REGULATIONS AND CURRICULUM GOVERNING
MASTER OF LIBRARY AND INFORMATION SCIENCE PROGRAM
(2024 revised)

Name of the Constituent Unit/Centre: Department of Library and Information Science



YENEPOYA
(DEEMED TO BE UNIVERSITY)

Deralakatte, Mangalore, Karnataka.

YENEPOYA
(DEEMED TO BE UNIVERSITY)

NOTIFICATION FROM THE UNIVERSITY

YENEPOYA
(DEEMED TO BE UNIVERSITY)

Office of the Registrar
University Road
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Ref: No. Y/REG/ACA/37-ACM/2019

31.12.2019

The Chief Librarian
Yenepoya (Deemed to be University)

Sub: Curriculum of Post Graduate course in Library and Information Science (M.Lib.I.Sc)

Ref: Resolution of the Academic council at its 37th meeting held on 13.12.2019, vide agenda-10

****

The curriculum for 2 year Postgraduate course in Library and Information Science (M.LibISc.) submitted by the Ad-hoc Committee has been approved by the Academic Council and Board of Management at their 37th and 48th meetings respectively held on 13.12.2019. It was suggested that the syllabus should emphasize on digitization. Necessary steps for starting of the said course may be initiated. Draft Calendar of Events for the academic year may be submitted for further action.

REGISTRAR

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YENEPOYA
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YENEPOYA (DEEMED TO BE UNIVERSITY)

OFFICE OF THE REGISTRAR

No.: 56-ACM/39/2024

Date: 20.06.2024

NOTIFICATION

Sub: Revision in the syllabus of Masters in Library And Information Science Program–reg:.

Ref: 1. Resolution of the Academic Council at its 56th meeting held on 15.05.2024 vide agenda-39.

2. Resolution of the Executive Council at its 3rd meeting held on 11.06.2024 vide agenda-03.

*****

Pursuant to the resolutions cited in the above references, the Yenepoya (Deemed to be University) hereby notifies revision in the syllabus of Masters in Library And Information Science program under the Faculty of Science.

REGISTRAR

To:

PA to Vice Chancellor
Dean of Academics, Yenepoya (Deemed to be University)
Controller of Examinations
Dean, Faculty of Science
File Copy

YENEPOYA
(DEEMED TO BE UNIVERSITY)

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Regulations, Scheme and Syllabus
Master of Library and Information Science (M.Lib.I.Sc)
(Choice Based Credit System)

Applicable for the batch of students admitted from the Academic Year 2024-25 and onwards

1. Preamble

Libraries are an integral part of the society. Libraries as gateways to knowledge and culture provide the basic conditions for lifelong learning, independent decision-making and cultural development of the individuals and social groups. Institutions in all sectors of the economy, be it education sector, research sector, service, corporate or public sector need libraries. Educational institutions need libraries to support formal and informal education, learning, support literacy, check digital divide and help shape new ideas and perspectives, communities need libraries to create awareness among under-privileged sections for their empowerment, for information on upcoming opportunities in the market for skill development, employment in societal institutions, opportunities for their engagement in social and economic sectors. Society needs libraries so that people become well-informed citizens and play active role in societal development Library.Libraries and information science graduates are required in all sectors including educational institutions, corporate libraries, public libraries, archive centres, publishing houses and research centres.

In view of the present trend and demand for Library and information science graduates, Yenepoya (deemed to be University) decided to start the Department of Library and Information Science at Yenepoya (deemed to be University) and offer postgraduate programme in Library and Information Science (M.Lib.I.Sc.)

2. Preamble to the Syllabus

Application of information and communication technologies has revolutionized the whole concept of libraries and opened new vistas for information storage and retrieval and ways to access information. In order to equip the students to be employable in academic as well as industry the program emphasizes both theory and modern application of library and information science, The program has some unique features such as web-based applications in libraries and practical exposure to specialized computer software to organize their work and to handle these technological devices to navigate the digital world, to properly handle information and to enable users to access it easily.

3. Aim of the Program

Objective of teaching and training of postgraduate students in M. Lib. I. Sc. is to prepare the student get a good foundation in its theory for successful practice in the profession. The goal of Library and Information Science (LIS) education is, therefore, to prepare personnel for the task of successful performance at different levels of competence as managers in different types of libraries and as teachers in the schools of LIS.

4. Programme Outcomes (PO)

Upon completion of the Master of Library and Information Science (M.Lib.I.Sc.) programme, the students should be able to

PO 1: Acquire basic knowledge and understand the key concepts of Library and information science, knowledge organisation, information sources, information retrieval, information technology. (K)

PO 2: Apply the acquired basic knowledge and skills in performing administrative work, technical functions and professional practices in areas of acquisition, classification, cataloguing, reference and user service in all types of libraries. (S, A)

PO 3: Explain and employ the key concepts of research methods and techniques and critical thinking to undertake research in library and information science domains to produce new knowledge. (K, S, A)

PO 4: Understand advanced concepts in web technologies and acquire skills in modernising library and information centres. (K, S, A)

PO 5: Develop soft skills and technical writing skills to have better communication and leadership qualities to find solutions to real time problems in library and information centres. (K, S, A)

PO 6: Value and implement their roles in society as library professionals, managers, researchers and educators in academic and research institutions actively participating in professional development as well as developing technology (K, S, A)

K= Knowledge, S= Skill, A= Attitude

5. General Regulations

5.1 Title of the programme :

Master of Library and Information Science (M.Lib.I.Sc)

5.2 The commencement of the programme:

The program was introduced in August 2020.

5.3 Eligibility for admission:

Candidates who have passed any Bachelor's degree program (of 3/ 4 years duration) from a recognized university and who have secured at least 50% marks in aggregate or equivalent CGPA scores shall be eligible for admission as per the University guidelines issued from time to time. Selection will be based on merit. The total number of candidates to be admitted to the program would be 08.

5.4 Duration of the programme:

Two years with four semesters.

5.5 Course pattern:

Choice based credit System with 4 semesters

Total credits	: **94** credits
Hard Core courses	: 60 credits
Soft Core courses (Discipline specific Electives)	: 16 credits
Open elective papers	: 06 credits
Project	: 12 credits

(1 credit=1 hour of lecture per week/ 2 hours of practical / project)

Course Pattern and Credits distribution

Name	Hard Core		Soft Core Elective		Open Elective		Project dissertation	
	Papers	Credits	Papers	Credits	Papers	Credits	Papers	Credits
I Sem	5	20	1	4	-	-	-	-
II Sem	4	16	1	4	1	3	-	-
III Sem	4	16	1	4	1	3		
IV Sem	2	8	1	4	-	-	1	12
Total	**15**	**60**	**4**	**16**	**2**	**6**	**1**	**12**

6. Definitions of Key Words

i. Academic Year: Two consecutive (one odd + one even) semesters constitute one academic year.

ii. Choice Based Credit System: The CBCS provides choice for students to select from the prescribed courses (core or elective courses).

iii. Course: Usually referred to, as 'papers" is a component of a programme. The courses shall define learning objectives and learning outcomes. A course shall comprise lectures/ tutorials/ internship/ dissertation project work// seminars/ term papers/ assignments/ presentations/ self-study etc. or a combination of some of these.

iv. Credits: Credit defines the quantum of contents/syllabus prescribed for a course and determines the number of hours of instruction required per week. Thus, normally in each of the courses, credits will be assigned on the basis of the number of lectures/tutorial and other forms of learning required, to complete the course contents over a 16-20 week schedule: One credit=1 hour of lecture per week/two hours of laboratory or practical. All courses need not carry the same credits.

v. Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale.

vi. Credit Point: It is the product of grade point and number of credits for a course.

vii. Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

viii. Letter Grade: It is an index of the performance of students in a said course. Grades are denoted by letters: A+, A, B+, B, C, P and F.

ix. Semester Grade Point Average (SGPA): It is a measure of performance of work done in a semester. It is the ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

x. Transcript or Grade Card or Certificate: Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester.

