M.Sc. in Library and Information Science
Course Structure (CBCS)

FIRST SEMESTER

Paper Code and Title	No. of hours/ week	Credits	Duration of the exam	Marks		
				Internal Assessment	Semester end exam	Total marks
CPT-1.1: Foundation of Library and Information Science	4	4	3 Hours	20	80	100
CPT-1.2: Information Sources	4	4	3 Hours	20	80	100
CPT-1.3: Library Classification	4	4	3 Hours	20	80	100
SPT-1.4A: Basics of Computer and Internet OR SPT-1.4B: Information Literacy	4	4	3 Hours	20	80	100
CPP-1.5: Basics of Computer	4	2	3 Hours	10	40	50
CPP-1.6: Information Sources	4	2	3 Hours	10	40	50
CPP-1.7: Library Classification	4	2	3 Hours	10	40	50
SPP-1.8A: Basics of Internet OR SPP-1.8B: Information Literacy	4	2	3 Hours	10	40	50

SECOND SEMESTER

Paper Code and Title	No. of hours/ week	Credits	Duration of the exam	Marks		
				Internal Assessment	Semester end exam	Total marks
CPT-2.1: Management of Libraries and Information Centres	4	4	3 Hours	20	80	100
CPT-2.2: Library Cataloguing	4	4	3 Hours	20	80	100
SPT-2.3A: Library Automation OR SPT-2.3B: Information Systems and Programmes	4	4	3 Hours	20	80	100
OEPT-2.4: Information and Communication Technology –I (to be offered to the students of other departments)	4	4	3 Hours	20	80	100
CPP-2.5: Management of Libraries and Information Centres	4	2	3 Hours	10	40	50
CPP-2.6 :Library cataloguing	4	2	3 Hours	10	40	50
SPP-2.7A :Library Automation OR SPP-2.7B :Information Systems and Programmes	4	2	3 Hours	10	40	50
OEPP-2.8 :Information and Communication Technology-I (to be offered to the students of other departments)	4	2	3 Hours	10	40	50

THIRD SEMESTER

Paper Code and Title	No. of hours/ week	Credits	Duration of the exam	Marks		
				Internal Assessment	Semester end exam	Total marks
CPT-3.1: Information Users and Services	4	4	3 Hours	20	80	100
CPT-3.2:Digital Libraries	4	4	3 Hours	20	80	100
SPT-3.3A:Research Methodology OR SPT-3.3B: Technical Writing	4	4	3 Hours	20	80	100
OEPT-3.4: Information and Communication Technology –II (to be offered to the students of other departments)	4	4	3 Hours	20	80	100
CPP-3.5:Information Processing and Retrieval	4	2	3 Hours	10	40	50
CPP-3.6 Digital Libraries	4	2	3 Hours	10	40	50
SPP-3.7A:Research Methodology OR SPP-3.7B :Technical Writing	4	2	3 Hours	10	40	50
OEPP-3.8:Information and Communication Technology –II (to be offered to the students of other departments)	4	2	3 Hours	10	40	50

FOURTH SEMESTER

Paper Code and Title	No. of hours/ week	Credits	Duration of the exam	Marks		
				Internal Assessment	Semester end exam	Total marks
CPT-4.1: Information and Communication Networks	4	4	3 Hours	20	80	100
CPT-4.2:Web Technology	4	4	3 Hours	20	80	100
SPT-4.3A: E-Publishing OR SPT-4.3B: Webometrics, Informetrics and Scientometrics	4	4	3 Hours	20	80	100
CPD-4.4: Project	4	4	3 Hours	20 (Viva Voce)	80	100
CPP-4.5: Information and Communication Networks	4	2	3 Hours	10	40	50
CPP-4.6: Web Technology	4	2	3 Hours	10	40	50
SPP-4.7A: E-Publishing OR SPP-4.7B: Webometrics, Informetrics and Scientometrics	4	2	3 Hours	10	40	50
CPDP-4.8: Project Practical	4	2	3 Hours	10	40 (Presentation)	50

CPT-1.1 FOUNDATION OF LIBRARY AND 1NFORMATION SCIENCE

Unit-1	Libraries in Social context, Social and historical foundations of library, Role of libraries in formal and informal education. Types of libraries: objectives, functions and Services. Five laws of library science and their implications. Book day out.
Unit-2	Library Development: History of Library movement, Growth and development of libraries in India. Library cooperation: resource sharing, networking and consortia.
Unit-3	Information and Communication: Information: definition, characteristics, nature and use. Conceptual differences between Data, Information, Knowledge. Information transfer cycle: Generation, collection, storage and retrieval. Information communication: channels, models and barriers.
Unit-4	Information Science: Evolution, Definition, Scope and current status. Information Science as a discipline, Influence of Information Science on other disciplines.
Unit-5	Library Legislation: need, purpose and essential features. Library legislation in India: Problems and Prospectus, Overview of Public Library Acts in India. Detailed study of Karnataka Public Library, Act,1965. Press and Registration Act, Intellectual Property Rights: Copyright Act, Delivery of Books and Newspaper (Public libraries) Act, 1956, Right to Information Act, 2002.
Unit-6	Library and Information Profession: Professional associations, Role in library development, Attributes of a profession. Librarianship as a profession: Professional ethics in Librarianship, LIS education and research in India. Professional Associations: State, National and International level, State level: KALA. National level: ILA, IASLIC,IASLIC & RRRLF. International level: IFLA, ALA, CILIP and UNESCO.

Selected Readings:

1. Burahohan, A. (2000).Various aspects of librarianship and Information Science. New Delhi: ESSESS.
2. Chapman, E.A. and Lynden, F.C.(2000). Advances in librarianship. 24thVol.SanDiego: Academic Press.
3. Isaac, K.A. (2004).Library legislation in India: A critical and comparative study of state Library acts book description: New Delhi: Ess Ess Publication.
4. Kumar, P.S.G.(2003)Foundations of Library and Information Science. Paper of UGC Model Curriculum. New Delhi: Manohar.

