: General theory of library classification, canons, postulates, principles, fundamental categories, facet analysis. Three planes of work. Notational system – kinds, qualities, mnemonics, devices, round & levels.

Unit 4: Schemes of classification – Introducing different classification schemes, class number, book number, collection number, broken sequence, Relative Index etc.

LIS 104 Resource Description

Unit 1: Library catalogue - definition, importance, objectives functions. Contributions of C A Cutter, SR Ranganathan, A D Osborn, Seymour Lubetzky, E Svenonius and others. Library catalogue and bibliography. Cataloguing, indexing and classification. Bibliographic Organisation and control –UBC

Unit 2: Forms of catalogue. Physical forms - conventional forms, non-conventional forms. Machine readable catalogue. Inner forms – Entries, formats, kind functions and their suitability in different types of libraries. Simplified & selective cataloguing - advantages and disadvantages.

Unit 3: Normative Principles, canons & principles of cataloguing. ICCP, IME/ICC. ISBDs Code-Components, Levels, features. Historical development of cataloguing code – comparative study of codes in terms of their objectives, principles, rules and concept of authorship. Problems in the choice of statement of responsibility. Choice and rendering of headings, Indic names, pseudonyms, anonymous works, Uniform titles. Rules for filing entries.

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Unit 4: Automation, other development and organizations of cataloguing. New media and its effects on cataloguing. Networks, centralized and cooperative cataloguing, Bibliographic Utilities – OCLC Inc. RLIN, WLN etc. Union catalogue – layout and its compilations. World Cat Organization of cataloguing department.; Subject cataloguing – concepts, purpose, general principles, lists of subject headings. Sears List of Subject Headings, LCSH, FAST.

LIS 105 Application of Information Technologies in Libraries (Theory)

Unit 1 Basics of computer

Computer: Generation and types Physical Components & Functions ; Logical Components and functions Data representation; Text Representation and Number System.

Unit 2 Problem Solving and foundation of programming languages

Problem solving – definition; scope, stages; tools-fish-bone diagram, cause-and-effect diagram, 80/20 analysis, algorithm, flowchart etc. Introduction to programming language- Types- basic languages. Object Oriented Programming Languages; Markup Languages; Scripting Languages .Understanding of programming languages- Elements, environment, Data type etc.

Unit 3 Database

Concept, scope, purpose, advantage, models Structure: table, field, record; Bibliographic data – definition, nature, characteristics, structure Search strategies and techniques of data retrieval.

Unit 4 Intranet & Internet

Origin and development, components and architecture; connection options, access tools and Techniques; Protocols - Services -browsing, web browsers, search engines, Social networking Application in library (Students have to present one colloquia in a group of 5 students each on any given topic. He has to submit assignment time to time as given.)

LIS 106 Library and Information Services

Unit 1: Types of Information services-Documentary and Non-Documentary Information Services .Information sources: primary, secondary and tertiary, non- paper media services. Internet as of information services.

Unit 2: Concept of reference and information services - Definition, Need, Nature, Types and Function, Implications of Five Laws of Library Science. Study of subject. Principles and theories of reference service. Evolution of reference service; Tools and Techniques

of references and information services. Abstracting and Indexing services. CAS; SDI; Translation services, Reference services; Reference processes- Understanding the queries, Literature search and selection of documents. Feedback and user satisfaction.

Unit 3: Organisation of reference and information service. Qualification and qualities of a Reference librarian/information specialist. Reference and information services in different types of libraries/information centers and different types of users' groups. Role of the reference librarian in future. Reprography & Micrography - Types of reproduction. Methods and techniques of reproduction , storage and preservation. Reading apparatus. Planning of a reprographic unit. Reprographic facilities in India. Intellectual property rights and reproduction.

Unit 4: Recent trend and impact of appropriate technologies on information services. Cooperation in information service: Networking and database. Information systems and centres: information Centres :-Information systems -Meaning and structure .Library as an information systems :A brief study of UNISIST, AGRIS, INIS, DEBSIS, MEDLARS, NISSAT, NICNET, INFLIBNET, DELNET, CALIBNET etc, Information centres: Information Analysis Centres: A brief study of FID, ASLIB, IFLA, VINITI, IASLIC, DRTC, INSDOC, NASSDOC, DESIDOC, SENDOC, etc.

LIS 107 Knowledge Organization (Practice-1)

Classification of documents by DDC (Latest edition available in the Department), construction of book number in different methods.

LIS 108 Resource Description (Practice-1)

Cataloguing of documents in English and regional languages (optional) Bengali/ Hindi/ Nepali/ Olchiki) - Bibliographic Description and rendering of access points in English and regional languages by AACR 2R and CCC (with amendments). Subject cataloguing – Sears List of Subject Headings/ LCSH.

Reading List

SEMESTER I

LIS 101: Foundation of Library & Information Science

Bunch, A. (1985). *The Basics of Information Work*. Bingley.

Chowdhury, G. G. (2008). *Librarianship: An introduction*. Londres: Facet Pub. Gardner, F. M. (1971). *Public library legislation a comparative study*. Paris: Unesco.

George, K. M. (1985). *Indian libraries: Trends and Perspectives*. Hyderabad: Orient Longman.

Guha, B. (1983). *Documentation and information: Services, techniques and systems*. Calcutta: World Press.

Guha, B., Jain, V. K., Saini, M. L., & Singh, R. (1988). *Handbook of Libraries, Archives & Information Centres in India vol 6. International*

Cooperative Information Systems, networks and programmes. New Delhi: Information Resource Centre.

Guha, B., Jain, V. K., Saini, M. L., & Singh, R. (1988). *Handbook of Libraries, Archives & Information Centres in India vol 6. International*

Cooperative Information Systems, networks and programmes. New Delhi: Information Resource Centre.

LYN, B. D. (2022). *Introduction to information science*. Facet Pub.

LIS 102 Library Organization & Administration

Anderson, R. (1986) *Management information systems and computers: an introduction*. London: Macmillan. I. (Ed.). (1979). *Application of management techniques to library and information systems*. 12. Thomas, P., & Woard, V. (Eds.). (1974). *Proceeding of Conference on the corporate approach to library management*. London: Aslib.

Jones, N., & Jordan, P. (1988). *Case studies in library management*. London: Clive Bingley. Khanna, J. (1987). *Fundamentals of library organization*. New Delhi: Ess Ess.

Mittal, R. (1983). *Library administration: Theory and practice* (5th ed.). New Delhi: Metropolitan.

Mookerjee, S. K., & Sengupta, B. (1977). *Library organization and Library Administration*. Calcutta: World Press. Narayana, G. (1959). *Library administration* (2nd ed.). Bombay: Asia house.

Ranganathan, S. R. (1962). *Library manual*. Madras Library Association. Seetharama, S. (1990). *Guidelines for planning of libraries and information centers*.

Singh, M. (1983). *Library and information management: Theory and practice*. Delhi.: IBT.

LIS 103 Knowledge Organization (Theory)

Aggarwa, D. S., & Aggarwa, D. S. (1985). *Lectures on universe of knowledge*. Academic publ. Delhi.

Chakrabarty, B. (1994). *Library classification theory & practice*. Kolkata: World Press.

Chan, L. M. (1985). *Cataloguing and classification: An introduction*. New York: McGraw Hill.

Foskett, A. C. (2012). *The subject approach to information*. London: Library Association Publishing.

Kaula, P. N. (1985). *A treatise on colon classification: (appended with A select bibliography on the scheme)*. New Delhi etc.: Sterling.

Kumar, K. (2003). *Theory of classification*. New Delhi: Vikas.

Maltby, A. (Ed.). (1975). *Sayer's manual of classification for librarians* (5th ed.). London: Andre Deutsche.