7. Type of Course

Core course: A course that should compulsorily be studied by a candidate as a requirement is termed as a core course; this can be a hard core or soft core.

Open Elective: Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline or subject or domain or nurtures the candidates proficiency skill.

- The open elective courses shall be offered in the second and third semesters only.
- The list of open elective courses offered shall be displayed in the University website.
- A student shall not take the courses offered by the department in which she/he is enrolled.
- Registration for the open elective courses shall be at least one week prior to the commencement of the course with the CBCS coordinator.

8. Semesters

An academic year shall consist of two semesters;

Odd Semester 1st & 3rd	July/August to December/January
Even semester 2nd& 4th	January/February to June/July

9. Attendance

Each course (theory, practical, etc.) shall be treated as an independent unit for the purpose of attendance. A student shall attend a minimum of 80% of the total instruction hours in a course including tutorials and seminars in each semester.

10. Assessment of a Course

Evaluation for a course shall be done on a continuous basis with continuous internal assessments (CIA) followed by one semester end university examination (SEE) for each course. The weightage of CIA shall be 50% and SEE shall be 50%.

10.1 Registering for examination

Candidates having ≥80% attendance in each of the courses and secured 50% in IA can only qualify to appear for the semester end examinations. The candidates shall register for all the courses of a semester when he/she appears for the examination of that semester for the first time.

10.2 Scheme of Examinations

10.2.1 Internal Assessment

Marks for internal assessment shall be awarded on the basis of seminars, journal paper presentations, tests, assignments etc. The assessment gives importance to continuous and comprehensive evaluation. The internal assessment marks shall be notified to the students before the commencement of the semester end examination.

Components of CIA	Details	Weightage	Max marks
Sessional Tests	Average of the two tests	60%	30
Seminar	One Seminar/course	20%	10
Review/Assignments	Discipline specific as required by the course	20%	10

10.2.2 Semester End Examination (SEE)

There shall be examinations at the end of each semester ordinarily during December/January for odd semesters and during June/July for even semesters. The SEE duration shall be three hours.

Pattern of question paper for semester end examination (50 marks)

Sl. No	Key Criteria	No. of questions and Marks	Max marks
1.	Questions to define or explain (5 out of 7 questions)	05 x 2	10
2.	Problems/concepts (4 out of 6 questions)	04 x 05	20
3.	Descriptive questions (2 out of 4 questions)	02 x10	20
TOTAL			**50**

10.2.3 Valuation of answer scripts

a. Each theory examination shall be evaluated by one internal and one external examiner. There shall be a third evaluation if the difference in the marks given by the internal and external examiner is more than 15%.
b. Practical examination shall be jointly conducted and evaluated by one internal examiner and one external examiner.

10.2.4 Valuation of Project

Project work is in lieu of one course and it is compulsory in the 4th Semester. Students need to carryout study on practical aspects of library and information centres, under the guidance of a faculty member. They have to follow research methodology suitable to the area of study with approval of the supervisor. The dissertation shall be free from plagiarism. Research ethics shall be followed in every step of work. Referencing style approved is APA. The dissertation shall be submitted in the end of fourth semester before the End of the Examination. The guide and students ratio for dissertation is 1:5 and guide shall be Professor, Associate Professor and Assistant Professor. The internal assessment marks shall be allotted by the supervisor based on the work progress, and attendance.

Dissertation: Dissertation shall be evaluated by an external and internal examiner on the following criteria;

Sl. No	Key Criteria	Max marks
1	Review of literature and formulation of the research problem/objectives	**50**
2	Methods and description of the techniques used	**50**
3	Analysis and discussion of results	**100**
4	Presentation of report, organization, and reference styles	**100**
TOTAL		**300**

10.2.5 Internship

Each student is required to complete a two-week internship at a Yenepoya library selected by the department during the 4th semester. This internship aims to provide firsthand experience in various library functions, activities and services. Students must submit a report detailing their work done in the library under the guidance and supervision of the relevant library staff. This internship will not carry any academic credits.

11. Letter Grades

The results of successful candidates at the end of each semester shall be declared in terms of Grade Point Average (GPA) and alpha sign grade. The results at the end of the fourth semester shall be classified on the basis of the Cumulative Grade Point Average (CGPA) obtained in all the four semesters and the corresponding overall alpha-sign grade.

The letter grade as described below shall be adopted.

Letter grade	Grade Point	Range of marks
O (Outstanding)	10	95-100
A+ (Excellent)	9	85-94
A (Very Good)	8	75-84
B + (Good)	7	65-74
B (Average)	6	55-64
P (Pass)	5	50-54
F (Fail)	0	Less than 50
Ab (Absent)	0	-

12. Calculation of Cumulative Grade Point Average (CGPA):

The Cumulative Grade Point Average (CGPA) at the end of the fourth semester shall be calculated as the weighted average of the semester GPW. The CGPA is obtained by dividing the total of GPW of all four semesters by the total credits for the programme.

The following is the sample illustration of computing semester grade point averages (GPA), cumulative grade point average (CGPA) and the letter grades assigned.

CGPA Range	**Letter Grade**
9.0-10.0	O (Outstanding)
8.0 – 8.99	A+ (Excellent)
7.0 - 7.99	A (Very Good)
6.0 - 6.99	B + (Good)
5.5 - 5.99	B (Average)
5.0 – 5.49	P (Pass)
<5.0	F (Fail)

13. Marks qualifying for a pass

i. A candidate shall be declared to have passed the PG program if he/she secures at least a CGPA of 5.0 (Course letter Grade P) in the aggregate of both internal assessment and semester end examination marks.

ii. For each course the total of 100% is determined from the CIA evaluation and the SEE and in both CIA and SEE minimum pass is 50%.

iii. The candidates who pass all the semester examinations in the first attempt in two years are eligible for ranks provided they secure at least a CGPA of 6.0 (at least letter Grade B).

iv. The results of the candidates who have passed the fourth semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed Lower semester examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.

v. A candidate who passes the semester examinations in parts is eligible for only CGPA and letter Grade but not for ranking.

vi. Carry over shall be allowed for candidate who failed in not more than two courses in a semester.

vii. Candidate who fails in any of the unit/project work/dissertation shall reappear in that unit/project work/dissertation and pass the examination subsequently.

14. Maximum period for completion of the Programme

A candidate shall complete the four semesters (two years) programme within five years from the date of admission. Students who wish to take career break can re enroll themselves. The period of re-entry should not be more than three consecutive years.

15. Detailed syllabus :

Detailed syllabus enclosed as Annexure –I

Revised Syllabus

Table 1 Course Scheme of instruction and examination for Semester-wise

First Semester						
Type of Course	**Course name**	**Hrs/ week**	**IA marks**	**SE marks**	**Max marks**	**Credits**
Hard Core-Theory	Foundations of Library and Information Science	**4**	50	50	100	4
Hard Core-Theory	Information Sources	**4**	50	50	100	4
Hard Core-Theory	Knowledge Organization: Classification	**4**	50	50	100	4
Hard Core-Practical	Knowledge Organization: Classification (Practice)	**8**	50	50	100	4
Soft core elective (any one)	Fundamental of Information Technology - Theory	4	50	50	100	4
	Digital resources					
	Knowledge Management					
Hard Core-Practical	Fundamental of Information Technology – (Practice)	8	50	50	100	4
					600	**24**

Second Semester						
Type of Course	**Course name**	**Hrs/ week**	**IA marks**	**SE marks**	**Max marks**	**Credits**
Open elective	Information Source and Services	**3**	50	50	100	3
Hard Core-Theory	Management of libraries and Information centers	**4**	50	50	100	4
Hard Core-Theory	Knowledge Organization: Cataloguing and Metadata	**4**	50	50	100	4
Hard Core-	Information systems and Services	**4**	50	50	100	4
Hard core-Practical	Knowledge Organization: Cataloguing and Metadata (Practice)	8	50	50	100	4
Soft core elective (any one)	Web based technologies for libraries	4	50	50	100	4
	E-Publishing					
	Information Literacy					
	Total credits				**600**	**23**