CPT 1.2: INFORMATION SOURCES

Unit-1	Information sources: Meaning, Definition, Importance, Characteristics, Functions and Evolution.
Unit-2	Types of Information Sources: Documentary and Non-Documentary Sources. Primary Sources: Periodicals, Thesis and Dissertation, Conference Proceedings, Technical Reports, Patents ,Standards and Specifications, Trade, Literature, Reprints and Preprints. Secondary Sources: Dictionaries, Encyclopaedias, Biographical sources, Bibliographical sources, Geographical sources, Year books and Almanacs, Handbooks and Manuals. Tertiary sources : Directories, Bibliography of Bibliographies, Union Catalogues.
Unit-3	Human Sources: Technological Gatekeepers, Subject experts/ Resource persons, Invisible Colleges, Information consultants, Common Man (Village head, Priest, Postman and receptionist).
Unit-4	Institutional Sources: Government Ministries and Departments, R & D organisations, Learned societies, publishing houses, Press, Broadcasting stations, Data banks/ centres, Information analysis centres, Exhibitions and Trade fairs, Organisational websites.
Unit-5	E-resources: Internet information sources, E-books, E-journals, Online forums, Open access resources: PLOS, DOAJ and DOAB, e-reference sources, Subject gateways, Wikipedia, IEL (IEEE electronic Library), Emerald, EBSCO, PubMed central, J-gate, Citation Database: Google scholar.
Unit-6	Criteria for evaluation of Printed and e-resources.

Selected Readings:

1. Chowdhury, G.G and studatta Chowdhury. (2001), Searching CD-ROM and online Information Sources, London ; Facet publishing,
2. Chowdhury, G.G. and Sudatta Chowdhury, (2001). Information Sources and Searching on the World Wide web, London : Facet Publishing.\
3. Kumar, Krishan (2003), Reference services, Ed, 3. New Delhi: Vikas.
4. Kumar,PSG.Ed. (2001). Indian Encyclopedia ofLibrary and Information Science, New Delhi: S. Chand & Co.
5. Rao, I.K.R (2001). Electronic Sources of information, Bangalore; DRTC
6. Sewasingh (2001),Handbook of International Sources on reference and Information New Delhi: crest Publication.
7. Sharma, J.S & Grover,D.R (1998), Reference Service and Sources of Information, New Delhi: ESS ESS
8. Subramanayam, k. (1981). Scientific and technical Information Resources, New York: Marcel Dekkar.

CPT-1.3: LIBRARY CLASSIFICATION

Unit-1	Library Classification: Meaning, Definition, objectives, need and purpose. Evolution of theory of Classification: Descriptive and Dynamic theory, Knowledge Classification, Book Classification, Species of Library Classification.
Unit-2	Universe of Knowledge: concept, definition, structure, attributes. Modes of formation of Knowledge, Different types of Subjects, Universe of Knowledge as mapped in CC, DDC and UDC.
Unit-3	Planes of work and Canons of Classification. Normative Principles of Classification and their Application.
Unit-4	Fundamental Categories: Principles for Facet Sequence, Phase Relations, Common Isolates.
Unit-5	Classification Schemes: Standard Schemes of Classification and their features: CC, DDC, UDC. Major contributions of S.R.Ranganathan to classification theory, Design and Development of Schemes of Library Classification.
Unit-6	Notational System: Need, Functions, Types, Qualities. Devices used in CC. Mnemonics, Call Number, Systems and Specials, Rounds and Levels, Method of Residue. Trends in Library Classification.

Selected Readings:

1. Ranganathan,S.R.(1989). Prolegomena to Library Classification. Bangalore,SRELS.
2. Kumar, Krishan. (2005) Theory of Library Classification. New Delhi, Vikas.
3. Ranganathan, S.R.(2000).ColonClassification.Ed6,SRELS,(Reprint).
4. Foskett, A.C.(1991.Subject approach to information.5thEd.
5. Maltby, A. (1996). Sayer's Manual of Library Classification. London: Clive Bingley.

SPT-1.4A: BASICS OF COMPUTER AND INTERNET

Unit-1	Information and Communication Technology (ICT): Meaning, Definition, Evolution and Scope. Computers: Concept, Types, Generations, Characteristics and limitations.
Unit-2	Computer Hardware: Components of a Computer, Memory - Internal Storage: ROM and RAM, Cache memory, External Storage Devices: Magnetic Devices - Hard Disk and Floppy Disk, Optical Devices: CD, DVD. Pen drive, Input/output Devices.
Unit-3	Computer Software: Systems Software, Operating Systems: MS-DOS, MS-WINDOWS, Language Processors: Compilers and Interpreters; System utilities: Editors, loader and linkers, debuggers. Application Software Package: MS Office - Word, Excel and PowerPoint
Unit-4	Data Representation and Data Manipulation: Data Representation: Bits, Bytes, Codes-BCD, EBCDIC and ASCII. Number system: Decimal and Binary, Addition, Subtraction. Logic gates: AND, OR, NOT, NAND, NOR .
Unit-5	Programming: Steps in Programing, Algorithms, Flow-Charting. Basic programming languages: C, C++, Java, HTML. File Organization: Concept, Types and their advantages and disadvantages.
Unit-6	Internet: Origin, History and Evolution. Internet based library and information services. Web Browsers: Internet Explorer, Google Chrome, Mozilla Firefox. Search engines: Need and importance, Types, Search strategies, Criteria for evaluation.

Selected Readings:

1. Terrence, W Pratt and Marvin, V Zelkowlts: Programming Languages: Design and Implementation. New Delhi, Prentice Hall of India Pvt. Ltd., 2000.
2. Bansal, S.K.(2005). Information technology and globalisation, New Delhi: A.P.H. Publishing corporation.
3. Basandra , S.K(2002). Computers today, New Delhi: Golgotia.
4. Curtin, D.P. & others: Information technology: The breaking wave. New Delhi: TMH, Latest Edition.
5. Decson, E.(2000). Managing with Information technology. Great Britan: Koganpage Ltd.
6. Dhiman, A.K.(2003). Basics of Information technology for librarians and Information scientists, Vol.1. New Delhi: ESS ESS.
7. Hunter & Shelly (2002). Computers and common sense, New Delhi: Prentice-Hall.
8. Kashyap, M.M. (2003). Database systems. New Delhi: Vikas.
9. Satyanarayana, R. (2005).Information technology and its facets. Delhi: Manak

SPT 1.4B: INFORMATION LITERACY

Unit-1	Information Literacy: Meaning, Definition, Need, Importance, Historical perspective of Information literacy.
Unit 2	Types of Information Literacy: Library Literacy, Computer literacy, Media Literacy, Web Literacy and Digital literacy, Research Literacy.
Unit 3	Information Literacy Models and Components: SCONUL Empowering 8, B-6, Seven Pillar, ELLIS.
Unit 4	Information literacy standards: ALA, IFLA, ACRL. Taskforces and forums. Information Literacy and Libraries: Information Literacy and Higher Education, Role of Libraries in Information literacy.
Unit 5	Information Literacy skills and Competencies: Challenges of Information literacy Programs. Information literacy initiatives in global perspective.
Unit 6	Trends in Information Literacy: Current trends in Information literacy. Information Literacy and Lifelong learning, Information literacy in India.