Mills, J. (1962). *A modern outline of library classification*. Bombay: Asia.

Needham, C.D. (1971). *The Cambridge History of libraries in Britain and Ireland*. London: Andre Deutche.

Ohdedar, A., & Sengupta, B. (1977). *Library classification*. Kolkata: World Press.

Palmer, B. I., & Wells, A. J. (1951). *The Fundamentals of Library Classification*. London: Allen and Unwin.

Parkhi, R. S. (1964). *Decimal classification and colon classification in perspective*. New York: Asia Pub. House.

Phillips, W. H. (1964). *A Primer of Book Classification*. London: Association of Assistant Librarians.

Ranganathan, S. R. (1962). *Elements of library classification*. Bombay: Asia Pub. House.

Ranganathan, S. R. (2006). *Prolegomena to library classification*. Bangalore: Sarada Ranganathan Endowment.

Ranganathan, S. (1990). *A descriptive account of the Colon Classification*. Bangalore: Sarada Ranganathan Endowment for Library Science.

Sayers, W. (1958). *Introduction of library classification* (9th ed.) (A. Maltby, Rev.). London: Grafton.

Wynar, B. S. (1985). *Introduction to cataloguing and classification* (7th ed.). Littleton: Libraries Unlimited.

LIS 104 Resource Description

Chan, L.M.(1985).*Cataloguing and classification: an introduction*.New York: McGraw Hill.

Coates, E.J.(1960).*Subject catalogues: heading and structures*. London: Library Associations.

Cutter, C.A. *Rules for a dictionary catalogue*. America: Library Association.

Seminar on cataloguing: Working Paper and proceedings, 1970. (1970).⁸Bangalore: Documentation Research and Training Centre.

Horner, J. (1970). *Cataloguing*. London: Ass. of Assistant Librarians.

Hunter, E.J. and Bakewell, K.G.B.(1990). *Cataloguing*. London: Clive Bingley.

Hunter, E.J. (1990) *Computerized cataloguing*. London: Clive Bingley.

Mann, M.(1943). *Introduction to cataloguing and classification of books*(2nd ed.). Chicago:ALA.

Mohammad, H(1984). *Cataloguing of Indian Muslim names*. Delhi: IBB.

Needham, C.D. (1971) *Organizing knowledge in libraries: an introduction to classification and cataloguing*(2nd ed.).London.

Olding, R. (Ed.). (1967). *Heading in library cataloguing*. Delhi. Piggot, M. (1988). *A topography of cataloguing*. London: LA.

Ranganathan, S.R.(1955). *Headings and canons: comparative study of five catalogue codes*.

Sengupta, B. *Cataloguing: its theory and practice*. Calcutta: World Press.

Sharp, H.A.(1964) *Cataloguing*(5th ed.). Bombay: Allied.

LIS 105 Application of Information Technologies in Libraries

Boss, S.K. (1991). *Hardware and Software of personal computers*. New Delhi: Wiley Eastern. Hunt, R. and Shslie, J. (1990). *Computers and commonsense*(4th ed.). New Delhi: Prentice-Hall. Last, R. (1991). *MS DOS revealed*. New Delhi: Galgotia.
Mahapatra, P.K. (1985). *The Computer in Library Services*. Calcutta: World Press. New Peter, G. (1975). *Reprography for librarians*. London: Clive Bingley.

LIS 106 Knowledge Organization (Practice)

Chan, L.M. (1985). *Cataloguing and classification: an introduction*. New York: McGraw Hill. Dewey, M. (1996). *Dewey Decimal Classification* (21st ed.). New York: Forest Press.
Kaula, P.N. (1985), *Treatise on colon classification*. Delhi: Sterling.

Universal Decimal Classification(Medium ed.).

LIS 107 Resource Description (Practice)

Anglo American Cataloguing Rules(2nd rev ed.). (AACR 2R)

Library of Congress Subject Heading List(15th ed.).1995.

Rangathan, S.R. *Cataloguing practice*. Bangalore: Sarada Ranganathan Endowment for Library Science.

Rangathan, S.R. (1964). *Classified Catalogue code with additional rules for dictionary catalogue code*(5th ed.). Bombay: Asia.

Sears List of Subject Headings (16th ed.).(1996).

LIS 108 Library and Information Services

Bradford, S.C. (1948). *Documentation*. London Crosby: Lookwood. Bunch, A. (1985). *The basics of information work*. London: Clive Bingley.

Chakrabarty, A.R. and Chakrabarty, B. (1983). *Indexing : Principles, processes and products*. Calcutta: World Press. Chandler, G. (1974). *How to find out: a guide to sources of information for all*. Oxford: Pergamon.

Foskett, D.J. (1974). *Classification and indexing in the social sciences*. London: Butterworths. Grogan, D. (1987). *Grogan's case studies in reference work*(6v.). London: Clive Bingley. Grogan, D. (1972). *More case studies in reference work*. London: Clive Bingley.

Grogan, D. (1979). *Practical reference work*. London: Clive Bingley.

Guha, B. (1983). *Documentation and information services: techniques and systems*(2nd rev. ed.). Calcutta: World Press. Katz, W.A. (1969). *Introduction to reference work*(2v.). New York: McGraw-Hill.

Cassell, K. A. and Hiremath, U. (June,2018). *Reference and Information Services An introduction*(4th ed.). Kumar, G. & Kumar, K. (1983) *Philosophy of user education*. New Delhi: Vikas.

Mukherjee, A.K. (1975). *Reference work and its tools*(3rd ed.). Calcutta: World Press. Rajan, T.N. (Ed.). (1981). *Indexing systems*. Calcutta: IASLIC.

Ranganathan, S.R. (Ed.) (1963). *Documentation and its facets*. Bombay: Asia. Ranganathan, S.R. (Ed.) (1961). *Reference service*(2nd ed.). Bombay: Asia.

Singh, S. (2001). *Handbook of International sources on reference and information*. Singh, S. (2004). *Manual of reference and information sources*.

Verma, A.K.(1984). *Trend in subject indexing*. Delhi: Mittal. Vickery, B.C.(1973) *Information systems*. London: Butterworths.

Semester II

LIS 201 (CBCS) Fundamentals of Information Sources

Unit 1. Introduction to Information Sources. Types of Information Sources. Documentary Sources of Information, Non-documentary Sources.

Unit 2.History of the Development of Information Sources, Development of Printed Books and other Sources, Emergence of Periodicals and emergence of

Electronic Sources ,emergence of Mass Media, Internet and World Wide Web.

Unit 3.Structure Objectives and function . Information Sources and Information Resources: Difference. Radio.History of AIR.Broadcasting Houses. Publication Press. Television.

Unit 4. Information Sources and modes of dissemination: Categories Information Sources .Information Sources by Content , Manuscripts and artifacts,Historical Information. Sources by Media.Human Sources.

Students have to present one colloquia in a group of 5 students each on any given topic.He has to submit assignment time to time as given.

LIS 202 Application of ICT (Information Communication Technology) in Libraries

Unit 1: Information Technology : Meaning, scope and areas of applications. Concept of information technology-types. Introduction to computers- fundamental, parts of computers: hardware, software, operating systems (MS-DOS/UNIX). Printing and Graphic technologies. Hardware: Computers, Modems, Telephone, Telex, Facsimile machines. Electronic publishing. Concepts of Information Super highway: WWW, Internet, Digital Library.

Unit 2: Computer language & Electronic data processing: Need, Types, Flowcharts, Algorithms, High level language : Software package : System Software, Application software, Boolean logic and operators. Programming language, structural programming, Scripting Language, data & file organization.