Third Semester						
Type of Course	**Course name**	**Hrs/ week**	**IA marks**	**SE marks**	**Max marks**	**Credits**
Open Elective	Scholarly Communication	**3**	50	50	100	3
Hard Core-Theory	Information Technology applications in Libraries	**4**	50	50	100	4
Hard Core-Theory	Research Methodology	**4**	50	50	100	4
Soft core elective (any one)	Health Science Libraries And Information Centres	**4**	50	50	100	4
	Academic Libraries and Information Centers					
	Public Libraries and Information Centers					
	Industrial Libraries and Information Centers					
Hard Core-Practical	Information Technology applications in Libraries(Practice)	8	50	50	100	4
Hard Core-Theory	Communication skills and Technical Writing	4	50	50	100	4
					600	**23**

Fourth Semester						
Type of Course	**Course name**	**Hrs/ week**	**IA marks**	**SE marks**	**Max marks**	**Credits**
Hard Core-Theory	Digital Libraries	**4**	50	50	100	4
Hard Core-Practical	Digital Content Management (Practice)	**8**	50	50	100	4
Soft core elective (any one)	Users and User Studies	**4**	50	50	100	4
	Information Retrieval					
	Research Metrics					
Hard Core	Dissertation	-	-	-	300	12
					600	**24**

Revised Syllabus of M.Lib.I.Sc - 2024

First Semester			
Type of Course	**Course name**	**Hrs/ week**	**Credits**
Hard Core- Theory	Foundations of Library and Information Science	4	4
Hard Core- Theory	Information Sources	4	4
Hard Core- Theory	Knowledge Organization: Classification	4	4
Hard Core- Practical	Knowledge Organization: Classification (Practice)	8	4
Soft core elective (any one)	Fundamental of Information Technology - Theory	4	4
	Digital resources		
	Knowledge Management		
Hard Core- Practical	Fundamental of Information Technology – (Practice)	8	4
Total credits			**24**

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Hard Core	**Foundations of Library and Information Science**	4	4

Course Outcomes (CO)

CO1:	Understanding the role of libraries in the social context, different types of libraries and its developments in India
CO2:	Analyze the implications of five laws of Library science
CO3:	Differentiate between data, information, and knowledge and understand the information communication framework
CO4:	Comprehend features of library legislation and various acts in India
CO5:	Familiarity with role of professional associations in developing the library profession

Unit 1	:	Library & Information Centers in social context, Social and historical foundation of Library. Growth and development of libraries with special reference to India, history of Library movement in India. Role of Library and Information Centers in formal and informal education; Different types of Libraries - functions, objectives, and services; Five Laws of Library Science and their implications to Library and Information Centers and Services.	12 hrs
Unit 2	:	Information and communication, Information-characteristics, nature and use, DIKW model (Data- Information- Knowledge-Wisdom), Information Transfer Cycle-Generation, collection, storage and retrieval. Communication of information –channels, models and Barriers to communication. Information Science. –definition scope and current status,	11 hrs
Unit 3	:	Library Legislation – need, importance and essential features, Library Legislation in India – problems and prospects. Karnataka Public Library Act 1965, Copyright Act, Delivery of Books and News paper (Public Libraries) Act, 1954 and 1956, Right to Information Act, Intellectual Property Rights (IPR).	11 hrs
Unit 4	:	Library and Information Profession: Attributes of a profession; Librarianship as a profession; Professional ethics and qualities; LIS Education and Research. Public relations and extension activities.	11 hrs
Unit 5	:	Professional Associations – Objectives and functions; Role of professional associations in Library development; National Library associations - ILA, IATLIS, IASLIC, RRRLF ; International Library associations –IFLA, FID,ALA, SLA, and LA,UNESCO.	11 hrs

Reference Books:

Burahohan, A. (2020). *Various aspects of librarianship and Information Science*. Delhi: ESS ESS.

Eisenberg, M. B., Lowe C. A.,& Spitzer, K. L. (2014). *Information literacy: Essential skills for Information age*. London: Libraries Unlimited.

Greer, R., Grover, R., & Fowler, S. (2020). *Introduction to the Library and Information Professions, Ed.2.Libraries* (2nd ed.). Libraries Unlimited.

Isaac, K. A. (2004). *Library legislation in India: A critical and comparative study of state Library acts book description*. New Delhi: Ess Ess Publication.

Kumar, G. (1988). *Library development in India*. New Delhi: Vikas.

Kumar, P. S. G. (2011). *Foundations of Library and Information Science. Paper I of Ugc Model Curriculum.* B.R. Publishing Corporation.

Ranganathan, S. R. (2006). *The Five Laws of Library Science*. Bangalore: ESS ESS.

Rout, R. K. (1991). *Library legislation in India: problems and prospects*. New Delhi: Reliance Publishing House.

Rubin, R. (2010). *Foundations of Library and Information Science*. Neal Schuman.

Surendra, S., & Sonal, S. (2002). *Library, Information and Science and society*. Delhi: ESS ESS.

Velaga, V., & Madhusudhan, M. (2006). *Public Library legislation in the new millennium: New Model Public Library Acts for the Union*. Bookwell.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Hard Core	**Information Sources**	4	4

Course Outcomes (CO)

CO1:	Demonstrate the knowledge of the major information sources and reference tools which facilitate access to information
CO2:	Develop evaluative skills for selecting both print and electronic information sources
CO3:	Select and describe the appropriate source to answer informational questions
CO4:	Develop skills to use various reference sources
CO5:	Evaluate the different reference sources and develop reference services required for libraries.

COURSE OUTLINE

Unit 1 : Information Sources: Concept, Meaning, Definition, Nature, Types, Characteristics, Functions, Importance. 12 hrs

Types of sources- Primary, secondary and tertiary (Print and Electronic Versions), Human and Institutional sources

Primary sources : Concept, Characteristics; Periodicals, Conference Proceedings, Technical Reports, Patents, Standards and Specifications, Trade Literature, Theses and Dissertations, Reprints, Preprints and Monographs.

Unit 2 : Secondary Sources (Print and Electronic Versions): Concept and Characteristics- Dictionaries, Encyclopedias, Handbooks and Manuals, Bibliographies, Geographical Sources and Biographical Sources, Yearbooks, Almanacs, Sources of Statistics, Abstracting and Indexing Sources. 12 hrs

Tertiary Sources (Print and Electronic Versions): Concept and Characteristics- Directories, Bibliography of Bibliographies, Union Catalogues, Textbooks.

Unit 3 : Human resources - Consultants, Experts, Extension Workers, Technological gatekeepers, Invisible Colleges, Information Brokers. 11 hrs

Institutional resources - National and International agencies, Government, Ministries & Departments, R&D Organizations, Publishing houses, Data Banks, Organisational Websites.

Unit 4 : Electronic Information Resources: Meaning and Definitions, Growth and Development of e-resources: Types of e-Resources, Databases (Bibliographic, Numeric and Full text); Open Access Resources, Online forums, Subject gateways, 11 hrs

Virtual Libraries; Study of the features and functionality of source: Web of Science, SCOPUS.

Unit 5 : Evaluation criteria of Print, Electronic & Web based Resources - Criteria for Evaluation of Print & Electronic Resources 10hrs

Reference Books:

Anil, D., & Yashada, R. (2005). *Learn Library Science Series*. New Delhi: ESS Publication.

Chowdhury, G. & Chowdhury, S. (2001). Information sources and searching on the World Wide Web. London: Facet Publishing.

Grogan, D. (1982). *Science and Technology* (4th ed.). London: Clive Bingley.

Guha, B. (1983). *Documentation and Information Services: Techniques and Systems* (2nd ed.). Calcutta: World Press.

Katz, W A. (1989.). *Introduction to Reference work* (5th ed., Vol. 2). New York: Mc-Graw Hill.

Parashar, R.G. (1991). Information and its communication, New Delhi: Medallion Press.

Parker, C. C., & Purely. (1986). *Information Sources in Science and Technology* (2nd ed.).

Rao, I. K. R. (2001.). *Electronic Sources of information*. Bangalore: DRTC.