Selected Readings:

1. American Library Association. Final Report of Presidential Committee on information Literacy.
   http://www.ala.org/acrl/publications /whitepapers/ presidential
2. Barker, K. and Londsale, R. Ed. (1994), Skills for lifer the Value and meaning of literacy, London : Taylor Graham.
3. Bawden, D.(2001). Information and digitial literacies: a review of concepts.
   http://arizona.openrepository.com/arizona/bitstream/10150/105803/1/bawden.pdf
4. Eisenberg,M.B., Lowe, C.A & Spitzer, K.L (2004) ,Information literacy Essential Skills for information age. London : Libraries unlimited.
5. Meadows, A.J. Ed. (1991) Knowledge and Communication: essays on the information chain , London: literacy
6. Pantry, Sheila and Griffiths, Peter (2002), creating a successful e-Information service, London: Facet.
7. Ercegovac, Zorana (2008),Information Literacy: Search Strategies, tools & resources for high school students and college freshman, California: ABC-CLIO.

SPP 1.5: BASICS OF COMPUTER

Acquaintance with Operating Systems, Word Processing, Spreadsheets, Presentation Package including hands on experience and work assignment.
(Each student shall compulsory maintain practical record and submit the same at the time of practical examination).

CPP. 1.6 INFORMATION SOURCE

Acquaintance with various sources of information and evaluation of information sources. (Each student shall compulsorily maintain practical record and submit the same at the same time of practical examination)

CPP. 1.7: LIBRARY CLASSIFICATION

Classification of documents according to DDC (Latest edition)
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

SPP 1.8A: BASICS OF INTERNET

Acquaintance with Web browsers: Internet explorer, Google chrome, Mozilla Firefox, Search Engines and meta search engines, search strategy, custom search engine.
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

OR

SPP-1.8B: INFORMATION LITERACY

Applications of B-6 skills in problem solving,
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

CPT 2.1: MANAGEMENT OF LIBRARIES AND INFORMATION CENTRES

Unit-1	Management: Concept, Meaning, Definition and scope. Management styles and approaches. Functions and Principles of Management. Organisational structure: Principles. Organizational structure of LIC.
Unit-2	Collection development: Types of Documents. Selection and Acquisition: tool, procedure and policies. Problems of collection development. Technical processing and preparation of documents for use: shelving, circulation work, methods of book circulation-charging and discharging system.
Unit-3	Human Resource Management: Meaning, Definition, need and Importance. Personnel management in LIC: job analysis, job description and job specification. Selection and recruitment: Procedure and methods. Motivation, Training and Development, Performance appraisal, Qualities of librarians.
Unit-4	Financial Management: Importance, Sources of Finance, Budgeting methods and Techniques, Budgeting control, Cost benefit analysis.
Unit-5	Library Building, Furniture and Equipment: Planning, Design and Maintenance. Performance evaluation of librarian, information centres and services: TQM, PERT, CPM, SWOT analysis. Library case studies: Library of Congress, BLDSC, CISTI, National library of India, Kolkata, Sheshadri Iyer Memorial Library-Bangalore.
Unit-6	Maintenance: Proceedure, policies and techniques, library records. Annual Reports: Compilation, contens and style. Library rules and regulations. Marketing of Information Products and Services: Meaning, definitions, need. Market segmentation, Positioning, Market Mix, 4P's. Promotion, Marketing audit, Role of librarian in marketing of LIS products and services.

Selected Readings:

1. Chapman, Liz: Managing acquisitions in library and information services. London, Library Association, 2001.
2. Evans, G. E.: Management techniques for librarians, 2nd ed. New York, Academic Press, 1983.
3. Garter, Edward D. (ed.): Advances in library administration and organization. Amsterdam, Elsevier, 2005.
4. Gupta, S. R.: Stock verification in libraries: problems and solutions. Delhi, Ken Publication, 1990.
5. Hubbard, William J.: Stock management: a practical guide to shelving and maintaining libray collections. Chicago, A.L.A., 1981.
6. Jones, Noragh& Jordan, Peter: Staff management in library and information work , 2nd ed., Aldershot, Gower Pub., 1987.
7. Krishna Kumar, Library administration and management. New Delhi, Vikas Pub. House, 1987.
8. Prajapati, C. L., Conservation of documents: problems and solutions. New Delhi, Mittal Publications, 2005.
9. Prasher, R. G.: Developing library collection. New Delhi, Medallion Press, 1993.
10. Ranganathan, S.R., Library administration 1954.

CPT 2.2: LIBRARY CATALOGUING

Unit-1	Library Catalogue: Meaning, Definition, Need, objectives and functions. Current developments: OPAC, Web OPAC
Unit-2	Organization of Information Resources and Bibliographic elements of documents, Evolution of Catalogue codes - from Panizzi to RDA
Unit-3	Forms of document Cataloguing : Inner forms and outer forms.
Unit-4	Subject Cataloguing : Chain Procedure, Subject heading lists- Sear's list and LCSH, Normative Principles: Laws, Canons and Principles
Unit-5	Standards for Bibliographic description: MARC, ISBD, UNIMARC, CCF, ISO 2709, Z 39.50,Metadata standards and Dublin-Core, FRBAR-RDA,BIBFRAME
Unit-6	Resource sharing: Centralized, Co-operative and Union cataloguing, OCLC and its activities including worldCat.