Unit 3: Library Automation : Need, House keeping operations, Indian Scenario. Design and development of automated acquisition control, serial control, circulation control.

Unit 4: AI & Expert systems: Fundamentals of AI, NLP and Expert systems. Introduction to AI programming languages: LISP, PROLOG, etc.

LIS 203 Library Automation and Networking

Unit 1 Genesis

Definition, Objectives, Scope, Digitization: meaning, needs and purposes; Digitization process: steps and tools; File formats: types and conversion; Capture devices, image editing software, OCR and UNICODE) ; Socio-legal aspects of digital information resources (copyright, DRM, other IPR issues, licensing issues); Web 2.0, Linked Data, Semantic Web- what, why, nature and features; components, tools and technologies; RDF, Ontology as Semantic Web tool, Use of SKOS in knowledge organization; Library 2.0 – application of Web 2.0 tools in library services

Unit 2 Architecture

Design, Models, DL Initiatives -Definition, objectives, purpose & scope; Open Access Initiatives (OAI), Interoperability initiatives and standards – Z 39.50, SRU/SRW, OAI/PMH, ORE and others

Unit 3 Metadata & Metadata Harvesting

Meaning, Types, Functions, Schemes; text retrieval tools (Lucene, MGPP, Solr)– types, features, search techniques – Boolean, relational and positional; Digital Rights Management (DRM)) Encoding standards (W3C and IETF standards) Resource identifiers (Naming services) – URN, URI, CNRI's handle, PURL, DOI;

Unit 4 Open Source Digital Repository

Digital Library – Software and Standards; D-Space/Green Stone/ E-Print (Digital Library Management Software (DLMS): Selection process and features

(Greenstone, D-space and E-prints)

(Every Student has to give at least TWO seminars on any given topic. He has to submit assignment time to time as given.)

LIS 204 Preservation and Conservation of Library Materials

Unit 1: Preservation and conservation; Policy and Planning; Understanding the relationship between preservation management and appropriate conservation treatment; Policy of preservation.

Unit 2: Factors for deterioration of information resources and curative measures. Mending, Binding, Housekeeping. Preventive and Restorative treatment.

Unit 3: Evaluation and application of appropriate and modern conservation treatments; Binding.

Unit 4: Restoration of print, non-print and electronic materials Conservation applications for library and archives, Preservation of manuscripts. Importance of digital preservation- advantages and disadvantages.

LIS 205 Knowledge Organization (Practice-2)

Unit 1: Classifying documents using UDC

Unit 2: Classifying documents using CC7

LIS 206 Resource Description (Practice-2)

Unit 1 : Resource description of Non-book materials by AACR 2R, Introducing practical aspect of RDA.

Unit 2 : Resource description of Non-book materials by CCC

Unit 3 : Resource description of Non-book materials according to MARC 21

Unit 4: Open source software(Koha) and proprietary software.

LIS 207 Information Sources and Services practice (Project)

Project I : Study of subject and preparation of Information product.

Project II : Study of Information Sources/Library Visit and Report.

LIS 208 Library Automation & Networking (Practical)

Unit 1: Operating System : Windows, DOS, Linux

Unit 2: Programming Language, Scripting Programming Language

Unit 3: Word Processing, Spreadsheets, Presentation, DBMS

Unit 4: Library Automation Software: ILMSS

Reading List

SEMESTER II

OEC 201 Fundamentals of Information Sources

Bradford, S.C. (1948). *Documentation*. London: Crosby Lockwood. Bunch, A. (1985). *The basics of information work*. London: Clive Bingley. Chakrabarty, A.R. & Chakrabarty, B. (1983). *Indexing : Principles, processes and products*. Calcutta: World Press. Chandler, G. (1974). *How to find out: a guide to sources of information for all*. Oxford: Pergamon. Foskett, D.J. (1974). *Classification and indexing in the social sciences*. London: Butterworths. Grogan, D. (1987) *Grogan's case studies in reference work*. 6v. 1987. Clive Bingley; London. Grogan, D. (1972) *More case studies in reference work*. London: Clive Bingley.

Grogan, D. (1979) *Practical reference work*. London: Clive Bingley.

Guha, B. (1983) *Documentation and information services: techniques and systems* (2nd rev. ed.). Calcutta: World Press. Katz, W.A. (1969). *Introduction to reference work* (2v.). ; New York: McGraw-Hill. Cassell, K. A. and Hiremath, U. (June, 2018). *Reference and Information Services An introduction* (4th ed.). Kumar, G. & Kumar, K. (1983). *Philosophy of user education*. New Delhi: Vikas.

Mukherjee, A. K. (1975). *Reference work and its tools*. Calcutta: World Press.

Rajan, T.N. (Ed.). (1981). *Indexing systems*. Calcutta: IASLIC.

Ranganathan, S.R. (Ed.). (1963) *Documentation and its facets*. Bombay: Asia. Ranganathan, S.R. (Ed.). (1961) *Reference service* (2nd ed.). Bombay: Asia.

Shera, J. H. (1966). *Documentation and the organization of knowledge* (L. J. Foskett, Ed.). London: Crosby Lockwood.

Singh, S. (2001). *Handbook of International Sources on reference and information*. New Delhi: Published by Beacon Books, exclusively for Crest Pub. House.

Singh, S. (2004). *Manual of Reference and Information Sources*. Delhi: B.R. Pub. Varma, A. K. (1984). *Trend in subject indexing*. Delhi: Mittal Publ.

Vickery, B.C. (1973). *Information systems*. London: Butterworths.

202 Application of ICT (Information Communication Technology) in Libraries

Brody, E. W. (1990). *Communication tomorrow: New audiences, new technologies, new media*. New York: Praeger.

Cawkell A.E. (1991). *World information technology manual*. Vol. I. computers, telecommunications and information processing. Vol. II. Systems and services. Amsterdam Elsevier.

Crawford, W. (1988). *Current Technologies in the library: An informal overview*. Boston, MA: G.K. Hall.

Kendall, P.A. (1987). *Introduction to systems analysis and design: a structures approach*. Boston. Allyn & Bacon:

203 Library Automation and Networking

Mukhopadhyay, P. (2005.). Library automation — software packages. Unit 6 In MLIS —MLIT-104 (ICT Applications — Part I), New Delhi: IGNOU.

Mukhopadhyay, P. (2005). Introduction to Library Automation. Unit 1 In CICTAL —BLII-003 (Library Automation and Digitization), New Delhi: IGNOU,

Mukhopadhyay, P. (2006). Five laws and ten commandments: The open road of library automation in India. (Proceedings of the National Seminar on Open Source Movement - Asian Perspective, XXII, IIT Roorkee, 2006, IASLIC, Kolkata. 2006. p. 27-36.) LASLIC,

Saffady, W. (1989). Library automation: An overview. *Library Trends*. 37(3), 269-281.

Singh, M., & Sanaman, G. (2012). Open source integrated library management systems: Comparative analysis of Koha and NewGenLib. *Electronic Library*, 30, 6, 809-832.

Forouzan, B. A. (2017) *Data Communications and Networking*.

Stallings, W. (2003) *Computer Networking With Internet Protocols and Technology*. Tanenbaum, S. (2013). *Computer networks*(5th ed.).

Viswanathan, T. (1997) *Telecommunications Switching Systems and Networks*.

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,.Hung Huang, K. (Ed.). (2011). *Digital Libraries: Methods and Applications*. IntechOpen. <https://doi.org/10.5772/608>

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.

Mukhopadhyay, P. (2014). *Interoperability and retrieval*. Paris: UNESCO.

Roncevic, M. (2020). Qne country one library: The model for an open national digital library that serves the changing needs of twenty-first century users, publishers, and libraries.

