Department of Library and Information Science,

Cotton University, Panbazar, Guwahati- 781001

LOCF Syllabus for

M.L.I.Sc Programme

(Master of Library and Information Science)

2-Year Integrated Programme

PART I

1.1 Introduction: The development of a civilized society largely depends on access to correct information and services through which information is accessible. The 21st century is said to be based on the knowledge economy where information shall be a commodity for human life. In this juncture, there has been growth in the institutions and organization associated with Human Resource Development, R&D activities, Information resource production etc. that requires qualified Information managers. The M.L.I.Sc program will develop manpower who will be able to play the role of next-generation information professionals. For those with an aptitude for higher studies and research, the programme provides a good foundation for PhD programmes too.

1.1.1 Objectives of the Programme: The programme offers an ideal blend of courses spanning library science, information technology, knowledge management and quantitative studies. The objectives of the course are

i. To give the students an understanding of the basic philosophy and fundamental principles of Library and Information Science so as to enable them to understand, and hone up professionalism and to work effectively in the contemporary "Knowledge Society".
ii. To train the students with the fundamentals of ICT applications in the libraries for library automation, digitization and web-enabled services.

iii. To sensitize the learners and enable them to resolve the major issues associated with the development of new technology in the libraries and information centres.
iv. To enable students to design and develop information systems.
v. To equip the learner to meet the need of the changing job market and develop an entrepreneurial aspect of the subject.
vi. To enable the students for making use of Open Source technologies in the knowledge management process.

1.1.2 Placement opportunities for students: M.L.I.Sc is a fully professional course. Some opportunities open for the M.L.I.Sc degree holders are as follows (but not limited to these):

i. Students shall able to work as information professionals at academic, corporate, business, banking, railway, R&D centres in the position of Librarians, Information Scientists, Knowledge Managers, Cataloguers, Indexers, Information Analysts, Reference Services Specialists, Technical Editors etc. in India and abroad.
ii. Students may pursue an academic career and work as Assistant Professors, Assistant Librarians and also go for higher learning within India and abroad on a scholarship from Govt. and private institutions.
iii. Students will find opportunities in the lucrative industry of information production & publication.
iv. Work as efficient information intermediaries in colleges, universities, industries, banking, railways, and other similar institutions.
v. Develop entrepreneurial skills and can work independently.

1.1.3 Eligibility: The minimum qualification for admission to the M.L.I.Sc programme is a Bachelor's degree in any discipline from a recognized Indian or foreign university with minimum 45% marks (relaxation available to reserved category students as per university rules).

No of Seats: 20

1.1.4 Admission Procedure: Selection of students to the M.L.I.Sc programme will be made based on academic records and performance in the All India basis written entrance test.

1.1.5 Course Duration: The Course duration is 24 months (i.e. 2 years)

1.1.6 Structure of the course: The M.L.I.Sc course is under Semester-cum-Choice Based Credit System (CBCS) distributed in 4 Semesters with a total credit load of 84 credits.

1.2 Learning Outcomes-based Approach to Curriculum Planning and Development

The basic objective of the learning outcome based approach to curriculum planning and development is to focus on demonstrated achievement of outcomes (expressed in terms of knowledge, understanding, skills, attitudes and values) and academic standards expected of graduates of a programme of study. Learning outcomes specify what graduates completing a particular programme of study are expected to know, understand and be able to do at the end of their programme of study.

The expected learning outcomes are used to set the benchmark to formulate the course outcomes, programme specific outcomes, programme outcomes and graduate attributes. These outcomes are essential for curriculum planning and development, and in the design, delivery and review of academic programmes. They provide general direction and guidance to the teaching-learning process and assessment of student learning levels under a specific programme.

The overall objectives of the learning outcomes-based curriculum framework are to:

- help formulate graduate attributes, qualification descriptors, programme learning outcomes and course learning outcomes that are expected to be demonstrated by the holder of a qualification;
- enable prospective students, parents, employers and others to understand the nature and level of learning outcomes (knowledge, skills, attitudes and values) or attributes a graduate of a programme should be capable of demonstrating on successful completion of the programme of study;
- maintain national standards and international comparability of learning outcomes and academic standards to ensure global competitiveness, and to facilitate student/graduate mobility; and
- provide higher education institutions an important point of reference for designing teaching-learning strategies, assessing student learning levels, and periodic review of programmes and academic standards.

1.3 Key outcomes underpinning curriculum planning and development

The learning outcomes-based curriculum framework is a framework based on the expected learning outcomes and academic standards that are expected to be attained by graduates of a programme of study. The key outcomes that underpin curriculum planning and development include Graduate Attributes, Programme Outcomes, Programme Specific Outcomes, and Course Outcomes.

1.3.1 Graduate Attributes

The disciplinary expertise or technical knowledge that has formed the core of the university courses. They are qualities that also prepare graduates as agents for social good in future. Some of the characteristic attributes that a graduate should demonstrate are as follows:

1.Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines

2.Research-related skills: A sense of inquiry and capability for asking relevant/appropriate questions, problematising, synthesising and articulating

3.Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others

4.Critical thinking: Capability to apply analytic thought to a body of knowledge

5.Problem solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems

6.Communication Skills: Ability to express thoughts and ideas effectively in writing and orally

7.Information/digital literacy: Capability to use ICT in a variety of learning situations; demonstrate an ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

8.Self-directed learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

9.Cooperation/Teamwork: Ability to work effectively and respectfully with diverse teams

10.Scientific reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective

11.Reflective thinking: Critical sensibility to lived experiences, with self-awareness and reflexivity of both self and society.

12.Multicultural competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective

13.Moral and ethical awareness/reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work

14.Leadership readiness/qualities: Capability for mapping out the tasks of a team or an organization, setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, smoothly and efficiently.

15.Lifelong learning: Ability to acquire knowledge and skills, including 'learning how to learn', that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social

and cultural objectives, and adapting to changing trades and demands of the work place through knowledge/skill development/reskilling.

1.3.2 Programme Outcomes (POs) for Postgraduate programme

POs are statements that describe what the students graduating from any of the educational programmes should able to do. They are the indicators of what knowledge, skills and attitudes a graduate should have at the time of graduation.

1.In-depth knowledge: Acquire a systematic, extensive and coherent knowledge and understanding of their academic discipline as a whole and its applications, and links to related disciplinary areas/subjects of study; demonstrate a critical understanding of the latest developments in the subject, and an ability to use established techniques of analysis and enquiry within the subject domain.

2.Understanding Theories: Apply, assess and debate the major schools of thought and theories, principles and concepts, and emerging issues in the academic discipline.

3.Analytical and critical thinking: Demonstrate independent learning, analytical and critical thinking of a wide range of ideas and complex problems and issues.

4.Critical assessment: Use knowledge, understanding and skills for the critical assessment of a wide range of ideas and complex problems and issues relating to the chosen field of study.

5.Research and Innovation: Demonstrate comprehensive knowledge about current research and innovation, and acquire techniques and skills required for identifying problems and issues to produce a well-researched written work that engages with various sources employing a range of disciplinary techniques and scientific methods applicable.

6.Interdisciplinary Perspective: Commitment to intellectual openness and developing understanding beyond subject domains; answering questions, solving problems and addressing contemporary social issues by synthesizing knowledge from multiple disciplines.

7.Communication Competence: Demonstrate effective oral and written communicative skills to covey disciplinary knowledge and to communicate the results of studies undertaken in an academic field accurately in a range of different contexts using the main concepts, constructs and techniques of the subject(s) of study

8.Career development: Demonstrate subject-related knowledge and skills that are relevant to academic, professional, soft skills and employability required for higher education and placements.

9.Teamwork: Work in teams with enhanced interpersonal skills and leadership qualities.

10.Commitment to the society and to the Nation: Recognise the importance of social, environmental, human and other critical issues faced by humanity at the local, national and international level; appreciate the pluralistic national culture and the importance of national integration.