Selected Readings:

1. Ranganathan,S.R (1989). Classified catalogue Code, Eds, SRELS, (Reprint).
2. Girija Kumar and Krishnan Kumar. (1983) .Theory of Library Cataloguing New Delhi, Vikas.
3. Viswanathan, C.G (1990), Cataloguing theory and Practice.
4. Anglo-American Cataloguing Rules, 2nd ed., 1986.
5. Kaplan, Allison. (2009), Crash Course in Cataloging for Non-Catalogers: A Casual Conversation on organizing Information, Libraries unlimited
6. Mary L. Kao (2001). Cataloging and Classification fore Library Technicians,Second Edition, The Haworth Press: 2nd ed.,
7. Anne Welsh and Sue Batley (2012). Practical Cataloging: AACR2, RDA and MARC21, Neal-Schuman Publishers: 1st ed.
8. Sam. Oh. Ontology-based Metadata Systems: Design And Implementation (Third Millennium Cataloging) ,Place: Libraries Unlimited, 2013
9. Miller, Steven J. (2011) Metadata for Digital Collections (How-to-Do-It) Manual (How to Do it Manuals for Librarians), Neal –Schuman Publishers: Pap/Psc Edition.
10. Smiraglia, Richard. (2005). Metadata: A Catalogue's Primer, Routledge,
11. Tillett, Barbara and Cristian, Ana Lupe. (2009). IFLA Cataloguing Principles: The Statement of International Cataloguing Principles (ICP) and its Glossary, In 20 Languages (Ifla Series on Bibliographic Control), K.G. Saur Verlag: 1st ed.

SPT-2.3A: LIBRARY AUTOMATION

Unit-1	Library Automation: Meaning and Definition, Genesis, History, Need and Importance, Areas of Library Automation.
Unit-2	Strategies for Library Automation :Factors- Internal and External, Prerequisites, Library automation Tasks.
Unit-3	Infrastructure requirements: Manpower, Hardware, Software, Cost, physical equipment and furniture.
Unit-4	Automation of Housekeeping Operations: Acquisition, Cataloguing, Circulation and Serials Control. Subsystems and Interface, File and Data Structure.
Unit-5	Application of Barcode, RFID and NFCT Technology for Library functions. Discovery tools, Applications of Artificial Intelligence to Library and Information Centres, Retrospective Conversion: Strategies and Techniques.
Unit-6	Library Automation Software Package: SOUL, Libsys, NewgenLib, Koha. Criteria for Evaluation.

Selected Readings:

1. Dhirman, A.K.(2003).Basics of Information technology for librarians and Information scientists. ESS ESS.
2. Haravu, L.J.(2004), Library automation: Design, principles and Practice. London: Allied Publishing .
3. Kumar, P.S.G (2004). Information technology: Applications (Theory and Practice),Delhi: B.R.Publishing.
4. Lucy, A, T.(2005) An Introduction to computer based Library system. 3rd Ed. Chichester; Wiley.
5. Ravichandra Rao(1996). Library automation. New Delhi: New Age International.
6. Kochar, R.S.(2007). Library Automation:Issues and Principles. New Delhi;APH publishing Corporation.
7. Rajinder Singh Aswal (2006), Library Automation for 21st Century. New Delhi: ESS ESS Publication.

SPT-2.3B: INFORMATION SYSTEMS AND PROGRAMMES

Unit-1	Information Services: Meaning and Definitions Need, Importance. Reference Service: Types: CAS, SDI, Translation ,DDS, Indexing and Abstracting Service, Referral Services, Newspaper Clipping Services.
Unit-2	Information Users and their needs: Categories of Information users, User Studies-Need, Scope, purpose and objectives and importance, Methods and techniques of user study. User Education: Definition, need. Objectives: Techniques and methods of user education Programme. Information seeking behaviour.
Unit-3	Information Agencies: Concepts, Meaning and Definitions, objectives and functions. Structure, functions and services of: Libraries, Documentation Centres, Information Centres, Information Analysis Centres, Clearing Houses, Archives, Referral and Translation Centres.
Unit-4	National Information Systems and Programmes: NISCAIR, ENVIS, NASSDOC.
Unit-5	International Information System and Programmes: INSPEC, ISI, AGRIS, CAS, BIOSIS
Unit-6	Virtual reference Service: Desk Service/ Virtual Library Service, Development of computer based Information services. Online Information Services. Ask Librarian, FAQ.

Selected Readings:

1. Gupta, B.M. and others. (1991) Handbook of Libraries, archives Information centers in India. New Delhi: Aditya Prakshna.
2. Kumar, Krishan. (1990) Reference service, New delhi,Vikas.
3. Lucas,Amy, Ed. (1989). Encyclopaedia of Information systems and services. Detriot:Gale Research.
4. Neelameghan A. and Prasad, K.N. Eds. (2005). Information Systems and Services in india.Bangalore: SRELS.
5. Vickery,b. (1987) Information Systems.London: Butterworths.

OEPT-2.4. INFORMATION AND COMMUNICATION TECHNOLOGY-I

Unit-1	Information and Communication Technology (ICT): Meaning, Definition, Evolution and Scope. Computer: Concept, Types, Generation, Characteristics and limitations.
Unit-2	Computer Hardware: Components of a Computer, Memory - Internal Storage: ROM and RAM. External Storage Devices: Magnetic Devices - Hard Disk and Floppy Disk; Optical Devices: CD, DVD. Pen drive. Input/output Devices.
Unit-3	Computer Software: Systems Software- Operating Systems- MS-DOS, MS-WINDOWS. Language Processors: Compilers and Interpreters, Application Software Package: MS Office - Word, Excel and PowerPoint.
Unit-4	Programming: Algorithms, Flow-Charting. Basic programming languages: C, C++, Java, HTML.
Unit-5	Networks: Concept, Need, Network Topologies, Types of Networks: LAN, MAN and WAN. Internet: Origin, History and Evolution. Web Browsers-Internet explorer, Google chrome, Firefox. Internet based Library services.
Unit-6	Search engines: Mozilla- Concept, Need and importance. Types, Search strategies. Criteria for evaluation: Recall, precision, novelty, searching time, Database, Relevancy, Indexing.