204 Knowledge Organization (Practice)

Ranganathan, S. R. (1989). *Colon classification*(7th ed.). Bangalore: Sarada Ranganathan Endowment for Library Science. British Standards Institution. (2005). UDC, Universal Decimal Classification. London:

British Standards Institution.

205 Resource Description (Practice)

Daily, J.E. (1986). *Organizing Non-print Materials*. London: Marcel Dekker.

Fleischer, E. & Godman, H. (1980). *Cataloguing Non-print Media : A Manual based on the Anglo-American Cataloguing Rules II*. New York: Neal-Schuman.

Frost, C. O. (1983) *Cataloguing Non-book Materials: Problems in Theory and Practice*. Littleton Colo: Libraries Unlimited.

Horner, J.L.(1973). *Special Cataloguing with Particular Reference to Music, Maps, Serials and the Multimedia Computerized Catalogue*. London: Clive Bingley.

Rout, R. .K & Choudhury, B. K(1996). *Illustrative Examples in Cataloguing of Non-book Materials (According to AACR2, 1988 R)*. ; New Delhi, Reliance Publishing House.

206 Information Sources and Services practice (Project)

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207 Preservation and Conservation of Library Materials

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Henlerson, K.L.(Ed.). (1983). *Conservating and preserving library materials*. Ithirois :University Graduate school of library and information science.

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208 Library Automation & Networking (Practical)

Breeding, M. (2010). *Next-gen library catalogs*. New York: Neal-Schuman Publishers.

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Mukhopadhyay, P. (2006). *Five laws and ten commandments: The open road of library automation in India*. (Proceedings of the National Seminar on Open Source Movement - Asian Perspective, XXII, IIT Roorkee, 2006, IASLIC, Kolkata. 2006. p. 27-36.)

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Stallings, W. (2003) *Computer Networking With Internet Protocols and Technology*. Tanenbaum, S. (2013). *Computer networks*(5th ed.).

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Semester III

LIS 301 (CBCS) Information and Communication Process

Unit 1: Information science as a discipline:-Definition, scope and philosophy, Information Science and its relation to library Science, Documentation, Information Storage and Retrieval. Informatics, Information Management, Cybernetics, Information Technology, Typology of information sectors in modern society, Information Professions and their specializations, Information Society.

Unit 2: Information:- Fundamental concepts, kinds ,nature, characteristics and definitions. Data, Information, Knowledge and Wisdom. Information at various levels: Physical, Biological and Social. Information Theory – Shanon and Weaver, Entropy, Semantic aspect. Evolution of human communication:- Communication channels, Verbal and Non-verbal communication. Models of communication.

Unit 3: Generation of information: mode and forms, Communication process and media. Barriers to communication and remedial propositions. Sociology of information: role of information in social change and national development. National Information policy- Aims, objectives, approach, policy statement and planning with special reference to India.

Unit 4: Transborder Data Flow. value of socio-cultural information and its relation to civilization. Pre-industrial Industrial and Post Industrial societies. Right to Information-freedom of access. Confidentiality and privacy of information. IPR, Information Literacy, Economics of information:- Information as a commodity, Information as a resource and Information as a factor of production. Machlup's model of production and distribution of knowledge. Economic analysis models and their application to information industry. Cost benefit and Cost effectiveness ; value, price and cost of information. Marketing of information products and services-Planning and processes.

LIS 302 Information Representation and Retrieval

Unit 1: Information Representation. Theory, purpose and function. Information retrieval – processes and techniques. Search strategies- general principles and steps, Boolean search. Free Text search, Word proximity search and truncation :parsing rules.

Unit 2: Computerised IR system: Database structure and organization—Types (Bibliographic,Text, numeric etc.), file design and organization of files in a database. On-line IR, meaning and process, on-line vs Batch mode, development of on-line IR, hardware and software requirements, use of NLP tools and techniques for IR.

Unit 3: Discovery tools. Standardization of bibliographic description and format. Methodology of designing cataloguing codes.

Unit 4: Evaluation of IR retrieval effectiveness. User need analysis – expressed need and actual need. Recall, precision, relevance, pertinence and aboutness. Advanced Retrieval Techniques – Image retrieval, Audio retrieval.

LIS 303 Research Methodology

Unit1: Research:-Meaning, Objectives, Characteristics, kinds – fundamental, basic, applied, types – historical, experimental, descriptive, survey, Major Research Paradigm: trans-disciplinary, multidisciplinary, interdisciplinary.Quantitative Research : meaning, scope; Bibliometrics: Origin, definition, scope. Libra metrics,Bibliometrics, Informetrics and Scientometrics. Imperial law s including laws of scattering and their interpretations

Unit 2: Types of Research-Historical , Experimental, Descriptive and Analytical.Nature, scope and importance.; Survey Research- Nature and Types. Research in Social Sciences.:Sampling-Types and techniques, case study, other methods Bibliometric distributions- Gaussion and Zipfian(skew) distribution; Zipf's law, Lotka's law and Bradford's law- Vickery's interpretation of Bradford's law and Brooke's work. Rank frequency, size frequency and class frequency distribution.

Unit 3: Research Setting and Design: Steps of Research-selection and statement of the problem. Hypotheses, Collection, Evaluation, Organisation, Analysis and Interpretation of Data; Research Proposal and Research Design; research Report-format, style and structure, research report .Growth, Aging: Obsolescence; Half-life. Validity informetric measurement and application in libraries and information centres; Citation analysis and related concepts.

Unit 4: Techniques of collecting primary data: Observation-direct, indirect, Questionnairestructured/unstructured,open/closed,Schedules,Interview, scheduling .Operations Research: definition, nature, purpose. Linear programming: Queing theory; Networkanalysis (PERT/CPM), Work study and decision analysis. Simulational Monte Carlo techniques;Sequencing; Searching and Inventory problems, Quantitative Techniques: Statistical methods data collection and presentation.

LIS 304 Management of Library System & Organization

Unit 1: General overview of systems: General Systems Theory. System Analysis & flowcharting. Information systems: Libraries, Archives, Information Centres and databases. General concepts of

modern management: - Definition, scope and nature, management theories, Schools of Management, organisational structure- Bureaucratic and Democratic thought.

Unit 2: Organizational Theory- Group dynamics, Behavioral approach, System approach, Organizational ideologies- Power orientation, Role orientation, Task orientation and Person orientation. Management of change. Planning process: - Factors in planning; systems approach to LMBO; policy making; Conflict negotiation, Risk analysis; Feasibility analysis; Forecasting; Control and Evaluation Planning Local and National Information Systems- Decision aids, CPM/PERT.

Unit 3: Personnel Management: - Manpower planning, performance evaluation, human resource development, motivation, leadership, supervision and control. Job analysis and evaluation. Work flow, Managerial communication- Formal and Informal, Intergroup, Inter personal, Inter-organizational; Managerial grid; Management Information System.

Unit 4: Financial and Resource Management: Fiscal Planning- Budgeting, accounting and auditing; PPBS and Zero-Based Budgeting, Pricing & costing of information materials and information services, Capital expenditure planning. Time & motion study; productivity. Equipments and furniture, Building planning & maintenance, space & layout.

LIS 305 Knowledge Management & Research Data Management

Unit 1: Data, Information and Knowledge, Knowledge Management (KM), Types of Knowledge, Interest in Knowledge Management Changing Scenario and Driving Forces, Impact of Information and Communication Technologies

Unit 2: Knowledge Management Systems, Sources and Types of Knowledge , Need and Characteristics , Knowledge Products, Knowledge Architecture, Data Mining and Text Mining , Knowledge Discovery in Data Bases.