Sharma, J. S., & Grover, D. R. (1992). *Reference service and sources of Information*. New Delhi: Ess Ess Publications.

Singh, G. (2013). *Information sources, Services and Systems*. India: PHI Learning Private Limited.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Hard Core - Theory	Knowledge Organisation: Classification	4	4

Course Outcomes (CO)

CO1:	Demonstrate understanding of the theoretical aspects of Knowledge classification concepts
CO2:	Explain basic concepts of library classification and apply the canons of classification
CO3:	Understand basic concepts of facet analysis and facet sequence and their application to the classification of documents in a library
CO4:	Identify and distinguish characteristics of different classification schemes
CO5:	Awareness about approaches to Knowledge organization systems and trends in library classification

COURSE OUTLINE

Unit 1 : Classification – Meaning, Definition, Library Classification – Meaning, Definitions, 12 hrs

		objectives and Functions; Knowledge classification- Vedic, Greek, Baconian, Hobbe's, Kant's, Hegel's, Ampere's and Spencer's. Knowledge Classification v/s book Classification, Understanding the developments in theory of Library Classification, Species of Library Classification schemes	
Unit 2		Major contributions of Ranganathan to Classification theory: Normative Principles of Classification, Basic subject, compound subject and complex subjects, Three planes of work, Canons for classification, Principles and Postulates; Spiral of Scientific Method, Modes of Formation of Subjects.	12hrs
Unit 3	:	Fundamental Categories: Facet analysis and facet sequence, Principal of Helpful Sequence Phase relations, Common Isolates, Devices and Mnemonics.	11hrs
		Notational System: Meaning, need, functions and types, qualities. Call Number, Book Numbering system.	
Unit 4	:	Study of selected schemes of classification: Dewey Decimal Classification (DDC), Universal Decimal Classification (UDC), Colon Classification (CC), WebDewey.	10hrs
Unit 5	:	Trends in Library Classification: Automatic document categorisation, Knowledge Organization Systems: Simple Knowledge Organization System (SKOS). Thesauri, Ontology, Folksanomies, Web Ontology Language (OWL),	11hrs

Reference Books:

Dhyani, P. (1998). *Library Classification: Theory and practice*. New Delhi: VishwaPrakashan.

Kumar, K. (2018). *Theory of Library Classification* (2nd ed.). New Delhi: Vikas.

Kumar, P. S. G. (2003). *Knowledge organization, Information processing and retrieval theory*. Delhi: BR.

Parkhi, R. S. (2017). *Library Classification: Evolution of a dynamic theory*. Bombay: Asia.

Ranganathan, S. R. (1957). *Prolegomena to Library Classification* (2nd ed.). London: LA.

Ranganathan, S. R. (1960). *Colon Classification* (6th ed.). Bangalore: Sarada Rangnathan Endowment for Library Science.

Sajija M. P (2023). *The Theory and Practice of the Dewey Decimal Classification System*. New Delhi: Chandos Publishing.

Sinha, S. C., & Dhiman, A. K. (2002). *Prolegomena to universe of knowledge*. New Delhi: ESSESS.

Srivastava, A. P. (2013). *Theory of knowledge Classification in Libraries*. New Delhi: sage.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Hard Core - Practice	Knowledge Organisation: Classification	8	4

Course Outcomes (CO)

CO1	Develop an understanding of the organization and structure of DDC scheme
CO2	Create competency in using the DDC scheme to derive class numbers for all types of documents
CO3	Demonstrate the ability to solve problems in classifying complex documents

COURSE OUTLINE

Special Note: Classification of documents according to Dewey Decimal Classification (Latest/available edition)

Unit 1 : Introduction - Structure and organization of DDC 15 hrs
Classification of documents representing simple subjects.

Unit 2 : Classification of documents using tables 1 and 2 15 hrs

Unit 3 : Classification of documents using tables 3 to 6 15 hrs

Unit 4 : Classification of documents using add to notation. 15 hrs

Note - Each student shall maintain Practical Record and submit the same at the time of Practical Examination

Reference Books:

Kaushik, S.K. (2022). *Dewey Decimal Classification. A practice manual of 23rd edition*. New Delhi:Ess Ess publications

Satija, M. P. (2012). *Exercises in the 23rd edition of the Dewey Decimal Classification*. New Delhi : Ess Ess Publications

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Soft Core - Elective	Fundamental of Information Technology	4	4

Course Outcomes (CO)

CO1	Articulate the architecture of information technology and understand the basics of computer hardware and software**.**
CO2	Articulate basic knowledge about database management system and data processing
CO3	Acquire and understand basic concepts of computer networking
CO4	Understand Internet protocols, services and its applications in libraries.
CO5	Awareness about privacy, security and integrity of information.

COURSE OUTLINE

Unit 1	:	Computer: Architecture and Technology- Introduction to Information Technology, Computer hardware, software and storage devices. Character Representation (ASCII, ISCII, Unicode). Types of software - system software and application software. Operating system -Windows and Linux. Programming languages - object oriented, procedural, high level, scripting, web languages	12 hrs
Unit 2	:	Data Processing - File design, data files, records. File organization - serial, sequential, direct access, indexed sequential and random access file organization. Database - concepts, organization and types, Database Management System (DBMS) - Architecture	11 hrs
Unit 3	:	Computer Networks and Networking : Computer networks - definition and examples. Network media- UTP, Optical fiber, Ethernet, Network Interface Cards, Hubs, Routers, Gateway, ISDN, PSDN. Network types - LAN, MAN, WAN, topologies - bus, star, ring, tree, mesh and token ring networks. Wireless Communication – Media, Wi-fi, Li-fi, Bluetooth, Satellite Communication, Mobile Communication.	11 hrs
Unit 4	:	Internet protocols and standards-HTTP, SHTTP, FTP, SMTP, TCP/IP, URI, URL. Internet applications/services/utilities. Data security, Networking security, Firewalls, Cryptographic techniques, Anti-virus software, Anti-spyware, Intrusion detection system.	11 hrs
Unit 5	:	Impact of Information Technology- Privacy, security and integrity of information. Computer security, cyber security and cyber crimes. Firewall, proxy server, and cryptographic techniques. Cyber bullying - types, consequences, prevention and law. The Information Technology Act, 2000.	11 hrs

Reference Books:

Blum, R. (2021). *Professional Linux programming*. John Wiley & Sons.

Elmasri, R. & Navathe, S. B. (2021). *Fundamentals of database systems* , 7th ed.. Boston: Pearson/Addison-Wesley.

Godbole, A. & Atul Kahate (2021). *Web technologies: TCP/IP, Web/Java programming, and cloud computing* (3rd ed.). McGraw-Hill.

Haravu, L. J. (2017). *Library automation design principles and practice*. New Delhi: Allied Publishers.

Hennig, N. (2017). *Keeping up with emerging technologies: Best practices for information professionals*. Santa Barbara, CA: Libraries Unlimited.

Joiner, I. A. (2018). *Emerging library technologies: It's not just for Geeks.* Chandos Publishing.

Michael, R. K. (2018). *Mastering UNIX shell scripting*. Wiley.

Petersen, R. (2007). *Linux: The complete reference*. Tata McGraw-Hill Education.

Ward, Brian (2014) *How Linux Works – What Every Super user Should Know* .No Starch Press.

Wilson, Kevin (2016).*Essential Computing: Concepts of ICT*. Elluminate Press

Silberschatz. (2013). *Database System Concepts Paperback*. McGrawHill.

Doyle,Stephen (2015) *Complete ICT for Cambridge IGCSE*. Oxford University Press.

Bach, Maurice J. (2015). *Design of the UNIX Operating Systems*. Pearson

Mohamed, H. K. (2011). *Information and communication technology in special libraries: ICT based resources, services and training*. LAP LAMBERT Academic Publishing.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Soft Core - Elective	Digital resources	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about digital resources and its types.
CO2	Understand procedures and techniques in developing digital collection.
CO3	Acquire and understand electronic resource management and life cycle.
CO4	Awareness about Digital resources initiative in India
CO5	Comprehend about open educational resources.