Selected Readings:

1. Terrence, W Pratt and Marvin, V Zelkowlts**:** Programming Languages: Design and Implementation. New Delhi, Prentice Hall of India Pvt. Ltd., 2000.
2. Bansal, S.K.(2005). Information technology and globalisation, New Delhi: A.P.H. Publishing corporation.
3. Basandra , S.K(2002). Computers today, New Delhi: Golgotia.
4. Curtin, D.P. & others: Information technology: The breaking wave. New Delhi: TMH, Latest Edition.
5. Decson, E.(2000). Managing with Information technology. Great Britan: Koganpage Ltd.
6. Dhiman, A.K.(2003). Basics of Information technology for librarians and Information scientists, Vol.1. New Delhi: ESS ESS.
7. Hunter & Shelly (2002). Computers and common sense, New Delhi: Prentice-Hall.
8. Kashyap, M.M. (2003). Database systems. New Delhi: Vikas.
9. Satyanarayana, R. (2005).Information technology and its facets. Delhi: Manak

CPP 2.5: MANAGEMENT OF LIBRARY AND INFORMATION SCIENCE

Acquaintance with the Budgeting – Preparation of Library budget, Acquisition-Book recommendation form, placing the order, certification for payment, Accessioning- entry, Preparation of Library committee meeting proceedings, Preparation of annual report of library, Preparation of Library rules and regulations.
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

CPP 2.6:LIBRARY CATALOGUING

Preparation of cataloguing entries for Single author, Two Authors, Three Authors and more than Three Authors, Shared Responsibility, Edited books with edition and without edition, Mixed Statement of Responsibility, Pseudonyms documents, Government Publications, Corporate author Publications and Conference Proceedings, Serials

Cartographic Materials: Atlas **,** Sound Recordings**,** Video Recordings**,** Motion Pictures**,** Computer Files

SPP 2.7A: LIBRARY AUTOMATION

Acquaintance with Installation, Configuration and working Koha/Soul automation software (depending on the availability)
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

OR

SPP 2.7B: INFORMATION SYSTEMS AND PROGRAMMES

Acquaintance with the Abstracting services, Newspaper Clippings (both off-line and online), CAS, SDI.
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

OEPP 2.8: INFORMATION AND COMMUNICATION TECHNOLOGY-I

Acquaintance with the MS-Office: MS Word, MS Excel, MS PowerPoint, Web browsers: Internet explorer, Google chrome, Firefox, Search Engines and metasearch engines, search strategy, custom search engine
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

CPT-3.1: INFORMATION USERS AND SERVICES

Unit-1	Information processing and Retrieval: Meaning, Definition, Functions, components. Information transfer cycle.
Unit-2	Indexing: Concepts, theories, methods and importance. Indexing as profession, Indexing languages: Vocabulary control, Semantics and Syntax. Thesaurus: Meaning, Definition, importance, Design and construction.
Unit-3	Indexing System: Pre-coordinate and post coordinate. PRECIS, POPSI, KWIC and its variations, UNITERM Indexing, Citation indexing: Chain Indexing, Science Citation Index, Social Science Citation Index.
Unit-4	Information Users and their needs: Categories of information users; User studies -Need, and importance scope, purpose, objectives Methods and techniques of user study. User Education: Definition; need, Objectives, Technique and methods of user education programme. Information seeking behaviour- models.
Unit-5	Information Services: Meaning and definition, Need and Importance. Reference Service: Concept, Definition. Types: SDI, CAS, Translation and DDS, Referral Service, Indexing and Abstracting Service, Newspaper Clipping Services.
Unit-6	Information as a resource, Economic value of information. Marketing of Information Products and Services; Meaning, Definition and Need. Market Segmentation, Positioning, Market Mix, 4p's- Product, price, place, promotion, Marketing Audit, Role of Librarian in Marketing of LIS.

Selected Readings:

1. Atchison, J. &Gilchrist, A.(1972). Thesaurus construction: a Practical manual, London: Aslib
2. Austin, D.(1984), PRECIS: A manual of concept analysis and subject Indexing. 2nd ed.
3. Chowdhury, G.G (2003), Introduction to modern Information retrieval, 2nd ed. London: Facet publishing
4. Cleaveland, D. B. (2001) Introduction to Indexing and abstracting, 3rd Ed. Englewood, colo.; Libraries Unlimited.
5. Ghosh,S.B, And Biswas, S.C. (1998). Subject Indexing systems; Concepts, methods and techniques, Rev . ed. Calcutta; IASLIC.
6. Lancaster, F.W.(2003), Indexing and Abstracting in Theory and Practice, London; Facet publishing.
7. Pandey , S.K Ed, (2000), Library Information retrieval. New Delhi : Anmol.
8. Van,R.C.J.(1970). Information retrieval, 2nd ed. London: Butterworths.

CPT-3.2: DIGITAL LIBRARIES

Unit 1	Digital Resources: Concept, characteristics and types: Born digital, legacy documents and online resources, Electronic documents: e-books, audio books, e-journals, e-reference sources files and file formats. Study of different file formats. PDF: features, creation of PDF files.
Unit 2	Digital Libraries: conceptual framework, definition, characteristics; advantages and challenges; digital libraries vs. traditional libraries; evolution of digital libraries- study of digital library initiatives and Organizations contributing to development of DL. Digital library conferences- JCDL, TPDL (ECDL) and ICADL. Role of DL in education and research.
Unit 3	Design and development of digital library: Digital library architecture, Interoperability, Compatibility, Protocols and standards. Digital Content creation - Digitization; scanning, OCR.
Unit 4	Digital content management: Persistent identifiers – handle system, DOI, Open URL, Cross Ref . Metadata and resource discovery issues. Digital Rights Management, Digital Preservation and Archiving.
Unit 5	Digital library software: Greenstone, DSpace, and EPrints- Comparative evaluation.
Unit 6	Open Access Movement and Institutional repositories. Study of select digital Libraries and IRs –Project Gutenberg, California Digital Library, Alexandria Digital Library, Shodhganga, NDLTD, Internet Archive, Digital Library of India, National Digital Library (NDL).