Unit 3: Data Mining Text Mining Text Analysis and Mining Techniques¹⁹, Data File Management Functions , Aggregate Data ,Running a Preliminary Analysis Six Characteristics of a Dataset Data Transformation Graphical Presentation of Data Relationship Between Variables: Data Analysis Parametric and Non-Parametric, Statistical Analysis System (SAS), SPSS.

Unit 4: Knowledge Creation Knowledge Management Framework, Benefits of Knowledge Management Pioneers in Knowledge Management, KM Initiatives in Indian Organizations, Software For Knowledge Management, Trends and Challenges in Knowledge Management Defining, Editing and Entering Data.

LIS 306 Content Design, Technical Writing and Scholarly Publishing

Unit 1: Process of written communication. The publication process. Filtering in written communication: author, editor, reference, publisher, critic, user relationship. Role of communication and information presentation specialists – Graphical arts specialists, in AV aids (e.g. slides, video & Audio cassettes etc.), Translators etc.

Unit 2: Technical Writing: Meaning, features and scope, primary and secondary technical communication, writing for mass media. Different forms of technical writing:

Unit 3: Technical reports, feasibility reports, Technical manual, technical articles, process bulletins, reviews, dissertations .Other forms of writing: Business communication and official correspondence, Newsletters, Newspaper reports, extension literature, advertisement.

Unit 4: Guidelines for technical writing. Identification, Characteristics and information seeking behaviour of target user groups. Information collection:

sources and methods, organization and interpretation of information, knowledge and skills required for information collection and analysis.

LIS 307 Information Consolidation and Repackaging

Unit 1: Information consolidation, Information creation. Creation of Information and Information Use. Barriers to the Use of Information, Evolution of the Concept of Information Consolidation.

Unit 2: Definition of Information Consolidation Processes in Information Consolidation Study of Users for Information, Consolidation Selection of Relevant

Information Sources.

Unit 3: Evaluation of Information, Analysis and Synthesis of Information, Restructuring and Types of Products, Content analysis abstract and index, newsletters, bulletin, In house- Journals, The Five Principles of Effective Presentation ,Electronic Content Development , Digital Content Creation

Unit 4: Packaging and/or Repackaging of Information Dissemination and Communication Marketing of Consolidated Information Products, Feedback ,Value and Benefits of Consolidated Information Some Examples of IAC Products from India.

LIS 308 Digital Library System

Unit 1: Collection development and organisation of digital resources, e-books, e-journals, ETD.

Unit 2: Digital Library – concept, library portal designing with HTML.

Unit 3: Institutional repository, digital archive.

Unit 4: Content Management Tools- Drupal, Joomla; Content management techniques: Blog, Wiki, Podcast, RSS, Web Conferencing, etc.

Reading List

301 Information and Communication Process

Bhattacharya, G. (1978). *Information science: a unified view through a systems approach*. Calcutta, IASLIC.

Chandler, G. (1982). *International and national library and information services: a review of some recent developments 1970-80*. Pergamon: Oxford.

Debons, A. (Ed.). (1974). *Information science: a search for identity*. Dekker.

Griffiths, J. H. (1982). *The value of information and related systems, products, and services*. ARIST (v.17). Judge, P. J. (1971). *National information policy* ASLIB proceedings(V.23).

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Choudhury, G. G. (1966). *Information retrieval system: characteristics, testing and evaluation*. John Wiley. Choudhury, G. G.(1994) *Information retrieval*. IASLIC.

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Vickery, B. C. (1970) *Techniques of information retrieval*. Butterworth.

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Foskett, D. J. (1974). *Classification and indexing in social sciences*(2nd ed.). London : Butterworth.

Harter, S. P. (1986.). *Online information retrieval: concepts, principles and techniques*. Orlando : Academic Press.

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Lancaster, F. W. (1978). *Information retrieval systems: characteristics, testing and evaluation*. (2nd ed.). New York: John Wiley. Langridge, D. (1976). *Classification and indexing in the humanities*. London: Butterworth.

Needham, C. D. (1971). *Organizing knowledge in libraries*(2nd ed.).

Neelameghan, A. (Ed.). (1979) *Ordering systems for global information networks: proceedings of the 3rd International study conference on classification research*. Bombay, India: FID/CR and SaradaRanganathan Endowment for Library Science.

303 Research Methodology

R. L. & Vasu E. S. *Statistics methods for librarians*.

Best, J. W. (1983) *Research in education*. New Delhi: Prentice-Hall.

Busha, C. H. & Harter S. P. (1980) *Research methods in librarianship: techniques and interpretation*. New York. Academic Press. Carpenter, R. L. & Vasu, E. S. (1978). *Statistical methods for librarians*. Chicago: ALA.

Chakraborty, B. (2010). *Research in library and information Science: Techniques terets*. Kolkata: World Press. Donohue, J.C.(1973). *Understanding scientific literature: a bibliometric approach*. London: MIT Press. Donohue, J. C. (1973) *Understanding scientific Literature: a bibliometric approach*. London: MIT Press. Kumar, K. (1992). *Research methods in library and information science..* New Delhi: Vikas.

Ravichandra Rao, I. K. (1983). *Quantitative methods for library and information science*. New Delhi: Wiley Easter. Ravichandra Rao, I. K. *Quantitative methods for library and Information Science*. New Delhi :Wiley Easter.

Sehgal, R. L. (1998). *Applied Statistics for Library Science Research*. Ess Ess.

Simon, J.L. (1989). *Basic research methods in social science: the art of empirical investation*. Stevens, R.E. (1971). *Research methods in librarianship*. London: Bingley;.

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Kumar, R.(2015). *Research Methodology: A Step by Step Guide for Beginners*. Anand, H. (1992). *Research Methods in Library and Information Science*.

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Application of management techniques in library and information systems. 12th IASLIC Conference, Roorkee, 1979. Ashworth, (W). (1967), ed. *Handbook of special librarianship and information work*,(3rd ed.) London: Aslib. Atherton, (P).(1977). *Handbook for information systems and services*. Unesco;Paris.

Cowlley, (J). (1982). *Personnel management in libraries*.

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Conference on the corporate approach to library management. Proceeding ed by P.A.Thomas and V.A.Woord. Aslib; London.1974. JONES (Noragh) and JORDAN (Peter). *Case studies in library management* . 1988. Clive Bingley; London.

KHANNA (J K) . *Fundamentals of library organization* . 1984 . Ess Ess ; New Delhi.

MITTAL(R L) . Library administration: theory and practice. 1983. 5th ed. Metropolitan; New Delhi.

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RANGANATHAN (S R) . Library manual.

SEETHARAMA (S) . Guidelines for planning of libraries and information centers .1990 . SINGH (M). Library and information management: theory and practice. 1983 . IBT; Delhi.

305 Knowledge Management & Research Data Management

Delanty, G. (2002). Challenging knowledge: The university in the knowledge society. Buckingham: Open University Press.

Drucker, P. (2016). Post-Capitalist Society. United Kingdom: Routledge.

Drucker, P. F. (1993). The rise of the knowledge society. The Wilson Quarterly, 17(2), 52-72. 7 / Foray, D. (2002). The Knowledge Society. Oxford: Blackwell for UNESCO, _

Jarvis, P. (2014). The Age of Learning: Education and the Knowledge Society. Hoboken: Taylor and Francis. Livingstone, D. W. (2012). Professional Learning in the Knowledge Society. New York: Sense Publishers. Marchegiani, L. (2021). Digital Transformation and Knowledge Management. New York: Routledge.

SinghaRoy, D. K. (2014). Towards a knowledge society: New identities in emerging India. New York: Cambridge University Press.