COURSE OUTLINE

Unit 1 : Introduction to Digital resources –Digital resources –definition characteristics, scope and challenges, types of Digital resources-ebooks, ejournals, databases,geospatial eresources, electronic theses and dissertations, subject gateways, institutional repositories and digital libraries — 12 hrs

Unit 2 : Electronic Resources – Collection development. Selection tools, Licensing and negotiation, Digital Rights Management, Open Digital resources, Open free resources incorporation to library collection. — 12 hrs

Unit 3 : Electronics resource management- Electronics resource life cycle, ERAMS – Open URL, Link resolvers, Federated search, web discovery services, A 2 Z list . Multiple format management, — 11 hrs

archiving and preservation of e-resources, Strategies for marketing of digital resources in library, innovative library services using digital resources

Unit 4	:	Digital resource initiatives in India- Initiatives for production, storage and dissemination of digital information. Library consortia –UGC Shodhsindhu, DAE, FORSA. Scholarly journals – Indian Academy of Sciences, INSA, MedInd, IndianJournals.com. Electronic Theses and Dissertation – IITs IISc., Vidhyanidi, Shodhganga, Digital Library of India, EPrints@iisc	11 hrs
Unit 5	:	Open Educational Resources – Learning Management System, Open educational resources, MIT OpenCourseWare, Online Courseware –NPTEL, e-PG Pathshala, Swayam	10 hrs

Reference Books:

Andrew, C. (2010). Introduction to digital library management. London: Facet Publishing

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

Gunjal, B., Pradhan, D. & Mishra, V.K. (eds.). (2016). Electronic resource management in libraries. New Delhi :Ess publications

Jones, R. Anndrew, T. & MacColl, J. (2006). The institutional repository. Oxford : Chandos Publishing

Kaushik, A. (2017). Massive Open Online course (MOOC) in Library Science domain. New Delhi : B.R.Publishing.

Kumar , P.S.G. (2016). Fundamentals of information science : fourth revised ed. (vol.1). New Delhi: B.R.Publishing.

Kumar , P.S.G. (2016). Fundamentals of information science : fourth revised ed. (vol.2). New Delhi: B.R.Publishing.

Kumar , P.S.G. (2016). Fundamentals of information science : fourth revised ed. (vol.3). New Delhi: B.R.Publishing

Kumar , P.S.G. (2016). Fundamentals of information science : fourth revised ed. (vol.4). New Delhi: B.R.Publishing

Penny, D., Beard,J. & Holland, M. (eds). (2017). University Libraries and digital learning environment. Routledge.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Soft Core - Elective	Knowledge Management	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about basic concept of knowledge management
CO2	Differentiate various kinds of knowledge.
CO3	Acquire and understand basic concepts of knowledge of knowledge management systems and its architecture.
CO4	Explain about knowledge management tools and portals.
CO5	Articulate basic knowledge about capturing, codification transfer and sharing of knowledge

COURSE OUTLINE

Unit 1	:	Knowledge Management – basic concepts and definition, Need for Knowledge Management, Knowledge Management Systems, Issues in Knowledge Management	11 hrs
Unit 2	:	Knowledge – Types, Characteristics , Subjective and objective view of knowledge Procedural vs. Declarative knowledge, Tacit vs. Explicit knowledge, General vs. Specific knowledge, Technically vs. Contextually Specific knowledge	11 hrs
Unit 3	:	Knowledge Creation - Nonaka's Model of Knowledge Creation and Transformation, Knowledge Architecture - acquiring the KM System, Capturing tacit knowledge-methods Knowledge codification- tools and procedures, Knowledge testing, knowledge transfer	12 hrs
Unit 4	:	Knowledge Base. Knowledge mapping, Decision trees, decision tables, frames Knowledge works and Knowledge markets	11 hrs
Unit 5	:	Knowledge Management System Tools and Portals - Data visualization, Tools and techniques of knowledge management , Knowledge based systems vs expert systems Neural networks, data mining - managing knowledge workers Knowledge management in library and information centres	11 hrs

Reference Books:

Alavi, M. & Leidner, D.E. (2001) *Knowledge Management and knowledge Management Systems: Conceptual Foundations and Research issues*. MIS Quarterly, 25

Beacerra-Fernandez, I, & Sabherwal, R (2014). *Knowledge Management: Systems and Processes*. Routledge

Davenport, T.H. & Prusak, L, (1998). *Working knowledge.* Boston, MA: Harvard Business School Press.

Desouza, K.C. & Paquette, S (2011) *Knowledge management: an introduction* London:Neal Schuman Publishing

Dhiman, A.K & Sharma, H (2009). *Knowledge Management for librarians*. New Delhi: Ess Ess Publication.

Elliasm, Awad and Hassan M Ghaziei (2010). Knowledge management. 2nd ed. New Delhi: PHI Leans

Gupta, A (2015). *Application of Knowledge for Management in Digital Era*. New Delhi. Centrum Press

King, W.R., in Knowledge transfer":*The encyclopaedia of knowledge management,* ed.

Koenig, Michael EP & Srikantalah, T.K. (eds.) (2008) *Knowledge management lessons learned: what works & what doesn't.* New Delhi, Ess Ess Publication.

Liebowitz, J and Wilcox, L.C (1997). *Knowledge management and its integrative elements*. USA: CRC Press.

Liebowitz,J. (1957).*Knowledge management: lessons learned from knowledge* engineering US: CRC Press.

Management systems : *Conceptual foundations and research issues*. MIS Quarterly

Mclnerney Claire, and Koenig, Michael E.D (2011) *Knowledge Management Processes in Organizations: Theoretical Foundations and Practice*, Morgan and Claypool.

Michael Earl (2001) *Knowledge Management Strategies : Toward a Taxonomy*, Journal of Management Information systems

Natarajan M (2015) *Knowledge management : Challenges and applications*. New Delhi: EssESS Publication
Nonaka, I Takeuchi, H (1995). *The knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press.

Shah, .R (2013). *Practical knowledge management*. New Delhi. Horizon Press.

Sanchez, R (1996). *Strategic Learning and knowledge Management*. Chichester: Willey

Srikantaiah, T.K & Koening M. (2000). *Knowledge Management for the Information Professional.* Information Today Inc.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 1	Hard Core -	Fundamental of Information	8	4

	Practice	Technology		

Course Outcomes (CO)

CO1	Develop an understanding of installing and using Windows / Linux operating systems
CO2	Create competency in using the MS Word, Open Office Writer, MS Access, MS Excel and MS Power Point software
CO3	Demonstrate the ability to use various internet tools, services and utilities

COURSE OUTLINE

Unit 1	:	Operating system – Windows / Linux	15 hrs
Unit 2	:	Word processing – MS Word / Google Docs	15 hrs
Unit 3	:	Spreadsheet – MS Excel / Google Sheets	15 hrs
Unit 4	:	Presentation – MS Power Point / Google Slides Internet tools: Web Browser, Online survey,	15 hrs

Note - Each student shall maintain Practical Record and submit the same at the time of Practical Examination

Reference Books:

Aityan, S. K. (2020*). Practical Guide to PC and Microsoft Office 365: Word, Excel, PowerPoint*.

Alexander, M., Walkenbach, J., Kusleika, R. (2018). *Excel 2019 Bible*. Wiley.

Borgen, J., Graham, M. J. (2022). *Google Tools Meets Middle School*. Sage Publications.

Velte, T. & Velte A. (2019). *Cloud Computing : a practical approach.* India, McGraw Hill Education).

Haff, G. (2021). *How Open Source Ate Software: Understand the Open Source Movement and So Much More*. Apress.

Lambert, J. (2019). *Microsoft Word 2019 Step by Step*. Pearson Education.

Bott, E. & Stinson C. (2020). Windows 10 Inside Out, 4th ed. Microsoft Press.

Lee, W. (2009). *Windows 7: Up and Running: A Quick, Hands-on Introduction*. O'Reilly Media.

Noelle, R. (2010). *Microsoft Word 2010 in Simple Steps*. Pearson.