1.3.3 Programme Specific Outcomes (PSOs) in Library and Information Science

Programme specific outcomes include subject-specific skills and generic skills, including transferable global skills and competencies, the achievement of which the students of a specific

programme of study should be able to demonstrate for the award of the degree. The programme specific outcomes would also focus on knowledge and skills that prepare students for further study, employment, and citizenship. They help ensure comparability of learning levels and academic standards across universities and provide a broad picture of the level of competence of graduates of a given programme of study. The attainment of PSOs for a programme is computed by accumulating PSO attainment in all the courses comprising the programme.

PSO-1: Demonstrate knowledge of the information profession by relating foundational principles, philosophy, and ethics to contemporary issues, by identifying key, on-going interdisciplinary developments in the field, and by analysing current practices for future implications of the profession.

PSO-2: Create, select, acquire, manage, and maintain the information environment by analyzing how users seek out information.

PSO-3: Demonstrate and be able to explain the principles of organizing recorded information by exploring both past and present theories of organizing and representing recorded information and by understanding and applying the standards of organizing recorded information in libraries and information centres.

PSO-4: Identify, explain, use and critically evaluate both current and emerging information technologies in libraries and information centres.

PSO-5: Provide information services to a diverse community by analysing, synthesizing, and disseminating traditional and emerging information resources, by developing communication and interpersonal skills for determining the information needs of all users, by creatively utilizing techniques and tools to address information needs, and by advocating for underserved audiences.

PSO-6: Demonstrate an understanding of research by identifying the fundamental characteristics of quantitative and qualitative research and by analysing the value of research literature in the library and information field.

PSO-7: Develop a commitment to continuous learning by participating in local, regional, and national professional development opportunities.

PSO-8: Use Indian knowledge and principles to analyze and evaluate ideas and theories in modern disciplines.

1.3.4 Course Level Learning Outcome Matrix

PSO	701	702	703	704	705	801	802	803	804	805	901	902	903	904	905
PSO 1	x	x	x	x	x	X	x	x	x	x	x	x	X	X	X
PSO 2	x	x	x			X	x				x	x	X		X
PSO 3			x	x		X	x	x			x			X	X
PSO 4				x	x	X				x					
PSO 5	x				x	X				x					
PSO 6		x		x	x	X	x		x	x	x	x	x		
PSO 7				x			x				x				
PSO 8		x	x	x	x			x	x	x		x	x		

PSO	1001	1002	1003	1004
PSO 1	**X**	**X**	**X**	**X**
PSO 2		**X**	**X**	
PSO 3	**x**		**x**	**X**
PSO 4		**X**	**X**	
PSO 5	**X**	**X**	**X**	**X**
PSO 6			**x**	**x**
PSO 7		**X**	**X**	**x**
PSO 8	**x**	**X**	**x**	**x**

1.4 Teaching-learning process

The department of Library and Information Science, Cotton University has student-centric teaching-learning pedagogies to enhance the learning experiences of the students. All classroom lectures are interactive in nature, allowing the students to have meaningful discussions and question and answer sessions. Apart from the physical classes, lectures are also held in online mode where students can have doubt clearing and discussions with the teachers. Most of the teachers use ICT facilities with power-point presentations, e-learning platforms and other innovative e-content platforms for student-centric learning methods.

The Department has adopted participative teaching-learning practices, which includes seminars, presentations and group discussions. These participative teaching-learning practices are included in the curricula of almost all the courses. Apart from these, exposure visits, special lectures by invited experts, workshops, and National/International seminars are held to augment knowledge, encourage innovative ideas and expose the students to global academic and research advancement.

The short-term projects, research projects, assignments and field works, which are the integral components of all the courses, enable the students to solve practical problems. Students are also being engaged in sample surveys, data collection and analysis works of the in-house and external research projects for acquiring experiential learning. The laboratories of the department offer hands-on learning experiences to the students.

1.5 Assessment methods

A variety of assessment methods that are appropriate to the discipline are used to assess progress towards the course/programme learning outcomes. Priority is accorded to formative assessment. Progress towards achievement of learning outcomes is assessed using the following: closed-book examinations; problem-based assignments; practical assignment; laboratory reports; individual project reports (case-study reports); team project reports; oral presentations, including seminar presentation; viva voce interviews; computerised testing and any other pedagogic approaches as per the context.

PART II

I. Outline of the courses under Choice Based Credit System:

The Postgraduate programmes consist of four semesters with minimum credits required for the complete programme being 84 while the M.C.A. programme will be of six semesters with minimum credit requirement being 118.

Each course in a programme will be from one of the following categories:

1. Core Course (Core): A course that should compulsorily be studied by a candidate as a core requirement is termed a Core Course. Each core course is of 4 credits.

2. Lab Course (LAB): A Lab (Laboratory) course is a compulsory course in the first two semesters of the M.Sc. programme where the major part of the study involves laboratory work. Each Lab course is of 4 credits.

3. Elective Course: A course that can be chosen from a pool of courses and which may extend the discipline/subject of study or provides exposure to some other discipline/subject or which enhances the student's proficiency or skill is termed an Elective course.

(i) **Special Paper (SPL)**: A course within the parent department that will lead to specialized knowledge and expertise. Each SPL course is of 5 credits.

(ii) **Open Elective (OPE)**: An elective course offered under the main discipline/subject of study is an Open Elective and may be offered to students of other disciplines. A student from a given discipline will be eligible to take one open elective in the third semester and one in the fourth semester. Each OPE course is of 4 credits.

(iii) **Skill Enhancement Course (SEC):** These courses may be chosen from a pool of courses designed to provide skill-based knowledge and should ideally contain both theory and lab/hands-on/training/fieldwork. The primary purpose is to provide students with life skills in hands-on mode to increase their employability. Each SEC course is of 2 credits.

4. Practical/Tutorials: A practical or tutorial component (or both) is to be provided with every core and special paper/open elective paper.

5. Dissertation/Project Work (DPW): A course designed for students to acquire special/ advanced knowledge that they study on their own with advisory support by a teacher/faculty member is a dissertation/project work. A DPW course is of 6 credits.

- The credits for a course will be of the structure L+T+P, where L, T and P stand for lecture, tutorial and practical respectively.
- Each 4 credit course with practical is of the pattern 3+0+1=4 and for a 4 credit course without practical, the pattern is 3+1+0=4.
- For the 5 credit courses with practical the credit division will be either 3+0+2=5 or 3+1+1=5 and will be decided by the department offering that course. For a course without practical, the structure will be 4+1+0=5.
- The credit division for the Lab course of 4 credits will be 0+0+4=4. For certain disciplines, the 4 credits may be divided between fieldwork and laboratory.
- Each Open Elective OPE course will be open to students from other disciplines subject to requirements of previous knowledge required to take that course.

- A student may choose an OPE course from his/her own discipline or any other discipline. The decision of whether an OPE course may be offered to students of other departments as well as students of the parent department will be taken by the department and the course designed accordingly.
- For the purpose of computation of workload, the mechanism adopted will be:

1 credit = 1 theory period of 1 hour duration per week.
1 credit = 1 tutorial period of 1 hour duration per week.
1 credit = 1 practical period of 2 hours duration per week.