Sérin, S., & Vessuri, H. (Eds.). (2007). Knowledge society vs. knowledge economy: Knowledge, power, and politics. Netherlands: Springer.

306 Content Design, Technical Writing and Scholarly Publishing

ALRED, G. J., BRUSAW, C. T. and OLIU, W. E, Ed. (2003). Handbook of technical writing. Martin's Press. BALAKRISHNAN, S. and PALIWAL P. K. (2001). Abstracting Practices in Libraries. Anmol BHATTACHARYA, P. (2020). Technical Writing for Social Sciences. Rohini Nanda: Kolkata

ELANEGHAN, A. (1975). Technical writing, presentation of ideas.

GUHA, B. (1978). Documentation and Information. World Press; Calcutta. HARRIS, J. S. & BLACKKE, R. H. (1976). Technical writing for social scientists.

ICASTER (F W). Indexing and abstracting in theory and practice 1991. University of Illinois.

KWARTA (P S). Fundamentals of documentation. 1989. Sterling.

LTHA (D J). Technical literature search and the written report. 1976. An.

MAHAPATRA (P K) and CHAKRABARTY (B). Organising information in Libraries. 1999. Ess Ess.

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RANGANATH (S R). Documentation and its facets. 1963. Asia. SAMSON (D C Jr.). Editing technical writing. 1993.OUP; New York.

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307 Information Consolidation and Repackaging

HARRIS (J S) & BLACKIE (R H). Technical writing for social scientists. 1976. NEELAMEGHAN (A). Technical writing, presentation of ideas. 1975. SAMSON (D C Jr.). Editing technical writing.1993.OUP; New York.

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308 Digital Library System

Arms, W. (2000). Digital libraries. Cambridge MA: MIT Press,.

Barnes, S. J. (2004). Becoming a digital library. New York: Marcel Dekker.

Bayross, I. (2000). Using Apache, MySQL, PHP and PERL on Linux. New Delhi: BPB Publications.

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Chowdhury, G.G., & Chowdhury, S. (2003). Introduction to digital libraries. London: Facet Publishing.

Crawford, W., & Gorman, M. (1995). Future libraries: Dreams, madness & reality. Chicago: American Library Association, Deegan, M, & Tanner, S. (2003). Digital futures: strategies for the information age. London: Library Association.

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).

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Hung Huang, K. (Ed.). (2011). Digital Libraries: Methods and Applications. IntechOpen. <https://doi.org/10.5772/608>

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.

Mukhopadhyay, P. (2014). Interoperability and retrieval. Paris: UNESCO.

Roncevic, M. (2020). One country one library: The model for an open national digital library that serves the changing needs of twenty-first century users, publishers, and libraries.

Semester IV

LIS 401 Open Knowledge System

Unit 1 : Open Access : Definition, Purpose/Need of Open Access, History of Open Access, Open Information and Data Resources (Open Data, Open

Educational Resources)

Unit 2 : Green Open Access, Gold Open Access, Gratis and Libre Open Access, Hybrid Model

Unit 3 : Promoting Open Access : OA Initiatives and Scenario, OA Supporters (Persons), OA Organizations, OA Journals (Fee-based and No-Fee based, Popular), OA Scholarly Publisher Association, OA Repositories, Institutional Repositories. Major OA Networks, Facilitators, Coalitions and Initiatives (INASP, JISC, SPARC, SHERPA Project, Global OA Portal- UNESCO, OpenAIRE, COAR, EOS, NDLTD).

Unit 4 : Open Access Mandates and Policies : Institutional Mandates (NIH Public Access Policy), National Centre for Atmospheric Research . Government level Mandates : UK , US , Europe, Canada, India ; Thesis Mandates –Shodhganga. Open Access Policy: Coalition of Open Access Policy Institutions (COAPI) , Rutgers Open Access Policy, , Publication Policies of Major Research Funders, IES Mandate, The World Bank OA Policy, UNESCO OA policy, Research Funders' Open Access Policies Data Archiving Policies.

LIS 402 Information Consolidation and Repackaging (Practice)

Unit 1: Content analysis abstract and index, newsletters, bulletin, In house- Journals and others.

Unit 2: Bibliography, trend reports, reviews, digests, dictionaries, style manuals, standards, Specifications, article writings etc.

LIS 403 Library Data Analytics

Unit 1: Measurement and quantitative aspects of social phenomena activities, Units of measurement, Counting and measurement, Measuring information, units of information – different proposition. Documents and parts of Document as unit of information Bibliography data as representing cultural output. History and development of library statistics, Statistical bibliography, Librametrics, bibliometrics, informetrics, scientometrics, scientoinfometrics.

Unit 2: Information production process (IPP) and its significance. Branches for informetrics. Theoretical and empirical approaches to informetrics and scientometrics, informetrics laws. Bibliographic scattering distribute (ranking and ranked distributions). Zipfian and Gaussian distribution compared. Mean relative scattering and information laws.

Unit 3: Citation phenomena, Citation process and citation analysis. Co-citation, co-word and co reference (generalized bibliographic coupling) studies.

Unit 4: Growth and obsolescence studies Diffusion studies. Relations of growth, scattering and diffusion. Application of informetrics, science mapping, bibliometrics and scientometrics indicators, Limitation and validity of informetrics methods.

LIS 404 Digital Preservation (Practice)

Unit 1: Digital Library Software (GSDL/DSpace/ePrint or any other) – Centralized Processing and Distributed Access ,Installation and configuration; Metadata management; Collection building; Access and retrieval.

Unit 2: Harvesting and Search Federation, Harvesting tools and software (PKP or any other)- Installation, Configuration, metadata harvesting Students have to Design a System on a given subject and submit as Project report.

LIS 405 Elective (Choose any one)

LIS 405 (A) Community Information System and Services

Unit 1: Community Information: Meaning, nature and scope, origin and development in different countries with special reference to USA, UK and developing countries. Community: meaning, types, nature, users and non-users community, literate and nonliterate community, stimulating the non-user community, community need, community profile

Unit 2: Information need and related concepts, information seeking behaviour, communication and other means, role of mass media and local agencies in different Sectors, ~~Local~~ Local History Collection : history and development; nature and components; ways of collection of data; records management.

Unit 3: Community information services and public libraries and/or non-public libraries in different areas, various ways and means including application of modern technologies. Role of UNESCO Public Library Manifesto, 1994; RRRLF and other agencies; Community initiatives and welfare schemes.

Unit 4: Community survey: survey method-designing of questionnaire, identification of information needs, observation, participant and/or non-participant –

interview techniques – sampling –coding – report writing and analysis – Conclusion drawn.

LIS 405 (B) Agricultural Information System and Services

Unit 1: Growth and development of agricultural education and research in India. Role of libraries in agricultural education research and extension. Recent growth and development of agricultural libraries in India.

Unit 2: Special information needs of agricultural faculty, research staff extension personnel and stations.

Unit 3: Specialized collection and information sources: agricultural databases, agricultural information centres – national and international.

Unit 4: Resource sharing and networking in agricultural libraries and information centres.

LIS 405 (C) Medical Information System and Services

Unit 1: History of medicine, Medical terminologies, .National Library of Medicine Classification Scheme. **Unit 2:** Index Medicus. MeSH as indexing vocabulary tool. MEDLARS and MEDLINE, PubMed tutorial. **Unit 3:** Role of NLM, WHO, ICMR. Efforts of National Informatics Center: IndMed, MedInd and OpenMed.

Unit 4: Medical Librarians' Discussion Forum. Health Sciences Network. OSDD International Collaborative effort by CSIR; Health related library & information services in India and abroad

LIS 405 (D) Industrial Information System and Services

Unit1: The industry: types and structure. Role of library information centre: structure ,function, services and products of different categories of industrial libraries programmes at the local, national, and global levels. Networking and resource sharing: evaluation of systems and services, SENDOC. Information transfer and dissemination.