Second Semester			
Type of Course	**Course name**	**Hrs/ week**	**Credits**
Open elective	Information Source and Services	**3**	3
Hard Core- Theory	Management of libraries and Information centers	**4**	4
Hard Core- Theory	Knowledge Organization: Cataloguing and Metadata	**4**	4
Hard Core- Theory	Information systems and Services	**4**	4
Hard core- Practical	Knowledge Organization: Cataloguing and Metadata (Practice)	8	4
Soft core elective (any one)	Web-Based Technologies for Libraries	4	4
	E-Publishing		
	Information Literacy		
Total credits			**23**

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Open Elective	Information sources and services	3	3

Course Outcomes (CO)

CO1	Articulate basic knowledge of primary, secondary and tertiary sources.
CO2	Articulate basic knowledge about the reference sources which facilitate access to information
CO3	Acquire evaluative skills for selecting both print and electronic information sources
CO4	Understand and differentiate between reference and information services
CO5	Create awareness about information needs of different groups of users and the services library can offer to meet these information needs

COURSE OUTLINE

Unit 1 : Information Sources – fundamental concepts, Importance of Information and Information Source. Criteria for evaluation of different types of information sources, Users of information sources and their needs
Types of information sources - Primary, Secondary & Tertiary, Human and Institutional sources, conventional, non-conventional and meta documents. 12 hrs

Unit 2	:	Reference Sources – Dictionaries, Encyclopedias, Geographical sources, Statistical sources, Biographical sources, current events sources, Directories, Indexing and abstracting sources, Year Books and Almanacs,	10hrs
Unit 3	:	Electronic Information Resources: Meaning and Definitions, Growth and Development of e-resources. Types of electronic information sources –e-books, e-journals, e-databases, electronic thesis and dissertations (ETDs), Web of Science, PubMed Central, SCOPUS, DOAJ, DOAB, open access resources E-learning Resources: Swayam, Swayam Prabha, e-PGPathshala, eGynakosh, e-shodhsindhu, NDL, ETD–Shodhganga, Shodhgangothri,	12 hrs
Unit 4	:	Information Services - Concept and Types of Information Services – Traditional Library Services and Web-enabled Library and Information Services; Reference service, CAS and SDI, Document Delivery Services, translation services. Web-Based Library and Information Services: Introduction, Need and Purpose. Web-based Online Public Access Catalogue (Web OPAC), Library Webpage, E-mail, List servers, Subject Gateways, Ask-a-Librarian, Virtual Reference Desk (VRD), Virtual Libraries.	11 hrs
Unit 5	:	Information Systems: Meaning, Objectives and Functions. Information analysis centers, Study of National and International Information Systems and Services: National Institute of Science Communication and Policy Research (CISR-NIScPR), DESIDOC, NASSDOC, NISSAT, SENDOC, Library Consortia - OCLC, INFLIBNET, UGC-INFONET, DELNET, ERNET, and INDEST. International Information Systems - CAS, INSPEC, AGRIS, BIOSIS, INIS, MEDLARS-MEDLINE, ERIC.	11 hrs

Reference Books:

Asija,S.(1998). *Documentation services in India: A review of some selected documentation centres*. New Delhi: Academic Publications.

Dhimani, A., & Rani, Y. (2015). *Learn Library Science Series*. ESS Publication: New Delhi.

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

Gupta, B. M. (2021*). Handbook of Libraries, archives, Information centres in India*. New Delhi: Aditya Prakshan.

Hirsh, S. (2015). *Information Services Today: An Introduction (*1st ed.). Rowman &Littlefield,

Katz, W. A. (1978). *Introduction to reference work* (5th ed., Vol. 2). New York: McGraw-Hill.

Kumar, K. (2003), *Reference services* (3rd ed.). New Delhi: Vikas.

Maguire, C., Kazlauskas, E. J., & Weir, A. D. (2013). *Information services for innovative organizations*. Bingley: Emerald Group Publishing Limited.

Neelameghan, A. & Prasad, K. N. (2005). *Information systems and services in India*.

Bangalore: SRELS.

Parker, C. C., & Turley, R. V. (1986). *Information sources in science and technology: a practical guide to traditional and online use*. London: Butterworths.

Parker, C.C. and Purely: Information Sources in Science and Technology. Ed. 2.1986

Ranganathan, S. R. (1992). *Reference service* (2nd ed.). Bangalore: Sarada Ranganathan Endowment for Library Science.

Rao, I. K. R. (2020). *Electronic Sources of information*, Bangalore: DRTC

Ryan, B. (2023). *Optimizing academic library services in the digital milieu: Digital devices and their emerging trends* (1st ed.). Philadelphia, PA: Chandos Pub.

Singh, G. (2023). *Information sources, Services and Systems*. India: PHI Learning Private Limited.

Singh, S. (1997). *International manual of Reference and information services*. Delhi: Beacon Book.

Singh, S. (1997). *Handbook of Reference and Information Services*. New Delhi: Crest Publishing house.

Smith, L. C., & Wong, M. A. (2017). *Reference and information services: an introduction* (5th ed). Santa Barbara, CA: Libraries Unlimited.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Hard Core-theory	Management of libraries and information centres	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept, styles and principles of management and its applications in library and information centers
CO2	Articulate basic knowledge about human resource and financial management and apply it to one's own work in library and information centers.
CO3	Understand procedures and techniques of housekeeping operations in library and information centres
CO4	Acquire working knowledge of marketing library products and services
CO5	Comprehend the concept of space management, planning of library building, furniture, equipments, quality and standards.

COURSE OUTLINE

Unit 1 : Management - Concepts, Definition and Scope, Management Styles and Approaches, Functions and Principles of Management and their application to Library and information centers, Principles of Scientific management, Management by objectives (MBO), Change Management, Governing of Libraries and Information Centers. — 11 hrs

Unit 2	:	Human Resource Management - Meaning, Definition, Objectives and Functions, Selection and Recruitment; Manpower planning, Job analysis; Motivation; Training and Development; Performance Appraisal, Promotion and transfer. Financial Management: Resource Mobilization; Budgeting Methods and types of Budgets, Preparation of budget, Budgeting Techniques, PPBS. Zero based budgeting, Costing and Accounting, Cost Benefit Analysis.	12 hrs
Unit 3	:	Library Operations: Collection Development - Selection and Acquisition; Technical Processing; Serials Control; Circulation Control; Maintenance; Stocks verification and Weeding; Library Records and Statistics: Library Records, Annual Report – Compilation ,Contents and Style; Library Statistics, Staff Manual, Authority File: Purpose, Types, Library Annual Report.	11 hrs
Unit 4	:	Marketing of Library Products and Services – Definition, Planning, Research, Strategies, Segmentation, Pricing and Advertising. Marketing Mix; Kotler's Four P's; McCarthy's Four P's. Packing, Branding and Advertising. User Behavior and Adoption.	11 hrs
Unit 5	:	Systems Analysis and Design: Library as a system; Design and Planning of Library and Information Center, Library Building: Hybrid and Digital, Furniture and Equipment, SWOT, SWAC. Total Quality Management (TQM) - Definition, Elements and Techniques. Quality Audit, LIS related Standards. Performance Evaluation of Library and Information Centers. PERT, CPM Technology Management.	11 hrs

Reference Books:

Anil Kumar Dhiman &Yashoda Rani (2019) *Library Management : A Manual for Effective Management*, Ess Ess Pubns.

Applegate, R. (2019). *Practical evaluation techniques for librarians*. Santa Barbara, California: Libraries Unlimited.

Bryson, J. (2018). *Effective library and information centre management* (2nd ed.). London: Routledge.

Burger, R. H. (2016). *Financial Management of libraries and Information Centre* (1st ed.). Libraries Unlimited.

Gupta, K. D. (2001). *Library practice for effective management*. New Delhi: Indian Library Association.

Khan, K. M., Mallaiah, & K, V. B. (2014). *Proceedings of the National Conference on 'Democratization of Information using ICT: Role of Libraries for Social Enlightenment (Demict-2014),DLISc.* Mangalagangothri.