II. Distribution of Courses and Credits

Postgraduate Programme (Science)

A student in the M.L.I.Sc programme will take the following minimum number of courses in different categories of courses:

Table 1: Credit distribution for courses: M.Sc/M.L.I.Sc

Category	Number of courses	Credits for each course	Total Credits
Core	10	4	40
LAB	4	4	16
SEC	2	2	4
SPL	2	5	10
OPE	2	4	8
DPW	1	6	6
			84

The distribution of credits and courses in each of the four semesters for the M.Sc. programme will be according to the following scheme:

Sem	Core	LAB	SEC	SPL	OPE	DPW	Credit
I	C1(4) C2(4) C3(4) C4(4)	LAB1(4)	SEC1(2)				22
II	C5(4) C6(4) C7(4) C8(4)	LAB2(4)	SEC2(2)				22
III	C9(4) C10(4)	LAB3(4)		SPL1(5)	OPE1(4)		21
IV	--	LAB4(4)		SPL2(5)	OPE2(4)	DPW(6)	19
Credit	40	16	4	10	8	6	84

Paper Code	Paper Title	Credit Pattern			Credit Value	Marks Distribution		
		L	T	P		Sem	Int	Total
LIS701C	Foundations of Library and Information Science	3	1	0	4	70	30	100
LIS 702C	Organization of Knowledge (Theory)	3	1	0	4	70	30	100
	A. Library Classification							
	B. Library Cataloguing							
LIS 703C	Information System, Products and Services	3	1	0	4	70	30	100
LIS 704L	Organization of Knowledge (LAB)	0	0	4	4	70	30	100
	A. Colon Classification							
	B. Dewey Decimal Classification							
	C. Library Cataloguing AACR 2							
LIS 705C	Foundations of Computer Science	3	1	0	4	70	30	100
LIS001SEC	Design and Development of websites (SEC)	0	0	2	2	35	15	50
Second Semester								
LIS 801C	Management of Library and Information Centers	3	1	0	4	70	30	100
LIS 802C	Networking and Library Automation	3	1	0	4	70	30	100
LIS 803L	Knowledge Organization Practice (LAB)	0	0	4	4	70	30	100
	A. Dewey Decimal Classification							
	B. Universal Decimal Classification							
LIS 804C	Information Users & Marketing of Information Products	3	1	0	4	70	30	100
LIS 805C	Preservation, Conservation & Electronic Resource Management	3	1	0	4	70	30	100
LIS002SEC	Open Access & Scholarly communication	2	0	0	2	35	15	50
Third Semester								
LIS 901C	Research Methodology	3	1	0	4	70	30	100
LIS 902C	Documentation Works, Internship & Library Visit report	0	0	4	4	70	30	100

LIS903L	ICT Practical (LAB)	0	0	4	4	70	30	100
LIS 904S	Information Retrieval (SPL)	4	1	0	5	70	30	100
LIS 905O	Research Evaluation Practices (OPE)	3	1	0	4	70	30	100
Fourth Semester								
LIS 1001L	Open Source Library Software packages (LAB)	0	0	4	4	70	30	100
LIS 1002S	Digital Object and Data Library System (SPL)	4	1	0	5	70	30	100
LIS 1003O	Information Literacy & Open Knowledge System	3	1	0	4	70	30	100
LIS 1004DPW	Guided research project-Dissertation	0	0	6	6	70 Text	30 Viva	100

First Semester:

Course Code and Title: 701C Foundations of Library and Information Science Credit:4

Course Objective: After completion of the course, students shall

- Understand the concept of Information, Knowledge and Information Science as a discipline.
- Know the professional and ethical issues, legal aspects of the profession Librarianship or Information Scientist.
- Know about information and its flow in the society, various theories associated with this process and various laws relating to library science with their associated implications in practical scenarios.

Unit 1: Library as a social institution 15 Lectures

Library, Documentation and Information Center; Data Information and Knowledge; Knowledge and its various forms; LIS Education in India; Librarianship as a Profession: Nature, Attributes, Ethics; LIS Professional Associations and their activities: American Library Association, Assam Library Association, IASLIC, ILA, CILIP, LA, ASLIB, IATLIS; LIS activities of Organizations: RRRLF, UNESCO, INFLIBNET, National Knowledge Commission.

Unit 2. Library Legislation, Policies and Movements 12 Lecture

Library Legislation and Acts: Concept, Need and Purpose; Library legislation in India; Model Public Library Act; UNESCO/IFLA manifesto for Public Libraries; Delivery of Books (Public Library Act) and News Paper Act, 1954; Indian Copyright Act, 1957; RTI act 2005; Digital Millennium Copyright Act, IPR; Library Movement in India with special reference to North-East India; National Library of India and US.

Unit 3. Library systems and Five laws of Library Science 12 Lecture

Library Systems: Academic, Public and Special Library systems and their distinguishing features; SR Ranganathan and his Five Laws of Library Science.

Unit 4. Information Communication and Society 8 Lectures

Information Society; Information Transfer Cycle; Information Communication Models: Shannon's Theory, Laswell's Theory; Invisible Colleges; Library co-operation and Resource Sharing

Suggested readings:

Khanna, J. K. (1987). Library & society. Kurukshetra: Research Publications.

Krishan Kumar (1986). Library organization. Delhi: Vikas.

Mittal, R. L. (1984). Library administration: theory & practice (5th ed.). Delhi: Metropolitan

Ranganathan, S. R. (1957). Five laws of library science. Delhi: UBS.

Cornish, Graham P. (2001). Interpreting the law for libraries, archives and information services (Rev, 3rd.). London: Facet Publishing

Vashisht, C. P. (1994). Library movement and library development in India. Delhi: ILA.

Kumar, P.S.G. (1997). Fundamentals of information science. Delhi: S.Chand.

Webster, F. (2014). Theories of the information society. Routledge.

Course Code and Title: 702C Organization of Knowledge (Theory) Credit:4

Course Objective: After completion of the course, students shall

- Have a sound knowledge about knowledge organization process in libraries that includes theories of knowledge classification and theories of knowledge cataloguing.
- Understand the classification theories, cataloguing rules and various aspects of the universe of knowledge.
- Develop practical skills to classify knowledge, cataloguing in libraries.

A. Library Classification

Unit 1: Fundamentals of Universe of Knowledge and Library classification 12

Universe of Knowledge: Structure, Attribute and modes of formation of subjects and knowledge; Simple Knowledge Organization System (SKOS); Library classification: meaning and concept; Knowledge Classification and Document classification; Types of Classification Schemes: Enumerative Vs. Faceted and General Vs. Special.

Unit 2: Classification theories and Classification schemes 12

General classification theories: Normative Principles, Canons, Postulates, Notation, Facet Analysis, Three Plans of Work; Facet theories: Ranganathan's Theory, CRG Theory, Louise Spiteri's theory; Study of Major Library Classification Schemes-DDC, UDC, CC; Recent Trends in Library Classification- Web Dewey, Automatic Classification.

B Library Cataloguing

Unit 1: Fundamentals of Cataloguing 12

Library Catalogues: Need, Purpose and Historical foundations; Cataloguing Objectives of Cutter, Osborn and Lubetzky; Forms of Library Catalogue: Physical Forms (Conventional and Non-conventional) and Inner forms (dictionary, classified, alphabetic and alphabetico-classed), Entries: Types, Formats & their functions, Data elements in different types of Entries; Automated Cataloguing: OPAC, Web-OPAC; Co-operative cataloguing and Union Catalogue.

Unit 2: Resource Description Standards 12

Cataloguing Codes: definition, objectives, scope, need, history, components; Study of Cataloguing Codes: AACR2, CCC; Standards of Bibliographic information- ISBD, FRBR; Authority Data; Subject Heading Lists- Sears List of Subject Headings, Library of Congress Subject Headings; Notion of Metadata- Metadata Standards, MARC, Dublin Core, RDA, BIBFRAME.

Suggested readings:

Dhiman, A. K. & Yashoda Rani. (2005). Learn library classification. New Delhi: Ess Ess.

Dhyani, P. (1998). Library classification: theory and principles. New Delhi: Wishwa Prakashan.

F.I.D. (1993). *Universal Decimal Classification*. IME.

Forest Press. (2002). *Web Dewey.* Dublin, Ohio: OCLC Forest Press.

Foskett, D. J. (1974). *Classification and indexing in social sciences*. London: Aslib.

Foskett, A. C. (1996). *The subject approach to information. (5th ed.).* London: Clive Bingley.