Unit 2: Application of management ideas and techniques to industrial libraries and information centres. Systems approach to planning- objectives, organizational structures, functions, problems, interlinking, environment, preventive and corrective measures. Growth and development of information resources, information services, personnel, finance. Professional organizations: chambers of Commerce, Industrial houses.

Unit 3: Special classification and indexing systems. Indexes and indexing systems for retrieval. Principles of classification in organization of information. Trade literature, patents, standards and technical reports, bulletins.

Unit 4: Users and non - users: Information needs of users, information transfer mechanism, information services: References, Current awareness, condensation and consolidation services and products thereof, presentation of information: marketing computerized information services

LIS 405 (E) Science and Technology Information System and Services

Unit 1. Objectives, Introduction of Science and Technology Information. Types of S &T Information System. Agricultural Technology, Textile Technology, Military Technology, Ship building, Metallurgy,Glass Technology, The Printing Press, Time-Reckoning Devices and Miscellaneous

Unit 2. Semiconductors, Semiconductor Devices and their Uses. Forecasting, Weather and reporting information. Disaster management information. Satellite transmission.

Unit3. Computer Technology Computers at Work Micros. Minis, Mainframes, 'Monsters' and their Uses Artificial Intelligence

Unit4.Robotics. An Insight into Robotics and Robots . Robots Star Getting Ready for Robots. Materials Science and Technology

LIS 405 (F) Social Science Information System and Services

Unit 1: Social Science Definition. Subjects of Social Science. Categories of Social Science. History of Social Science.

Unit 2: National Information Organisations. National Institute of Science Communication and Information Resources (NISCAIR). National. Social Science Documentation Centre (NASSDOC). Defense Scientific Information and Documentation Centre (DESIDOC).

Unit 3: National Information Systems & programmes in the field of Social Sciences. Social Science operation in India. Major Information System Programme of Indian Council of Social Sciences Research. Networking in coordinating the activities, sharing the resources & services of network partners. Social Science Institutes websites. Government Organizations and Non-government organization.

Unit 4: International Information Organisations. United Nations Educational Scientific and Cultural Organisation (UNESCO). UNISIST (World Science Information System). PGI~ eneral Information Programme. International Federation of Library Associations and Institutions (IFLA). International Federation for Information and Documentation (FID). International Council for Science (ICSU)

LIS 405 (G) Legal Information System and Services

Unit 1: Legal Information System .Legal Information Services; Introduction to Indian Legal System.

Unit 2: Web Recourses of Legal Information System in India & Other Countries.

Unit 3: History of Legal Information Services; Institutes for Legal Studies in India.

Unit 4: Growth and development of Legal Information System; Different categories of Legal Issue & Topics.

LIS 406 Elective (choose any one)

LIS 406 (A) Library Planning and Design

Unit 1: History of library buildings, modular buildings, planning process, building program, space planning, site selection, brief. Green library building

Unit 2: Library lighting, lighting design, lighting standards, theories of light.

Unit 3: Security, International construction and design codes, Library Building Award program.

Unit 4: Furniture selection, Equipment, Ambience Ergonomics, Colour. Barrier free library building for providing access to all types of impaired users. Standards.

LIS 406 (B) Open Access Publication

Unit1. Introduction to E-Publishing: An Overview .Evolution of Open-publishing. Categories of e-publishing . Commercial e-publishing. Vanity e- publishing No-fee distributors . Electronic self-publishing. Print on Demand e-publishing . Print-On-Demand Myths.

Unit 2.Advantages of Open Access Publishing . Open Documents. Optical Disc as a product.Open Access Initiative. Creative Commons. Kinds of e- publishing products . E -Books .

Unit 3. Electronic Journals . E-zine . Electronic Theses and Dissertations . Reference Sources . Other Types of E-documents .

Unit 4.Pricing of E-Documents .Current Issues in E-Publishing. Market of traditional documents and e-documents. .Current Issues in E-Publishing . Commissioning and Peer Review . Editing and Proofreading . Design and Typesetting . Sales and Marketing . Network Publishing . Network Publishing Technology . Network Publishing Technology Providers

LIS 406 (C) E-Resource Management

Unit 1: E –Resources. Definition and importance of e- resources. Categories of e-resources. Define e-books .Define e-journals. Understand the concept of electronic databases. Distinguish between bibliographic and full text databases.

Unit 2:Advantages of E-Resource. Disadvantages of E- resources. Management of E-Resources. Categories of E-Resources.

Unit 3: Staffing.Planning. Licensing. Budgeting. Cataloguing. Maintenance^UStaff Training and User education. CABI.

Unit 4: Electronic databases . E-reports. E-Theses and dissertations. Institutional repositories. E-journals . E-Books. Mylibrary . CARRIE. E-brary .EBSCO.Springer. JSTOR. Project MUSE.IJREM. E- management software.

LIS 406 (D) Bibliography and Book Selection

Unit 1. Bibliography, Functions and Use, Branches of Bibliography , Analytical , Systematic or Enumerative , Descriptive , Bibliography. Types of

Bibliography. Information Materials : Producers and Products. Print Materials . Non-Print Materials .Selection Tools: Books.

Unit 2. Subject Bibliography. Selective Bibliography. National and International Bibliographies .Trade Bibliographies. . Universal and Statistical

Bibliography. Bibliographic Control . Bibliography of Bibliographies . Universal Bibliographical Control. Bibliographical Activities in India.

Unit 3: Catalogues and Bibliographies. National Bibliographies . Subject Bibliographies . Current Reviews . Special Lists . Selection Tools: Other Print

Materials . Periodicals and Serials . Government Publications . Reference Books.

Unit 4 . Patents . Standards and Specifications . Translations . Dissertations and Theses . Selection Tools: Non-print Materials . Microforms Audio-Visual

Materials . Computer-based Materials . Equipment for Non-Print Materials

LIS 407 Guided Dissertation

LIS 408 Internship(one month duration)

Reading List

401 Open Knowledge system

CHARALABIDIS, Y., ZUIDERWIJK, A., ALEXOPOULOS, C., JANSSEN, M., LAMPOLTSHAMMER, TH., FERRO, E: The World of Open Data-Concepts, Methods, Tools and Experiences. 2018

CUBER(Peter). Open Access. 2012

EVE(martin paul)E.Open Access & the Humanities.2014

JACOB(Neil)S.Open Access. Key Strategic, Technical and Economic Aspects.2006

TAUBERER(joshua). Open Government Data. 2014

WILLINSKY(John). The Access Principle-The Case for Open Access to Research and Scholarship.2005

402 Information Consolidation and Repackaging (Practice)

HARRIS (J S) & BLACKKE (R H). Technical writing for social scientists. 1976. NEELAMEGHAN (A). Technical writing, presentation of ideas. 1975. SAMSON (D C Jr.). Editing technical writing.1993.OUP; New York.

SEETHARAMA (S). Information Analysis and Consolidation. 2005. Ess Ess Publication ; New Delhi. Solving problems in technical writing. 1988.

403 Library Data analytics

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.

Glazier, Jack D, & Hall, Peter M. (1992). Qualitative research in information management. Englewood, CO: Libraries Unlimited,.

Gorman, G. E., Clayton, P., Shep, S. J., & Clayton, A. (2005). Qualitative research for the information professional: A practical handbook. London: Facet.

Hafner, Arthur W. (1997). Descriptive statistical techniques for librarians. (2nd ed.). Chicago: American Library Association.

Martyn, John, & Lancaster, F. Wilfrid. (1981). Investigative methods in library and information science: an introduction, Arlington, WA: Information Resources Press.