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

Bryson, J. (2018). *Effective library and information centre management*. Routledge.

Evans, G. E., & Greenwell, S. (2020). *Management basics for information professionals*. Facet Publishing.

Koontz, H. (2012). *Essentials of management*. Tata MacGraw-Hill.

Krishan Kumar (2005). *Library administration and management*. Vikas Publishing House.

Nelke, M. (2012). *Strategic Business Development for Information Centres and Libraries* (1st ed.). Chandos Publishing.

Prajapati, R. S. (2013). *Theories and practices of library management*. New Delhi: Discovery Pub. House.

Sharma, P., & Kumar, R. (2013). *Collection development and management in libraries and information centres in digital scenario*. New Delhi: SSDN Publishers & Distributors.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Hard Core - Theory	Knowledge organization : Cataloguing and metadata	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept and practices of library cataloguing
CO2	Familiarity with various cataloguing codes/standards
CO3	Understand and differentiate between various cataloguing codes/standards
CO4	Acquire working knowledge of metadata, standards and structure of bibliographic records.
CO5	Comprehend concept of resource sharing and centralized and cooperative cataloguing

COURSE OUTLINE

Unit 1 : Resource Description: Concepts and definition. Library Catalogue - Definition, Need, Objectives, Functions, Evolution of cataloguing codes: Panizzi to RDA, Resource description standards: ISBD, AACR2, RDA and FRBR, LRM (Library Reference Model) — 12 hrs

Unit 2 : Physical forms and Inner forms of Catalogues. Kinds of entries - Card Catalogue to OPAC their structure and uses. Filing rules and procedures. Normative principles of Cataloguing: Canons, Laws, Principles. — 11 hrs

Unit 3 : Subject Cataloguing: Need and Importance; Chain Procedure; Subject heading lists – Sears List of Subject Headings (SLSH), Library of Congress Subject Headings (LCSH), Medical Subject Headings (MeSH) — 11 hrs

Unit 4 : Metadata: Definition, Purpose, Use, types. Metadata standards: UNIMARC,CCF, MARC-21 & Dublin Core. TEI (Text Encoding initiative), METS, EAD, VRA Core, Consortia approach to metadata-OAI-PMH. Current trends: WebOPAC, — 11 hrs

Unit 5 : Resources Sharing of bibliographic data: Meaning and importance. Co- operative, Centralized Cataloguing; Cataloguing at Source, CIP, Union Catalogues: Concept, Types and Compilation, OCLC and its activities, WorldCat — 11 hrs

Reference Books:

Foulonneau, M., & Riley, J. (2014). *Metadata for Digital Resources: Implementation, Systems Design and Interoperability*. Elsevier Science

Mal,B.(2005).*Practical cataloguing*.Shree publishers & Distributors:New Delhi.

Maxwell, R.,& Maxwell, M.F. (1997). *Maxwell's handbook of AACR2R: Explaining and illustrating the Anglo American Cataloguing Rules and the 1993 amendments.* Chicago : ACA.

Maxwell, R.L.,& Connell, T.H. (2000). *Future of Cataloguing*. Chicago: ALA

Mishra A.R., & Ahmad M.D. (2004). *Issues in Digital Cataloging.* Shree Publishers & Distributors : New Delhi,

Ramalingam, M. S. (2000). *Library Cataloguing and Classification systems*. Delhi: Kalpaz.

Ranganathan, S. R. (1950). *Library Catalogue: Fundamentals and procedures*. LA: Madras.

Ranganathan, S. R. (1955). *Headings and canons*. Madras: S Vishwanathan.

Ranganathan, S. R. (1998*). Classified Catalogue code.* Madras : UBSPD.

Sangma, S. K. (2013). *Cataloguing rules in library science*. Centrum Press.

Satija, M. P. (2013). *The theory and practice of the Dewey Decimal Classification system*. Chandos Publication.

Taylor, A. G., Wynar, B. S., & Miller, D. P. (2004). *Wynar's introduction to cataloging and classification*. Libraries Unlimited.

Welsh, A., & Batley, S. (2012). *Practical cataloguing: AACR, RDA and MARC21*.

Codes / Standards-

Anglo-American Cataloguing Rules II (most recent edition). Library of Congress.

Bristow, B. A., Farrar, C. S., & Sears, M. E. (2014). *Sears list of subject headings* (21st ed.). H.W. Wilson.

RDA MARC 21 and related standards for bibliographic records (2021). Library of Congress

OCLC (2002). *Bibliographic formats and standards* (3rd ed.)

Ranganathan, S.R. (1964). *Classified catalogue code* (5th ed.). Asia Publishing House.

Taylor, A. G., Wynar, B. S., & Miller, D. P. (2004). *Wynar's introduction to cataloging and classification*. Libraries Unlimited.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Hard Core-theory	**Information Systems And Services**	4	4

YENEPOYA
(DEEMED TO BE UNIVERSITY)

Course Outcomes (CO)

CO1	Articulate basic knowledge about concepts and types of information services provided in libraries
CO2	Understand the library services provided in libraries .
CO3	Describe the need for web based library and information services
CO4	Compare and analyse characteristics and components of information systems
CO5	Explain functions of national and international information systems

COURSE OUTLINE

Unit 1 : Information Services**:** Concept, meaning, definitions, Scope and Types of Information Services – Traditional Library Services and Web-enabled Library and Information Services; Need and Importance of information services. Types of Information Services: Reference service: Concept and Types -Short and Long Range with examples. Reference process, Steps in providing reference services. Referral service. Reference Collection, Knowledge, Skills and Qualities of a Reference Librarian — 12 hrs

Unit 2 : Library Services **-** Document Delivery Services -Needs and Importance, Types of Document Delivery Services, Current Awareness Services (CAS) and Selective Dissemination of Information (SDI); Abstracting service - Abstracting techniques, Types of abstract, abstracting writing (style, content). Indexing services; Translation Service. Bibliographic Services, Trend Reports, State of the Art reports and Digests. — 11 hrs

Unit 3 : Web-Based Library and Information Services - Introduction, Need and Purpose of Web-based Library Services, Web-based Online Public Access Catalogue (Web OPAC), Library Webpage, E-mail, Subject Gateways, Subject portals, Online Bibliographic/Indexing Databases, e-resources, e-CAS and e-SDI, Institutional Repositories, Ask-a-Librarian, Alerting services – Listservs, Real Time Services, Bulletin Boards, Web Forms, FAQs - Web Based User Education. Virtual Reference Desk (VRD). Virtual Library. — 11 hrs

Unit 4 Information Systems - Meaning, Objectives and Functions. Components of Information System: Libraries, Documentation Centers, Data centers, Information analysis centers, Clearing houses, Data banks, Institutional Repositories, Open Archives, Publishing Houses; Understanding the different systems and their services. Understanding the user communities; Introduction to the user centered approach to Information seeking behavior. User Education - methods and techniques. User studies — 11 hrs

Unit 5 : Study of National and International Information Systems and Services: National Institute of Science Communication and Policy Research CISR-NIScPR (NISCAIR/NISTADS), DESIDOC, NASSDOC, NISSAT, SENDOC. Consortia - OCLC, INFLIBNET, UGC-INFONET, DELNET, NICNET, ERNET, INDEST. International Information Systems - CAS, INSPEC, AGRIS, BIOSIS, INIS, MEDLINE. — 11 hrs

Reference Books:

Bopp, R. E., & Smith, L. C. (2011). *Reference and information services: An introduction* (4th ed). Englewood: Libraries Unlimited.

Cassell, K. A. & Uma H. (2013). *Reference and Information Services: An introduction* (3rd ed.). Chicago: ALA.

Valecich, J. (2009). *Information systems today: Managing the digital world*. New Delhi: PHI.

Singh, Gurudev. (2013). Information sources, services, and systems. New Delhi: PHI Learning Pvt. Ltd. ISBN – 9788120346390

Smith, L. C., & Wong, M. A. (Eds.). (2016). *Reference and Information Services: An Introduction: An Introduction*. ABC-CLIO.