Krishan Kumar. (1980). *Theory of classification*. New Delhi: Vikas.

Ranganathan, S. R. (2006). *Philosophy of library classification*. Bangalore: Ess Ess.

Ranganathan, S.R. (1966). *Elements of library classification (2nd ed.).* Bombay: UBS.

Ranganathan, S.R. (1967). *Prolegomena to library classification (3rd ed.).* Bombay: UBS.

Ranganathan, S. R. (1987). *Colon classification*. Banglore: SRELS.

Satija, M. P. (2011). *A guide to the theory and practice of colon classification.* New Delhi: Ess Ess Publications.

Vickery, B. C. (1968). *Faceted classification: a guide to construction and use of special schemes*. London: Aslib.

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

Course code & title: 703C Information Sources, Products and Services Credit:4

Course Objective: After completion of the course, students shall

- Develop understanding about different information sources and their various categories, information institutions and information systems that are being run on large scale.
- Develop skill to design information services to cater various kinds of information needs.
- Develop skills to identify various kinds of information resources, know the development process of information resources and use of such information resources in their practical working life.

Unit 1 Introduction to Information Sources 16

Information sources- Categories and features. Reference Sources; Primary, Secondary and Tertiary sources of Information, Biographical and Geographical sources, Bibliographies: National Bibliography, Subject Bibliography, Commercial bibliography, Union List; Geographical sources, Biographical sources, Encyclopedias, Handbooks, Yearbooks, Sources of Current Information; Electronic Sources of Information: Portals, Subject Gateways, Wikipedia; Bibliographic control: meaning, purpose and initiative at national and international level; Evaluation of Information Sources; Evaluation criteria of reference sources.

Unit 2 Information centers and Information system 12

Information system: Concept, Definition and Purpose; Information systems and programs at National & Global Level: Mission oriented, discipline oriented, Information system specializing in different kinds of documents (Patents, Thesis & Dissertations, Reports); NISCAIR, DESIDOC, NASSDOC, AGRIS, ASTINFO, SAARC.

Unit 3: Information Products and Economy of Information 8

Economics of Information Sources and Production; Information Publishing Industry; Information Intermediators: Types and Functions; Repackaging of Information: Meaning, Need, Importance; Abstracting and Indexing Databases, LISA, ISA, SCOPUS, Web of Science, UGC-CARE, Indian Citation Index, J-Store, J-Gate.

Unit 4 Information Services 12

Reference and Information Service: Definition, Scope, Types; Reference Librarian: Role, Skill and Competencies; Alerting Services, News Paper Clipping, Indexing and Abstracting Services, CAS, SDI, Document Delivery Service, Translation Service; Trend Reports, Information Analysis and Consolidation Products; Digital Reference services, Virtual Reference Services: Tools and Techniques (Publishers based services – Xrefer, Credo etc, Library based services – QuestionPoint, VRD); Print and electronic services: Augmented Reality (AR), library apps, SMS alert, RSS Feed, Social Networking.

Suggested readings:

Bopp, R. E., & Smith, L. C. (1995). *Reference and information services: An introduction.* Englewood, Colo: Libraries Unlimited.

Crawford, J., & Aslib. (2000). *Evaluation of library and information services*. London: Aslib.

Guha, B. (1983). *Documentation and information: services, techniques and systems*. Calcutta: World Pr. Private Ltd.

Krishan Kumar (1996). *Reference service*. New Delhi: Vikas Pub. House.

Ranganathan, S. R. (2006). *Reference service*. Bangalore: SRELS

Foskett, D. J. (1994). *Information service in libraries*. New Delhi: Anmol Publications

Laneaster, F.W. (1988). *Guidelines for evaluation of Information System and Services*. Paris: UNESCO

Choudhury, G. G. (2001). *Information Sources and Searching on the World Wide Web*. London: Facet Publishing

Course code & title: 704L Knowledge Organization (LAB)

Credit: 4

Course Objective: After completion of the course, students shall,

- Be able to identify the different types of common isolates and their use in DDC and CC.
- Classify documents according to Dewey Decimal Classification 23rd Edition; and
- Classify documents according to Colon Classification.
- Prepare catalogues using AACR 2 rules.

Detailed Syllabus:

A) Library Classification

(Ai) or **704L (**A1): Colon Classification 16

Classification of Documents representing basic, compound and complex subjects according to CC (6th Rev Edition)

(Aii) or **704L (**A2): Dewey Decimal Classification 16

Classification of Documents representing basic and compound subjects according to DDC (Latest available edition) with application of tables and devices.

(B) or **704L (**B): Library Cataloguing 16

Unit 1: Main entries for personal author(s), shared responsibility, mixed responsibility, editorial publications, periodicals and other serial publications, multivolume, pseudonyms, corporate bodies and non-book materials according to AACR- 2R (latest edition)

Unit 2 Assigning Subject Headings using SLSH or LCSH (Latest available edition)

Suggested Readings:

Dewey, Melville (1971). *Dewey Decimal Classification and Relative Index*. 22nd ed. 4V. New York: Forest Press.

International Federation for Documentation (1977). *Universal Decimal Classification*. London: British Standards Institution.

Raju, A. A. N. (2007). *Universal Decimal Classification (IME-1993): Theory and Practice: A Self Instructional Manual*. New Delhi: Ess Ess Publications.

Raju, A.A.N. (1995). *Dewey Decimal Classification (DDC 20): Theory and practice: a practical self instructional manual*. Madras: T. R. Pub.

Satija, M.P and Comaroni, M.P (1998). *Exercises in the 21st Edition of DDC.* Revised and Enlarged. New Delhi: Sterling.

Dhiman, Anil Kumar & Rani, Yashoda (2005). *Learn Library Cataloguing: Learning Library Science Series.* New Delhi: Ess Ess Publications.

Kumar, Krishan & Garg, B.S. (2005). *Advanced Cataloguing Practice: Based on Anglo-American Cataloguing Rules.* New Delhi: Har-Anand Publications Pvt. Ltd

Ranganathan, S.R. (1967). *Colon Classification (6th edition)*, Bangalore: SRELS

Course code and title: 705C Foundations of Computer Science

Credit: 4

Course Objective: After completion of the course, students shall

- This is a foundation course that introduces students to the basics of computer science and various application tools which are required in higher learning environment.
- The course introduces students to DBMS technologies and students shall develop skills to electronic Databases.

Unit 1 Basics of Computer **12**

IT: Scope and components, Impact on Society; Generation of computers; Basic Components of a Computer - Arithmetic Logic Unit - Half-adder, Full-adder, Multiplier; Control Unit; Memory Unit - Static and dynamic RAM, ROM, Cache memory; Input/Output devices – keyboards, monitors, printers, scanners, secondary storage elements.

Unit 2 Character Encoding in Computers **12**

Number systems: Binary, Octal, Hexadecimal, Representation of Numbers in Computers– unsigned and signed integers (sign-magnitude, 1's complement, 2's complement), floating-point numbers. Character Representation: ASCII and UNICODE.

Unit 3: Introduction to Software **10**

Software: Application and System SW, working with Application SW (Word processor, Spreadsheet and Presentation tool); Idea of Open Source & Perpetual licensing of software; Working with System SW (Windows, Basic commands in Linux); Introduction to desktop publishing: Corel Ventura/Microsoft Publisher, etc. Introduction to Programming Languages.

Unit 4: Basics of DBMS **14**

Database Management System: Concept, Types, Packages; RDBMS; Concepts of Data Definition Language, Data Manipulation Language; Concepts of Entities, Attributes and Relations; Entity Relationship Model, Diagram; Structured Query Language (SQL): basics

Suggested Readings:

Satyanarayana, R. (2005). *Information Technology and its facets*. Delhi: Manak.

Sunders, R. (2000). *Computers Today. (Edition 2),* John Wiley.

Kashyap, M.M. (2003). *Database Systems*. New Delhi: Vikas.