Selected Readings:

1. Arms, W. Y. (2005). *Digital libraries*. New Delhi: Ane Books.
2. Bose, Kausik. (1994). Information Networks in India: Problems and Prospects. New Delhi: Ess Ess,
3. Chowdury, G.G. (2003). Introduction to Digital Libraries. London: Facet Publishing,
4. Cohn, John M., Kelsey, Ann L., and Fiels, Ketih Micheal. (1998). Planning for Library Automation: A Practical Handbook. London: Library Association.
5. Papy, F. (2013). *Digital Libraries*. Somerset: Wiley.
6. Pedley, Paul. (2001). The invisible Web: Searching the hidden parts of the Internet. London: Aslib.
7. Xavier, C. (2000). World Wide Web Design with HTML, New Delhi: TMH.

SPT-3.3A: RESEARCH METHODOLOGY

Unit-1	Research: Concept, Meaning, Need, importance. Types: Fundamental and Applied including interdisciplinary and multidisciplinary approach, Role of Research in the Development of Scholarship.
Unit-2	Research Design Conceptualization and Operationalisation, Types of Research Design, Identification and Formulation of problem; Review of literature: literature search, Hypotheses: Nominal and Operational Definition, Designing Research Proposal, Ethical aspects of Research, Literature search-print, and electronic sources.
Unit-3	Research Methods: Scientific Method; Historical Method, Descriptive Method; Survey Method, Case Study Method, Experimental Method, Delphi Method and Participatory research, Triangular Research, Bibliometric laws.
Unit-4	Research Techniques and Tools: Questionnaire, Schedule, Interview, Observation, Checklists, Sampling Techniques: Types, advantages and Disadvantages,
Unit-5	Data analysis and Interpretation: Descriptive Statistics: Measure of Central Tendency: Mean, Median, Mode, and Standard Deviation, Tabulation, Generalization; Graphical presentation of data: Bar, pie, line graphs, Histogams.
Unit-6	Research Reporting: Structure, Style, Contents. Guidelines for Research Reports, Style Manual-Chicago, MLA, APA, E-Citation:Mendely, Evaluation Criteria.

Selected Readings:

1. Bush, C.H. and Harter, S.T.(1986).Research methods in Librarianship
2. Kumar, Krishna. (1992). Research methods in Library and information Science.
3. Kothari, C.R. (1990). Research Methodology.
4. Rao, I K. (1983) Quantitative methods in Library and Information Science.
5. Goode and Hatt. (1968).Methods of Research.

SPT-3.3B: TECHNICAL WRITING

Unit-1	Technical writing: Meaning and definition, Purposes, Characteristics, Types, Functions, Target groups and their requirements.
Unit-2	Technical writing Process: Planning, drafting, editing, finishing and producing the document, Use of editorial tools: Dictionaries, Style Manuals.
Unit-3	Technical Writing Style: Language and technical Skills, styles, Semantics, Syntax, Diction, Sentence Structure, Readability.
Unit-4	Technical Writing Techniques: Information Searching and gathering skills, Summarizing, Designing pages: Tables, Line Graphs, Bar graphs, Pie Charts, Charts and illustrations, footnotes and end notes.
Unit-5	Technical Communications : Structure and format of journal articles, seminars/ conference papers, review articles, technical reports, research proposals, monographs, dissertations / theses. Use of M.S Office for the Preparation, Production and Presentation.
Unit-6	Technical presentations and evaluation: Preparation and use of Multimedia facilities for presentation. Criteria for evaluation of Scientific and technical communications and presentations. Marketing Communication: Company white papers, reference manuals, user manual, online help files, data sheets, and newsletters.

Selected Readings:

1. Anderson, Paul V., Brockamm, John R., and Miller, Carolyn (ed) (1997) New Essays in Technical and scientific communication Research, theory and Pracice. Farmingade: NY, Baywood.
2. Day, Robert A. (1989) Writing scientific papers in English Ed2., Philadelphia
3. Joshi, Yateendra, (2003) Communicating in Style, New Delhi; TERI.
4. Riodarn, Daniel G and Pauley, Stevren E.(2004), Technical report writing today. Ed 8. New Deli:Biztantra.
5. Society for Technical Communication. (1998), Code for communications, Washington DC. STC.
6. Staples, Catherine and Ornatowski, Cezar (Ed). (1997)Foundations for teaching technical Communications: Theory, Practice and Program Design. Greenwitch,CT: Ablex.
7. Xerox Publishing standards, (1988),A manual of style and design. New York: Xerox press.

OEPT-3.4: INFORMATION AND COMMUNICATION TECHNOLOGY-II

Unit-1	Web: Meaning and Definition, Evolution-Web 1.0, 2.0, and 3.0, Web resources: Meaning and definition, types: e-journals, e- reference sources, e-books, e-pg patashala, Subject gateways and Portals, ETDs, Online databases: Web of Science, Scopus, Google Scholar.
Unit-2	Electronic communication: E-mail, video conferencing, instant messaging, and fax. Network protocols: TCP/IP, SMTP, HTTP, FTP. E-commerce: Meaning and definition, need and Importance, Types, Applications.
Unit-3	Web Designing Tools- Mark-up Languages (HTML) Evaluation of Websites and Web Resources Social networks: Concept, Need and Importance, Types: Wikis, Facebook, Twitter, Blogs, YouTube, Slideshare.
Unit-4	Cybercrime: Concept, Types, Cyber Laws: IT Bill 2001 (Govt. of India) and its amendments. Internet Security: Concept, Need, Types: Antivirus, Firewall, Data backup, Password, Cryptography.
Unit-5	Internet of Things: Concept, meaning, Characteristics and applications. Cloud computing: Concept, origin, architecture, models, Cloud service providers, advantages and disadvantages. Online Learning Courses: concept, need and importance, MOOCs, SWAYAM: courses, Quadrants, National Coordinators.
Unit-6	Referencing: References, bibliography, citation, citation styles, reference management tools Plagiarism: Social, legal issues and usability issues. Plagiarism detection Software, Online plagiarism checkers.