McClure, C. R., & Hernon, P. (1991). Library and information science research: perspectives and strategies for improvement. Norwood, N.J: Ablex Pub. Corp.

Sen, B. K., Indian National Science Academy., & Indian National Commission for History of Science, (2005), Growth of scientific periodicals in

India (1901-1947). Simpson, I. S. (1990). How to interpret statistical data: A guide for librarians and information scientists. London: Library Association. Slater, Margaret. (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. Stephen, Peter, & Hornby, Susan, (1995). Simple statistics for library and information professionals. London: Library Association, Tague-Sutcliffe, J. (1992). Informetrics. New York: Pergamon Press.

Kelle. E.(ed.), *Computer aided qualitative data analysis*, Thousand Oaks, CA: Sage, 1995.

Tesch, R., *Qualitative research: Analysis types and software tools*, Bristol, PA: Falmer, 1990.

404 Digital Preservation (Practice)

BROWN(Adrian) . Practical Digital Preservation: A How-to Guide for Organizations of Any Size. 2013

CORNELL UNIVERSITY.Preservation Management of Digital Materials: The Handbook . 2008

CORRADO(Edward m.) & SANDY(Heather moulaison). Digital Preservation for Libraries, Archives, and Museums. 2014

FORDE(Helen) and LEWIS(Jonathan Rhys).Preserving Archives, 2nd ed.2013, Mar. OLIVER(Gillian) and HARVEY(Ross). Digital Curation, 2nd edition. 2016 ,April.

405 Elective (Choose any one)

405 (A) Community Information System and Services

BUNCH (A). Community information services: meaning, origin and scope. 1982. Clive Bingley; London.
KOCHEN (M) and DONOHUE (J C),Ed. Information for the community.1976.American Library Association.
STOKES (P).Community information services. 1979. Library Association; West Midlands Branch.

YIN(R K),*et al.* Neighborhood communication centers: planning information and referral services in the urban library. 1974. The Rand Corporation.

405 (B) Agricultural Information System and Services

Alanchard, J.R. & Lanchard L. (1981). *Guide to sources for Agricultural and Biological Research* (p. 735). University of California Press: Bareley.

ALL INDIA Seminar on Agricultural Librarianship and Documentation Papers. (1977). Ludhiana.
Banerjee, S.R. & Moitra S. *Agricultural Documentation Services in India*. New Delhi: ICAR Library.
Burkett, J. (1978) *Agricultural Research Index* (6th ed., pp.13-15). Hariow: Longman.

Desmukh, P.P. *Indian Council of Agricultural Research*. Agricultural University Libraries committee: Delhi.

Final Report. 1969. ICAR; New Delhi.

FAO: E-Agriculture in Action: Drones for Agriculture. 2018

FAO: The State of Food Security & Nutrition in the World. 2017

FAO:E –Agriculture Strategy Guide.2016

Free E-Learning Course materials of GODAN

Lilley, G.P. (1981) *Information sources in agricultural and Food Science*. London: Butterworth.

Maharashtra Government Report of the Advisory Committee for Establishment of Aricultural University,(1965) Government of Maharastra: Maharastra.

ICT in agriculture: Connecting Smallholders to knowledge, networks, and institutions: E-sourcebook. (2011). World Bank.

405 (C) Medical Information System and Services

CHENV, H. (2006) *Medical Informatics: knowledge management and data mining in biomedicine*. Springer.

405 (D) Industrial Information System and Services

Burkett, J. (1972). *Industrial and related library and information services in the United Kingdom*, (3rd Ed.). London: The Library Association. Carter, L.F. (ed.) etc. (1967). *National documents handling systems for Science and Technology*. New York: John Wiley.

Rendering of names of Corporate bodies subject analysis with special references to Social Science. DRTC.

Documentation systems for industry (8th ed., pp. 201-418). (1970). Bangalore: DRTC. Evans, G.E. *Management techniques for libraries*. New York: Academic Press.

Gopinath, M.A. & Seetarama S. *Industrial Information systems and services*. DRTC Annual Seminar, 17. DRTC, Bangalore.

Grogan, D. (1982). *Science and technology: an introduction to the literature* (4th ed.). London: Clive Bingley. Hamburg, M. (1974) *Library planning and decision making system*.

Hiughton, B. (1972). *Technical information sources* (2nd ed.). London: Clive Bingley.

Jackson, E.B. & Jackson, R.L. (1978). *Industrial information systems: a manual for higher management and their information officer/Librarian*

Associates. Strousberg: Downen Huchenson and Ross.

Manley, M.C. (1946) *Library services to business: its place in the small city*. Chicago: American Library Association. Neelmeghan, A. (1978). *Guide lines for policy on information manpower development*. Paris: UNESCO.

Ravichandrarao, I.K. *Planning and costing of a local abstracting Periodical*. Annual Seminar DRTC, 11. 1974. Seetarama, S. *Budgeting in special libraries*. Annual seminar DRTC, 11. 1974

Singer, T.E.R. (ed.) (1958). *Information and communication practice in industry*. New York: Reinhold.

405 (E) Science and Technology Information System and Services

Asimov, I. (1987). *New guide to Science*. Penguin.

405 (F) Social Science Information System and Services

Atherton, P. (1977). *Handbook for Information Systems and Services*. Paris: UNESCO.

Kent, A. (ed). (1980). *Encyclopaedia of Library and Information Science*. London: Macmillan.

Khanna, I.K. (2000). *Documentation and Information Services, Systems and Techniques*. Agra: YK. Publishers. Khanna, I.K. (1996). *Handbook of Information Systems and Services*. New Delhi: Beacon Books.

405 (G) Legal Information System and Services

Berring, R. (2008). *Cyberspace and traditional: legal information transmogrified*. University of California. Butterworths. (2001) *Legal Research Guide* (2nd ed.). OUP.

Clinch, P. (1992). *Using a Law library: a student's guide to legal research skills*. Blackstone Press.

Institute of Developing Economics and Japan External Trade Organization: Doing legal researches in Asian countries [IDE- JETRO.2.Information resource centre]. (2002).1984-85.

406 Elective (Choose any One)

406 (A) Library Planning and Design

Desmukh, P. P. (1990). *Standards of library and information services*. ABC

Metcalf, K. D. (1986). *Planning academic and research library building* (Rev.ed.). Chicago: ALA.

Sannwald, W.W. (2009). *Checklist of library building consideration*. Ess Ess.

Sharma, H.D. (1987) *Library buildings and furniture*. IBC.

Singh, R. (1986). *University library buildings in India*. Academic

406 (B) Open Access Publication

https://learn.org/articles/What_is_Open_Access_Publishing.html

<https://guides.library.cornell.edu/openaccess>

<https://laneguides.stanford.edu/openaccess>

<https://www.openaccess.nl/en/what-is-open-access>

406 (C) E-Resource Management

Andrews, J. Law, D. *Digital Libraries: Policy, Planning and Practice*. Chowdhury, G.G. and Chowdhury, S.(2003). *Introduction to Digital Libraries*. Lesk M. (2004)³*Understanding Digital Libraries*.

Witten, I. H., Bainbridge, D., & Nichols, D. M. (2010). *How to build a Digital Library*. Burlington, MA: Elsevier.

406 (D) Bibliography and Book Selection

Ranganathan, S.R. and Gopinath, M.A. (2006). *Library book selection*(2nd ed.). Ess Ess publication. Charabarti, A.K. (1983). *A treatise on book selection*. New Delhi: D K Publication.

Wellard, J. (1937). *Book selection; its principles and practice*. London: Grafton.

407 Guided Dissertation

408 Internship (one month duration)