Singh, Sanjay Kumar (2014). *Impact of ICT on management of library operations*. New Delhi: Avon Publications

Rajaraman, V. (1995). *Fundamentals of computers*. New Delhi: PHI.

Sinha, P. K. (1992). *Computer fundamentals: concept, systems and applications* (2nd ed.). Delhi: BPB Publications

Skill Enhancement Course for Semester 1:

Course Code & Title: LIS001SEC Design and Development Website

Credit: 2

Course Objective: This course empowers students to the broader domain of website building with recommended standards and best available technologies. After completion of this course students shall be able to

i) Get acquainted to the various tools and technologies required to develop websites.

ii) Get practical hands on experience for development of various kinds of websites.

iii) Get introduced to modern day content management systems required to run large scale websites.

Detailed Syllabus:

Unit 1: Introduction to HTML, XML, CSS, PHP, PHP+, My SQL, JavaScript and JSON; Web Services and resource access tools: FTP, IP, URN, URL, DNS. 12

Unit 2: Web Hosting Tools and Services, Introduction to XAMP, WAMP. 4

Unit 3: Introduction to CMS, principles of CMS, CMS architecture and features. Website development using content management system: WordPress, Joomla, DRUPAL. 8

Suggested Readings:

W3C Schools (2019), *HTML Tutorials,* Available at: https://www.w3schools.com/html/

W3C Schools (2019), *CSS Tutorials,* Available at: https://www.w3schools.com/css/

W3C Schools (2019), *JavaScript Tutorials,* Available at: https://www.w3schools.com/ js/default.asp

Duckett, Jon (2014), *Web Design with HTML, CSS, JavaScript and jQuery Set*, Hoboken:

Wiley

Sabin-Wilson, Lisa (2015), *WordPress Web Design For Dummies,* Hoboken: Wiley & Sons

Second Semester:

Course code & title: 801C Management of Library and Information Centers

Credit: 4

Course Objective: After the course students shall

- Understand the principles of Management.
- Develop skills for scientific management of LICs.
- Get introduced to process of project management.
- Know the process of quality control in libraries.

Unit 1: Management Concept **14**

Management concept and principles; Management schools of thought; Principles of Scientific Management; Elements of Management Process (POSDCORB); Project Management-PERT/CPM, SWOT Analysis. Quality management and certification. Risk management, Disaster management and Change management. Space management. Flow Chart, DFD, Gnatt Chart, Management Information System.

Unit 2: Human Resource Management in LICs **14**

Human resource management; Human resource development: professional and semiprofessional levels; Job description; Job evaluation; Job Enrichment; Job Satisfaction; Motivation theories and their application; Leadership; Group dynamics; In service training; Discipline and grievances work culture in libraries and role of Librarian; Performance appraisal, Annual Confidential Report; Library security.

Unit 3: Financial Management of LICs **8**

Financial management; Budgeting: planning, standards, techniques, methods and allocations. Budget types: Line, ZBB, PPBS; Budgetary control; Cost effectiveness and cost benefit analysis; Outsourcing: problems and prospects; Library housekeeping operations; Library Committee.

Unit 4: Quality Control in Libraries **12**

Different sections of LICs and their functions; Stock verification; Collection development: principles and theories; IFLA - Guidelines for a Collection Development Policy; Good Office Committee; Serial Control; Stock verification: Policies and procedure; Library statistics and report compilation; TQM in Libraries, Quality Indicators: LibQUAL, ISO9000.

Suggested readings:

Edward, E. G. (1983). *Management techniques for librarians*. New York: Academic Press.

Krishan Kumar. (1985). *Library manual*. New Delhi: Vikas.

Ranganathan, S.R. (1959). *Library administration (2nd ed.).* Bombay: Asia.

Jain, A. K. (1999). *Marketing information products and services: a primer for library and information professionals.* New Delhi: Tata McGraw-Hill

Kumar, Krishan (1987). *Library Administration and Management.* New Delhi: South Asia Books.

Mittal, R. L. (2007). *Library Administration: Theory and Practice*. New Delhi: Ess Esss Publications.

Course code & title: 802C Networking and Library Automation

Credit: 4

Course Objective: After completion of the course students shall

- Know the basics of computer networking and library networking.
- Understand the principles of Library automation and its various sub systems.
- Develop skills to design and work in an automated library environment.

Unit 1: Foundation of Computer Networking 12

Networking- concepts. Type of Networks: LAN, MAN and WAN; Internet and Intranet; Client Server Architecture; Networking Topologies: Star, Bus, Token Ring, Hybrid. Networking Devices, Data transmission modes, Transmission Media, Bandwidth, Switching System: Packet Switching, Circuit Switching; Network layer Protocols: The Internet Protocols (IP), IPv4 and IPv6; Web Server; DNS; Cloud Computing.

Unit 2: Library Networks 10

Library Networks: Concept, Need, Purpose, History; ERNET, NICNET, DELNET, INFLIBNET, JANET, BLAISE, OCLC, Library Consortia: Concept, Purpose, Library Consortia at National and International Level, NKRC, ERMED,CeRA, DeLCON, N-List, e-ShodhSindhu.

Unit 3: Library Automation 14

Library Automation: Purpose, Planning and Implementation; Workflow in Automation System: Library Systems and Subsystems- Acquisition, Cataloguing, Circulation, Serials Control, User Management, OPAC, Web-OPAC; Hardware for Library Automation; Software Packages for Library Automation: Koha, SOUL and other ILMS.

Unit 4: Trends in Library Automation 12

Services through Automated Library System: Electronic Reference, CAS, SDI, DDS; Recent Trends in Library Automation: Barcode, RFID, Smartcard; Future of library automation software – Web-scale discovery, Linked open data, Cloud based library automation, Library mashup.

Suggested readings:

Mukhopadhyay, P. (2005.). *Library automation – software packages*. Unit 6 In MLIS – MLII-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. (2008). *Library automation through Koha*. Kolkata: Prova Prakashani.

Singh, Sanjay Kumar (2014). *Impact of ICT on management of library operations*. New Delhi: Avon Publications

Texas State Library. (1995). *Library automation standards and guidelines*. Austin, Tex: Texas State Library, Library Development Division.

Martin, Michael J (2000). *Understanding the network: a practical guide to internetworking*. Indianapolis: New Riders.

Tannenbaum, Andrew (2013). *Computer Networks*. New Delhi, Prentice Hall

Course code & title: 803L Organization of Knowledge (LAB)

Credit: 4

Course objective: Course Objective: After completion of the course, students shall,

- Be able to identify the different types of common isolates and their use in DDC and UDC.
- Classify documents according to Dewey Decimal Classification 23rd Edition; and
- Classify documents according to Universal Decimal Classification Abridged Edition;

Detailed Syllabus:

(A) or LIS-CC-203 (A): Dewey Decimal Classification (DDC) 24

Classification of Documents requiring use of Common Subdivisions and other auxiliaries, Complex subjects according to DDC (Latest available edition)

(B) or LIS-CC-203 (B): Universal Decimal Classification (UDC) 24

Classification of Documents: basic, compound and complex subjects according to UDC (Latest available abridged edition)

Suggested Readings:

Dewey, Melville (1971). *Dewey Decimal Classification and Relative Index*. 22nd ed. 4V. New York: Forest Press.

International Federation for Documentation (1977). *Universal Decimal Classification*. London: British Standards Institution.

Raju, A. A. N. (2007). *Universal Decimal Classification (IME-1993): Theory and Practice: A Self Instructional Manual*. New Delhi: Ess Ess Publications.

Raju, A.A.N. (1995). *Dewey Decimal Classification (DDC 20): Theory and practice: a practical self instructional manual*. Madras: T. R. Pub.

Satija, M.P and Comaroni, M.P (1998). *Exercises in the 21st Edition of DDC.* Revised and Enlarged. New Delhi: Sterling.