Selected Readings:

1. Vijay Madisetti and Arshdeep Bahga, **"Internet of Things (A Hands-on-Approach)",** 1stEdition, VPT, 2014.
2. Francis daCosta, **"Rethinking the Internet of Things: A Scalable Approach to Connecting Everything",** 1st Edition, Apress Publications, 2013
3. Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, **"From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence",** 1st Edition, Academic Press, 2014.
4. Jan Holler, VlasiosTsiatsis, Catherine Mulligan, Stefan Avesand, StamatisKarnouskos, David Boyle, "From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence", 1 st Edition, Academic Press, 2014.
5. Dr. John Bates , "Thingalytics - Smart Big Data Analytics for the Internet of Things", john Bates, 2015.
6. Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS), Michael J. Kavis, Wiley CIO, 2014
7. Cloud Computing: SaaS, PaaS, IaaS, Virtualization, Business Models, Mobile, Security and More, Kris Jamsa, Jones & Bartlett Learning, 2013

CPP 3.5: INFORMATION PROCESSING AND RETRIEVAL

Classification of Documents according to UDC (latest version).
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

CPP 3.6: DIGITAL LIBRARIES

Acquaintance with :

Installation of Digital Library Software (DSpace)
Creating communities and collections,
Submission of documents,
Submission Workflow management,
Metadata Harvesting using OAI-PMH,
Customization of Digital Library,

(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination).

SPP-3.7A: RESEARCH METHODOLOGY

Formulation of research objectives, hypotheses, Design of a questionnaire Acquaintance and hands-on experience with SPSS: Co-relation, Chi-Square, Annova & T-Test
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination)

OR

SPP-3.7B: TECHNICAL WRITING

Work assignment on technical writing basics; technical writing process, techniques and Styles. Acquaintance, hands-on experience and work assignment with software packages.
(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination)

OEPP 3.8: INFORMATION AND COMMUNICATION TECHNOLOGY – II

Acquaintance with:

Web Designing: HTML,
Web content management system and hosting: Wordpress,
Social networks: YouTube, Twitter, Slideshare,
Reference management tools: Zotero, Mendeley,
Plagiarism detection using software and online services,

(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination

CPT-4.1: INFORMATION AND COMMUNICATION NETWORKS

Unit-1	Telecommunication: Meaning and definition, Signals: Analog and digital. Components, Process: Modulation and Demodulation, Transmission media : Pair of wires, Coaxial cables, Optic fibres. Satellite communication, V-SAT, Microwaves.
Unit-2	Networks: Concept, Definition, Need, Uses, Network Topologies, Types of Networks: LAN, MAN and WAN. Network Architecture, Network protocols: TCP/lP, SMTP, HTTP, FTP.
Unit-3	Communication Networks: NICNET, BSNL and ERNET. Library Networks: INFLIBNET, DELNET and CALIBNET .
Unit-4	Electronic communication: E-mail, video conferencing, instant messaging, and fax. E-commerce: concept, need and Importance, Types, Applications.
Unit-5	Cybercrime: Concept, Types, Cyber Laws: IT Act, 2000 (Govt. of India) and its Amendments, Cyber Security: Need, Types: Antivirus, Firewall, Data backup, Password, Cryptography
Unit-6	Internet of Things: Concept, meaning, Characteristics and applications. Cloud computing: Concept, origin, architecture, models. Cloud service providers, advantages and disadvantages. Online Learning Courses: concept, need and importance, MOOCs, SWAYAM: courses, Quadrants, National Coordinators.

Selected Readings:

1. Andrew S.T.& David J.W (2011) Computer networks, Boston: Pearson Prentice Hall,
2. Balakrishnan, S. (2000), Networking and the future of Libraries, New Delhi: ESS ESS.
3. Bose, k. (1994), Information networks in India: Problems and Prospects New Delhi: ESS ESS
4. Jeanne, F.M. (2006). A librarian's guide to the Internet: A guide to searching and Evaluating information, Oxford: Chandos Publishing.
5. Kumar,P.S.G.(2004), Information technology: Applications (Theory and Practice). Delhi: B.R Publishing.
6. Zorkoczy , P. (2005) , Information technology: An introduction, London: Pitman2
7. Bell, A, (2009).Exploring Web 2.0: Second generation internet tools blogs, Podcasts, wikis, networking, virtual Worlds, and more. Georgetown, TX: Katy crossing Press.
8. Campesato, O., & Nilson, k. (2011), Web 2.0 fundamentals with Ajax, developmemt tools, and mobile platforms, Sudbury , Mass: Jones and Barlett Publishers,
9. Governor, J. Nickull, D., & Hinchcliffe, D. (2009), Web 2.0 Architectures, Sebastopol, C.A: O Reilly Media, Inc
10. Shah., S. (2008). Web 2.0 Security : defending Ajax, RIA, and SOA., Boston; Charles River Media.
11. Shelly, G.B., & Frydenberg, M. (2011), Web 2.0: concepts and applications.Boston, MA: course Technology.
12. Solomon, G., & Schrum, L. (2010). Web 2.0 how-to for educators Eugene, O.R : International Society fore Technology in Education.

CPT-4.2: WEB TECHNOLOGY

Unit 1	Web: Evolution-Web 1.0, 2.0, and 3.0. Web resources: Meaning and definition, Growth and development, Types: e-journals, e-books, e- reference sources: e-dictionaries and encyclopaedia, Subject gateways and Portals, ETDs, citation databases: Web of Science, Scopus. Google Scholar. e-PG Pathshala.
Unit 2	Social networks: Need and Importance, Types: Wikis, Facebook, Twitter, Blogs, YouTube, Slideshare. Criteria for Evaluation Web Resources.
Unit 3	Web Designing:Markup Languages, Introduction to HTML, Elements and Attributes, Different Sections of HTML Document, Comments, Common Tags for Heading, Paragraphs, Horizontal Lines, Line Breaks, Formatting, Links, Images, Tables, Lists, Forms, Using Colors, Special Characters, Head, Meta, and Div tags.
Unit 4	Web content management systems: CMS terminology, PHP, MySQL, client-server architecture,
Unit 5	Open Source Web Content Management Systems: features, study of WordPress, Drupal, Joomla.
Unit 6	Web mining: Web log analysis, content mining, structure mining, Web Analytics, Big data.