Course code & Title: 804C Information Users and Marketing of Information Products

Credit: 4

Course Objectives: After completion of the course, students shall

- Know about the differentiation among library users.
- Understand the psychology of information need of different categories of users.
- Understand the prospect of user education.
- Develop skills to conduct user surveys for quality library services.
- Shall be able to understand the concept of marketing management.
- Develop the skills of information product management.
- Understand the process of market research and quality information service delivery

Unit 1: Information Users **8**

Categorization of Library Users; User Studies – History, Concepts, Goals, Objectives, Methodology and Case Studies; User Education – Concepts; Goals; Objectives; Role and Techniques

Unit 2: Information Seeking Behaviors **18**

Information Needs and Information Seeking Behaviors of Users – History; Concepts and Characteristics; Models of Information Seeking Behavior – Models by Wilson; Dervin; Kulhthau and Ellis.

Unit 3: Introduction to Marketing Concepts **10**

Marketing management: Concept, Need, Importance; Portfolio Management; BCG Matrix Model; Product Market Matrix; Product Life Cycle; Pricing Information.

Marketing Mix; Kotler s Four C s; McCarthy s Four P s.

Unit 4: Marketing Strategies **12**

Marketing Plan: Market Research; Market Segmentation and Targeting; Geographic and Demographic Segmentation; Behavioral and Psychographics Segmentation; User Behavior and Adoption; Marketing of Information Products and Services

Suggested readings:

Armstrong, Sara (2008). *Information Literacy: Navigating and Evaluating Today's Media*. CA: Shell Education.

Johannsen, Carl Gustav (2015). *Library User Metaphors and Services: How Librarians look at their Users*. Boston: Walter de Gruyter GmbH.

Tella, Adeyinka (2016). *Information Seeking Behavior and Challenges in Digital Libraries*. USA: IGI Global.

Aaker, D. A., Kumar, V., Leone, R. P., & Day, G. S. (2016). *Marketing research*. Wiley Global Education.

Armstrong, G., Kotler, P., Harker, M., & Brennan, R. (2015). *Marketing: an introduction*. Pearson Education.

Kotler, P. (1971). *Marketing decision making: A model building approach*. New York : Holt McDougal.

Kotler, P. (1975). *Marketing for non-profit organizations*. New Jersey : Prentice Hall.

Kim, M. S., & Chang, W. K. (2015). A Study on the Research Trend of Library Marketing Promotion. *Journal of the Korean Society for information Management*, 32(1), 171-204.

Rowley, J. (2016). *Information marketing*. Routledge

Course code & Title: 805C Preservation, Conservation & Electronic Resource Management

Credit: 4

Course Objectives: After completion of the course, students shall

- Understand the importance of preservation and conservation of library resources.
- Know the hazards for library resources.
- Develop skills for digital preservation of library holdings.
- Get introduced to electronic information resources.
- Know the process electronic resource management.
- Understand the legal issues and licensing process of electronic resources.
- Develop skills for the use of Web2.0 in library services.

Unit 1: Preservation Concept **10**

Preservation: concept and need; General approach to preservation; Preservation measures; Conservation, restoration and reproduction: concept and need; Hazards of writing materials: Environmental, Biological and chemical factors; Preservation of Reading materials: Palm Leaves, Brich bark, Sanchi Manuscripts, Books, Periodicals, Newspapers, and Pamphlets.

Unit 2: Preservation Tools and Techniques **12**

Preservation tools and techniques; Preservation of Non book materials; Digital Preservation: Concept, Standards; Disaster Management in Libraries; Indian initiatives in Digital preservation; National Mission on Manuscript; TKDL; Recent trends in Preservation.

Unit 3: Electronic Resources **12**

Digital information resources: Definition, scope, features and advantages; Types of Digital Resources: E-books, E Journals, Open sources, ETD Repositories; Socio-legal aspects of digital information resources (copyright, DRM, other IPR issues, licensing issues); Commercial Publishers and Digital Resource products.

Unit 4: Electronic Resources Management **14**

Collection Development of Electronic Resources: Evaluation, Subscription models, Pricing models, Policy, Renewal issues; Consortia model for electronic resources: Need, Importance, Benefits; Publishers Consortia and Institutional Consortia; Study of Consortia at National and International Level; E-Shodhsindhu; N-List; AICTE Consortia.

Unit 5: Web 2.0 for Libraries

Web 2.0 and Library 2.0; Web based Library Services; E-Resource uses statistics and standards: SUSHI COUNTER, CLOCKS, LOCKS

Suggested Readings:

Balakrishnan, S. and Paliwal, P K ed (2001). *Preservation of Library Collections*. New Delhi: Anmol Publication.

Feather, John (1996). *Preservation and the management of library collections*, London : Library Association.

Deegan, Marilyn and Tanner, Simon, ed.(2006). *Digital Preservation*. London: Facet.

Ramaiah, L. S (2008). *Preservation of Library Archival and Digital Documents Problems*. New Delhi: Ess Ess Publications

Chen, Xiaotian, et.al. (2004). E-Resource Cataloging Practices: A Survey of Academic Libraries and Consortia", *The Serials Librarian* 47(2), Pp 153–79.

Ellingsen, M. (2004). Electronic Resource Management Systems. *LIBER QUARTERLY*, 14, Pp 313- 321.

Emery, J., & Stone, G. (2013). *Techniques for Electronic Resource Management (Library Technology Reports)*. Chicago: ALA.

Weir, Ryan O. (2012). *Managing Electronic Resources: A LITA Guide*. Chicago: Library and Information Technology Association.

Lee, Sul H. (Ed.) (2002). *Electronic Resources and Collection Development*. New York: The Haworth Information Press.

Lahkar, Narendra (Ed.) (2016). *Prospects of Consortia for North East India Libraries*, Guwahati: Department of Library and Information Science, Gauhati University.

Skill Enhancement Course for Semester 2:

Course Code & Title: LIS002SEC Open Access and Scholarly Communication

Course Objective: This course introduces students to the broader domain of scholarly communication process which is an important part of higher education scenario. Students shall be able

i. To get acquainted with the scholarly communication process and channels of communication necessary in the higher education scenario.
ii. To understand with the Copyright and Open Access policies associated with the publishing industry.
iii. To know and avoid malpractices in academic publishing.

Detailed Syllabus:

Unit 1: Introduction to Scholarly Communication 8

Genesis of Scholarly Communication; Academic Publishing: Process, Importance and Ethics; Channels of Academic Publishing; Academic Journals and Peer Review Process.

Unit 2: Academic Integrity **8**

Scientific Misconduct: Falsification, Fabrication and Plagiarism; UGC mandates on Plagiarism; Various Facets of Authorship; Identification of Publication Misconducts and its consequences; Predatory Journals.

Unit 3: Open Access Research **4**

Intellectual Property Rights; Open Access Policy; Open Access Publication Process; Open Knowledge Repositories on Various Subject; NDLI, SWAYAM-MOOCS, e-PG Pathshala, NPTEL, etc.

Unit 4: Academic Performance Indicators **4**

Journal Indexing and Performance Indicators; Citation Indexing; ISSN and ISBN numbering; Electronic Databases (Bibliographic Databases, Citation Databases, Full-text Databases, E-Journal Gateways); UGC-CARE, Scopus, Web of Science, Google Scholar, ORCID, ResearchGate, SJR ranking, etc.

Suggested Readings:

Borgman, C.L (2010), Scholarship in the Digital Age: Information, infrastructure, and the Internet, Cambridge, Massachusetts: The MIT Press.

Das, Arup Kumar (2015), Scholarly Communication, Paris: UNESCO. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000231938

Bohannon, J. (2013). Who's Afraid of Peer Review? Science, 342(6154), 60-65. DOI:10.1126/science.342.6154.60

Webster, P. J. (2008), Managing Electronic Resources: New and Changing Roles for Libraries, Oxford: Chandos Publishing

Cargill, M., & O'Connor, P. (2013), Writing Scientific Research Articles: Strategy and Steps, Hoboken: Wiley-Blackwell.

Third Semester:

Course code & Title: 901C Research Methodology:

Credit: 4

Course Objectives: After completion of the course, students shall

- Develop the foundation for research design.
- Understand the quantitative and qualitative factors of research.
- Know about the technicalities of data collection methods.
- Develop skills for quality research report preparation.

Unit 1: Introduction to Research **8**

Research: Concept, Meaning, Objectives, Need and Purposes; Types of Research: Descriptive vs. Analytical, Applied vs. Fundamental, Quantitative vs. Qualitative, Conceptual vs. Empirical; Research Ethics; Significance of Research; Research Funding; LIS research in India.

Unit 2: Research Design & Methods **10**

Research Design; Formulation of Research problem; Hypothesis: Definition, Purpose, Functions, Types; Synopsis writing; Literature Search; Research Methods: Scientific Method, Historical Method, Survey and Case Study Method, Experimental Method, Delphi Method; Methods of Data Collection: questionnaire, schedule, interview, observation, case study, scales and check lists;

Unit 3: Statistical Analysis **18**

Data Analysis and Interpretation: descriptive statistics; Measures of Central Tendency; Tabulation and generalization; Measures of dispersion, variance and covariance; Standard Deviation; Presentation of data: bar, pie-line graphs, histograms; Inferential statistics; Z test, T test, Chi Square Test; ANOVA, Correlation; Regression: linear and non-linear; Statistical packages-SPSS, R-Programming, etc.

Unit 4: Report Writing **12**

Report Writing, Citation Style, Issues of Plagiarism, UGC regulations on Plagiarism, Reference Management tool: Mendeley, Zotero, Endnote; Academic Social Networks.

Suggested readings:

Best, J. W. (2016). *Research in Education*. New Delhi: Pearson Education

Kothari, C. R. (2005). *Research Methodology: Methods & Techniques.* New Delhi: New Age International (P) Ltd.

Nie, Norman H and others. (1975). *SPSS: Statistical package for the social sciences*. 2nd ed. New York: McGraw-Hill.

Weller, Susan C & Romney, A Kimball (1988). *Systematic Data Collection*. California: Sage Publications.

Course code & Title: 902L Documentation works, Internship & Library visit report

Credit: 4

Course Objective: After Completion of the course, students shall

- Get exposure to practical working environment of libraries of different kinds.
- Develop skills for standard documentation works.

Unit 1: Documentation works: Students shall be given projects works under certain areas of documentation.

Unit 2: Internship: Students shall be assigned with internship job in modern and developed libraries where they have to work at various sections of those libraries and prepare a detailed report.

Unit 3: Library visit report: Curriculum accredited study tour that involves visit to well established libraries of India.

Suggested readings:

Bailey, Stephen (2003). *Academic Writing: A Practical Guide for Students*. UK: Psychology Press**.**

Luey, Beth (1987). *A Handbook for Academic Authors*. New York: Cambridge University Press

Course code & title: 903L ICT Practical (LAB)

Credit: 4

Course Objective: After completion of the course, students shall

- Get hands on practice with state of art electronic Database preparation.
- Get hands on practice with LMS package SOUL.

Unit 1: DBMS practical

Unit 2: Practical on Library Automation and Management Software viz SOUL, KOHA, etc.

Suggested readings:

Elmasri, Ramez and Navathe, Shamkant B (2003). *Fundamentals of database system*. London: Addison-Wesley

INFLIBNET (2014). SOUL. Rerieved from: https://www.inflibnet.ac.in/soul/

Course code & Title: 904O Research Evaluation Practices

Credit: 4

Course Objective: After Completion of the course, students shall

- Understand the need and importance of research evaluation
- Know about the standard practices of research evaluation.
- Develop skills for conducting research evaluation studies**.**

Unit 1: Introduction to Bibliometrics 10

Domains of Research Evaluation: Bibliometric, Scientometrics, Informetrics, Librametry; Bibliometrics: History, Purpose and Importance; Citation Indexing & Citation Databases; Use of Scientometrics for Libraries.

Unit 2: Citation Data Analytics 14

Citation analysis; Co-citation analysis, Bibliographic coupling, Obsolesces of Literature; Research Performance Indicators; Author level Indicator: H index, G index; Journal Level Indicator: Impact Factor, SJR; Citation Databases: Scopus, Web of Knowledge, PubMed, Medline, Google Scholar, Infographics. Use of bibliometric in Libraries.

Unit 3: Bibliometrics Law and Web studies **14**

Classic Law of Bibliometrics: Bradford's Law, Zipf's Law, Lotka's Law; Webometrics Studies: Concept, Purpose, Importance; Webometrics Indicators: Web Impact Factor, Domain Link Analysis, Page Rank Measure.

Unit 4: Recent trends in Research Evaluation **10**

Scientometrics 2.0; Altmetrics; Academic Social Networks; Open Citation: Concept, Need and Importance; Citation Networks Visualization using Gephi, BIBLIOSHINY, VOS Viewer, ScientoPy, Pajek; Data analytics Tools for Citation Analysis; Citation Normalization Practices.

Suggested readings:

Borgman, C. L. (1990). Scholarly communication and bibliometrics. Newbury Park: Sage Publications

Braun, T. (2007). *The impact factor of scientific and scholarly journals: Its use and misuse in research evaluation : a selection of papers reprinted mainly from the journal Scientometrics*. Budapest] Hungary: Akadémiai Kiadó.

Egghe, L. (2005). *Power laws in the information production process: Lotkaian informetrics*. Amsterdam: Elsevier/Academic Press

Thelwall, M. (2009). *Introduction to webometrics: Quantitative web research for the social sciences.* San Rafael: Morgan & Claypool

Kalita, D (2016). The Scientometrics of Nature, *Journal of Scientometrics Research*, 5(2), Pp. 123-134

Kalita, D, Deka, D & Hazarika, T (2019). A 2D Evaluation of Altmetrics Influence in Citation Growth: Case Study of Indian Research Articles in PLoS Journals, *Journal of Scientometrics Research*, 8(1), Pp. 21-26

Course code & title: 905S Information Retrieval

Credit: 5

Course Objective: After completion of the course, students shall

- Understand the theories of information retrieval.
- Know about the classic practices of information retrieval used in libraries.
- Develop Skills for developing modern day state of Information retrieval systems.

Unit 1: Foundation of IR **14**

Information Retrieval System (IRS): Concept, Definition, Components, Functions and types of IRS; Indexing Systems; Digital IR Systems; Basics about Search engines: Internet and

Database search engine; Query representation in IR: Truncation, Boolean, Federated search, Web based retrieval, Relational, Positional operators, Fuzzy search.

Unit 2: Subject indexing practices **10**

Introduction to Subject Indexing: contribution of Cutter, Kaiser, Ranganathan, Coates, Farradane, Austin and Bhattacharyya; Pre-coordinate subject indexing systems (Chain Indexing, PRECIS, POPSI) and Post coordinate indexing systems (Uniterm system, KWIC, KWOC); SLIC.

Unit 3: Vocabulary control for IR **14**

Vocabulary Control: Concept, Need, Importance, Thesaurus, Tools and Techniques (Alphabetical and Classed); Indexing Tools: Apache Solr, Apache Lucene; Information Retrieval Models: Basic Concept, Boolean Model, Vector Model; Federated Search; Evaluation of IR System: Recall, Precision.

Unit 4: Intelligent Information Retrieval **10**

Expert Systems: Definition, Kinds & Components, Application of Expert System in Library & Information Services; Semantic and Syntactic Problems of IR; Semantic Web: Definition, Meaning, Purpose; Ontology; Ontology Languages; RDF, OWL; Ontology Editors; Ontology development process; Basics of SPARQL.