Selected Readings:

1. Casey, M. E., & Savastinuk, L. C. (2007). Library 2.0: A guide to participatory library service. Medford, N.J: Information Today.
2. Courtney, N. (2007). Library 2.0 and beyond: Innovative technologies and tomorrow's user. Westport, Conn: Libraries Unlimited.
3. Jones, K. M. L., & Farrington, P.-A. (2011). Using WordPress as a library content management system. Chicago, IL: ALA TechSource.
4. Ndubisi, N. O. (2006). Content management systems. Bradford, England: Emerald Group Pub.
5. Vossen, G., & Hagemann, S. (2007). Unleashing Web 2.0: From concepts to creativity. Amsterdam: Elsevier/Morgan Kaufmann.
6. White, M. S. (2005). The content management handbook. Abingdon: Facet Pub.
7. Yu, H. (2005). Content and workflow management for library web sites: Case studies. Hershey, PA: Information Science Pub.

SPT-4.3A: E-PUBLISHING

Unit 1	Electronic Information: Concept, structure, features, Information industry. Role of librarian in information industry.
Unit 2	Electronic Publishing: Concept, categories – commercial, open access, self e-publishing, scholarly communication.
Unit 3	Electronic information products: e-books, e-journals, e-zines, e-reference sources, ETDs. Economics of e-publishing.
Unit 4	E-Publishing Process: peer reviewing, editing, proofreading, designing, typesetting, and printing. Referencing: references, bibliography, citation, citation styles, reference management tools
Unit 5	E-publishing software: features and use. Study of select e-publishing software: MS Publisher and OJS.
Unit 6	IPR and Copyright issues in e-publishing. Plagiarism: Social, legal issues and usability issues. Plagiarism detection software, online plagiarism checkers

Selected Readings:

1. Gary Shelly,Mark Frydenberg (2010): Web 2.0 Concepts and Applications
2. Dermot A. mcCormark (2002), Web 2.0. Aspatore books,
3. Jane Hosie-Bounar, Barbara m. Waxer (2010) Web 2.0 Making the Web Work for You
4. By David J, Brown Richard (2008) the impact of Elctronic Publishing : the Furyture for Publishers and Librarians
5. Tatiana-Helen, Synodinou, Sarantos Kapidakis, Loannis Igelezakis (2011).
6. Peter k. Ryan (2011) Socail Networking, The Rosen Publishing Group.

SPT-4.3B: BIBLIOMETRICS, SCIENTOMETRICS , INFORMETRICS AND WEBOMETRICS

Unit-1	Concept, Meaning, Definitions, Scope, Need and Purpose. Evolution from Librametrics to infographics
Unit-2	Sources of Data: Science Citation Index Expanded, Social Science Citation Index, PopLine, Arts and Humanities Citation Index, LISA, ScienceDirect, PubMed, Ovid, Emerald Insight, Scopus.
Unit-3	Bibliometric Laws: Concept, Bradford's Law; Zipf s Law and Lotka's Law
Unit-4	Growth of Literature Study: Growth of literature, Growth Models-Logistic, Power. Obsolescence
Unit-5	Scientific Productivity: Citation Analysis: Authorship Study, Collaboration, Techniques of authorship studies.
Unit-6	Webometrics: Concept, Meaning and Definitions, URL, Web decay, Link Checker, half life, web archives.

Selected Readings:

1. Abraham, R.H.(1996). Webometry: Measuring the complexity of the World Wide Web. Visual Math Institute, University of Claifornia at Santa Cruz
2. Ajiferuke et al, (1988). Collaborative coefficient: A single measure of the degree of collaboration in research. *Scientometrics, 14*(5), 421 - 433.
3. Ashraf, Uddin & Vivek Kumar, Singh (2014). Measuring research output and collaboration in South Asian countries, *Current Science*, *107*(1)
4. Biradar, B.S. & Sampathkumar, B.T. (2003).Chemical Technology literature: An obsolescence study, *Annals of Library and Information Studies*, *50*(4), 156-162.
5. Castellano, K.E. & Ho, A. D. (2013). *A Practitioner's Guide to Growth Models*.CCSSO, 19.
6. Sangam, S.L. (2015). Scientometrics: Quantitative Methods for Library and Information science, *Content Craft*, Dharwad.

CPD-4.4: PROJECT

Student shall have to choose a topic for Project and preliminary preparation to be carried out under the guidance of a teacher. The student shall have to submit the Project on the chosen topic before the commencement of IV semester theory examinations.

CPP 4.5: INFORMATION AND COMMUNICATION NETWORKS

Acquaintance with :

- E-mail: setting signature, creating filters, vacation responder, auto-forwarding
- Group mail: creating and managing group mail
- Creating online quizzes
- Creating audio-visual content on library and hosting

(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination)

CPP-4.6: WEB TECHNOLOGY

Acquaintance with Web Designing: HTML Web content management system and hosting: Wordpress, Joomla, Drupal ,Social networks: YouTube, Twitter, Slideshare

SPP 4.7A: E-PUBLISHING

Acquaintance with Designing e-newsletter (using MS Publisher or any other software depending on the availability), Reference Management Tools: Zotero, Mendeley. Journal Management System: OJS, Plagiarism detection using software and online services.

OR

SPP-4.7B: BIBLIOMETRICS, SCIENTOMETRICS, INFORMETRICS AND WEBOMETRICS

Application of mathematical and statistical techniques to measure: the Collaborative Co-efficient; Degree of collaboration; Collaborative Index; h-Index; growth of literature; obsolescence of literature; impact factor of journals and institutions; scientometric portraits of individual scientists.

(Each student shall compulsorily maintain practical record and submit the same at the time of practical examination)

CPPP-4.8: PROJECT PRACTICAL

Student shall have to present the findings their topic before examiner after the IV semester theory & practical examinations.

INTERNSHIP: Each candidate shall compulsorily undergo **Three Week** Internship in a reputed library as part of IV Semester. The internship shall be undertaken immediately after the completion of IV Semester Examination (Theory and Practical)

Allotment of internal Assessment marks:

There shall be two tests in a semester in each paper and each test shall be conducted for 10 marks in each paper.

Theory		**Practice**	
Test	10 Marks	Test	05 Marks
Seminar	05 Marks	Practical Record	05 Marks
Assignment	03 Marks		
Extracurricular activities	02 Marks		
Total	20 Marks	Total	10 Marks

Study tour:
There shall be a study tour for the IV semester students after the completion of the third semester end examination subject to the approval of the university.