Suggested readings:

Lancaster, F. W. (1998). *Indexing and abstracting in theory and practice*. 2nd ed. Champaign Illinois, University of Illinois.

Quinn, B. (1994). Recent theoretical approaches in classification and indexing. *Knowledge Organization.* 21(3); p.140—147.

Foskett, A. C. (1996) *Subject approach to information*. 5th Ed. London: The Library Association.

Ghosh, S. B. and Satpathi, J. N., Eds. (1998). *Subject indexing systems: concepts, methods and techniques.* Calcutta. IASLIC

Nie, J.-Y. (2010). *Cross-language information retrieval*. San Rafael, Calif: Morgan & Claypool

Chowdhury, G.G. and Chowdhury, Sudatta (2007). *Organizing information from the shelf to the web.* London: Facet

Cleveland, Donald D and Cleveland, Ana D. (2001). *Introduction to indexing and abstracting*. Englewood : Libraries Unlimited.

Fourth Semester:

Course code & Title: 1001L Open Source Software Packages

Credit 4

Course Objective: After completion of the course, students shall

- Understand about the open source tools for library automation and digital libraries.
- Know about the architecture of Koha and DSpace software.
- Develop skills for library automation using Koha and digital library building using DSpace.

Detailed Syllabus:

A or LIS-CC-403 (A): **ILMS: Koha** **24**

Architecture, Installation, Customization and different modules of Koha.

B or LIS-CC-403 (B): **Digital Library Software: DSpace, GSDL, EPrint** **24**

Architecture, Installation, Customization and different modules of DSpace, GSDL, EPrint.

Suggested Readings:

Koha Library Software Community (2016). *Official Website of Koha Library Software*. Retrieved from: https://koha-community.org/

Ashraf, Tariq and Gulati, Puja Anand (2013). *Design, Development and Management of Resources for Digital Library Services.* Harshey PA (USA): Information Services Reference.

Duraspace (2016). *DSpace*. Retrieved from http://www.dspace.org

Course code & Title: 1002S Digital Object and Data Library System:

Credit: 5

Course Objective: After completion of the course, students shall,

- Know about the modern the digital library systems.
- Understand legal issues of data curation for digital library system.
- Develop skills for design and development of modern day state of art digital repositories.

Unit 1: Introduction to DL System **8**

Digital Libraries: Concept, Purpose, Need, Nature; Institutional Repositories: Concept, Purpose, Need; History and Development of Digital Libraries; Major Issues and challenges for building digital libraries; Digital library initiatives in India and Abroad.

Unit 2: Collection development and Organization of Digital objects: 14

Digital resources: Born Digital and Digitized resources; Digitization: Concept, Purpose, Methods and Tools; Digitization process; File formats: Image format, audio & video formats; Image editing software; OCR. Metadata encoding– generic (DCMI, MODS, TEI) and domain-specific schemas (METS, VRA Core); Metadata encoding standards; Resource identifiers (Naming services) – URN, URI, CNRI's handle, PURL, DOI.

Unit 3: Architecture, Access and Legal Issues in Digital Libraries 16

DL Architecture Overviews, Principles and Types: Distributed, Federated, Service Oriented and Component based Architectures, Retrieval models for digital library systems, use of vocabulary control devices, text retrieval tools – types, features and comparisons (Lucene, MGPP, Solr), Search techniques – Boolean, relational and positional operator; Legal Issues of DL – Intellectual Property Rights (IPR), Open Licenses – GNU, Creative Commons, Digital Right Management.

Unit 4: Research Data Management & Data Repositories 8

Introduction to various aspects of Data; Research Data Management: Meaning, Definition, Scope, Purpose; RDM software & services: Commercial, Free and Open Source; RDM for Libraries: Initiatives, Comparative study, Planning & Policy, Metadata Issues and Maintenance; OCLC RDM Services; RDM initiatives at Global and National Level; RDM planning with Data repositories.

Suggested readings:

Dahl, Mark; Banerjee, Kyle & Spalti, Michael (2006). *Digital Libraries: Integrating Content and Systems*. Great Britain: Chandos Publishing.

Eden, Bradford Lee (2007). *Institutional Repositories*. Bradford: Emerald Group Press.

King, David Lee (2012). *Running the Digital Branch: Guidelines for Operating the Library Website.* Chicago: American Library Association

Yu, P. K. (2007). *Intellectual property and information wealth: Issues and practices in the digital age*. Westport, Conn: Praeger Publishers

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

Ray, J M (2014), *Research Data Management: Practical Strategies for Information Professionals*, Purdue University Press.

Pryor, G (2012), *Managing Research Data*, Facet Publishing.

Course code & title: 1003O Information Literacy and Open Knowledge System

Credit: 4

Course Objective: After completion of the curse, students shall

- Understand the importance of information in modern day web environment.
- Develop skills of information literacy.
- Know about the free and open knowledge available for lifelong learning.

Unit 1: Basics of Information Literacy 14

Information Literacy: Concept, meaning; Information Transfer Cycle; Information Literacy Models: Search Process model, 8W model, Jamie McKenzie model, Seven Faces of

Information literacy, Souce model; Information Society; Invisible Colleges; Information Communication Channel; Digital Literacy; Media literacy; Data Literacy; Digital divide.

Unit 2: Libraries and Information Literacy **10**

Information Literacy at Academic, Public and Special Libraries; Information Literacy Policies, Guidelines and Models: UNESCO, IFLA, ALA, ACRL; Information Literacy 2.0.

Unit 3: Introduction to Open Knowledge **14**

Open Knowledge: Concept, Definition, History; Scholarly communication process; Intellectual Property rights, Copy right, Open Access (OA): Definition, Movement; OA Declarations: Global and National; Open Library Systems; Green, Gold and White Open Access; OA Policy frameworks: SHERPA/RoMEO, SHERPA/JULLIET, ROAR; OA Mandates: Institutional, Government, Research Funders, National and International Levels; Economics and Business models of Open Access.

Unit 4: OA Resources & Standards **10**

OA directories & Registries: DOAJ, DOAB, OATD, Project Gutenberg, PLoS, BASE, CORE, SSRN, ARXiV.ORG; Open Educational Resources (OER): Definition, Need, Scope, Purpose; OER initiatives: UNESCO, National and International Levels; OA Interoperability- OAI/PMH, Z39.5, Linked Open Data

Suggested readings:

Crawford, W. (2011). *Open access: what you need to know now*. Chicago: American Library Association.

Kalita, D. (2016), *The future of Open Access to Information,* In Lalit Kumar (eds) ICT application in Libraries, USA: Lulu Publications.

Mukhopadhyay, P. (2014). *Interoperability initiatives*. In UNESCO course on Open Access (Module 4: Interoperability and Retrieval in OA – Unit 2). New Delhi: CEMCA/UNESCO

Willinsky, J. (2006). *The access principle: the case for open access to research and scholarship*. Cambridge, Mass: MIT Press

UNESCO. (2006). *UNESCO open access resource directory*. Paris: United Nations Educational Scientific and Cultural Organization

Godwin, P., & Parker, J. (2012). *Information literacy beyond Library 2.0*. London: Facet Pub.

Armstrong, Sara (2008). *Information Literacy: Navigating and Evaluating Today's Media*. CA: Shell Education

Course code & title: 1004DPW: Dissertation work

Course objective: The objective of the Dissertation/Project is to develop skills in identifying research problems, reviewing the existing research literature, formulating appropriate research methods, using different research techniques and tools and draft the report of the research as per the guidelines.

Detailed Syllabus:

Students have to undertake a dissertation project under guidance of assigned faculty member and prepare a detailed dissertation thesis reporting the findings.

Suggested readings:

Luey, Beth (1987). *A Handbook for Academic Authors*. New York: Cambridge University Press

Murray, Rowena (2011). *How to Write a Thesis*. Maidenhead: Open University Press.

Oliver, P. (2008). *Writing your Thesis*. New Delhi: Sage South Asia.