Dhiman, A. K., & Rani, Y. (2005). *Learn information and reference sources and services*. New Delhi: Ess Ess Publications.

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

Hirsh, S. (2015). *Information services today: an introduction* (1st ed.). Lanham: Rowman and Littlefield.

Kumar. K. (1990). *Reference service*. New Delhi: Vikas.

Maguire, C., Kazlauskas, E. J., & Weir, A. D. (2013). *Information services for innovative organizations*. Bingley: Emerald Group Publishing Limited.

Neelameghan, A. & Prasad, K.N. (2005). Information systems and services in India.(ed.) Bangalore: SRELS.

Smith, L. C., & Wong, M. A. (2010). *Reference and information services: an introduction* (5th ed.). Santa Barbara, CA: Libraries Unlimited

Vickery, B. (1987). *Information systems.* London: Butterworths

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Hard Core - Practice	Knowledge organization : Cataloguing and metadata	8	4

Course Outcomes (CO)

CO1	Demonstrate ability to identify subject content of the documents and make appropriate entries for effective retrieval of documents
CO2	Acquire skills to prepare accurate catalogue records for book and non book materials.
CO3	Application of cataloguing codes in creation of main entries, added and other entries
CO4	Acquire hands-on skills to prepare records as per MARC 21

COURSE OUTLINE

Special Note: Cataloguing of book and non-book materials according to AACR2R/RDA and creating records using MARC21 and Dublin Core.

Unit 1	:	Catalog of Single, joint authors and mixed authors	10 hrs
Unit 2	:	Cataloguing of edited books, multi volume books, pseudonymous authors and uniform titles;	10hrs
Unit 3	:	Cataloguing of works of corporate authors- Govt. publications, institutional publications, society publications, conference/ seminar proceedings, workshop materials	15 hrs
Unit 4	:	Cataloging of serial publications and Non-Books/Electronic resources.	10 hrs
Unit 5	:	Cataloguing according to MARC 21and Dublin Core1	15 hrs

Note: Each student should maintain Practical Record and submit the same at the time of Practical Examination

Reference Books:

Anglo-American Cataloguing Rules (2002) 2nd RevEd.

MARC 21 and Related standards for Bibliographic Records. New York: LC. http://dublincore.org

RDA: Resource, description and access: 2013 revision. London: CILIP.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Soft Core-Elective	**Web-Based Technologies for Libraries**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept, evolution of web and development o web resources
CO2	Acquire skills to use web based services in libraries.
CO3	Comprehend functions and features of web 2.0 and web 3.0 and its application in libraries.
CO4	Understand social media applications in libraries.
CO5	Familiarity with the artificial intelligence, expert systems and its application in libraries

COURSE OUTLINE

Unit 1	:	Brief History of the Internet. Web: Evolution-Web 1.0, 2.0, 3.0. Web4.0, Web resources-Meaning and definition, Growth and development, Evaluation Criteria. Website - History, Overview, Static website, Dynamic website, Types of Websites - Library Website - Importance and Services	12 hrs
Unit 2	:	Web 2.0. and Web 3.0 - Definition and Characteristic features. Web 2.0 and Web 3.0 challenges for Libraries. Web 2.0 and Web 3.0 based Library services.	10 hrs
Unit 3	:	Web 2.0 Application in libraries: Social Networking Sites (SNSs) - Need and Importance, Types - Facebook, Microbloggers / Microblogging - Twitter, Weblogs or Blogs. Instant Messaging (IM) – WhatsApp, Facebook Messenger; Podcasts - Social Photo and Video Sharing Sites - YouTube, Instagram, Pinterest, Documents / Presentation Sharing Sites - Slideshare, Google Docs; Academic Social Networking Sites – LinkedIn, Academia.edu. Social Bookmarking Sites and Tagging – Delicious, Social book marking, Metadata. Tags. Tag clouds. Folksonomy, Social networking. Criteria for Evaluation Web Resources	12 hrs
Unit 4	:	Web 3.0 Application in Libraries : Mobile Technologies, Quick Response Codes (QR). Cloud Computing Services, GeoTagging. Mobile based Library Services and Tools – Mobile OPAC, Mobile Databases, Mobile Library Website, Library Apps, Mobile Library Instructions, Augmented Reality, SMS Alerts, Geo-Location, and Reference Enquiry.	12 hrs
Unit 5	:	Application of Artificial Intelligence, Expert Systems and Robotics in Libraries; Social Mobile Analytics Cloud (SMAC), Case studies of Web 2.0 and Web 3.0 in Libraries.	10 hrs

Reference Books:

Bell, A. (2009). *Exploring Web 2.0: second generation internet tools - blogs, podcasts, wikis, networking, virtual worlds, and more*. Georgetown, TX: Katy Crossing Press.

Campesato, O., & Nilson, K. (2011). *Web 2.0 fundamentals with Ajax, development tools, and mobile platforms*. Sudbury, MA: Jones and Bartlett Publishers.

Casey, M. E., & Savastinuk, L. C. (2007). *Library 2.0: a guide to participatory library service*. Medford, NJ: Information Today.

Courtney, N. (2007). *Library 2.0 and beyond: Innovative technologies and tomorrows user*. Westport, C: Libraries Unlimited.

Governor, J., Nickull, D., & Hinchcliffe, D. (2009). *Web 2.0 Architectures*. Sebastopol, CA: OReilly Media, Inc.

Jones, K. M. L., & Farrington, P.-A. (2011). *Using WordPress as a library content management system*. Chicago, IL: ALA TechSource.

Ndubisi, N. O. (2006). *Content management systems*. Bradford, UK: Emerald.

Shah, S. (2008). *Web 2.0 security defending Ajax, Ria, and Soa*. Boston: Course Technology

Shelly, G. B., & Frydenberg, M. (2011). *Web 2.0: concepts and applications*. Boston, MA: Course Technology.

Shuen, A. (2008). *Web 2.0: a strategy guide*. Sebastopol, CA: OReilly Media.

Solomon, G., & Schrum, L. (2010). *Web 2.0 how-to for educators*. Eugene, OR.: International Society for Technology in Education.

Vossen, G., & Hagemann, S. (2007). *Unleashing Web 2.0: from concepts to creativity*. Amsterdam: Elsevier Morgan Kaufmann.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Soft Core- elective	**E-Publishing**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concepts and types of digital content
CO2	Understand major encoding standards and principles of web-page designing
CO3	Develop simple web pages in different mark-up languages,
CO4	Explain concept importance and types of Metadata
CO5	Demonstrate the use of scripting languages for web page designing.

COURSE OUTLINE

Unit 1	:	Content : Types of content types. Digital content types, File formats , Encoding systems ASCII, UNICODE and ISCII.	11 hrs
Unit 2	:	Markup Languages, SGML, HTML and XML.	10 hrs
Unit 3	:	Concepts in digitization - Born digital Vs. being digitized, Digitization, Steps involved in digitization - Identification of users, Factors to be considered - Intellectual value of the resource, legal issues -Copyright, Fair use, Orphan works, Finance, Preservation, Technical feasibility, Selecting materials for digitization, digitizing action issues, Processing for use.	11 hrs
Unit 4		Metadata - Importance, Definition and Types. Dublin Core. Interoperability-Federation, Harvesting and Crosswalk. Semantic Web. Electronic Publishing and scholarly communication, E-journals and e-books. World Wide Web - History and Evaluation, Uniform Resource Locator (URL), Web Server. Web Browser and Search Engines.	12 hrs
Unit 5	:	Web Design and Scripting - Introduction to Mark Up languages, SGML, HTML and XML. Scripting, languages - Client side Scripting – VB Script and Java Script : Server-side Scripting-ASP and JSP, HTML, Open source web design, Web Tools and app. Identification, Selection and Criteria for evaluation of websites. Web Tool and Apps for Libraries.	12 hrs

Reference Books:

Karen, S.W., Marilynn, B., & Stone, T.A (2003). *Electronic publishing. The definitive guide*, UK : Hard Shell Word Factory.

Klostermann, D. (2011). *The e-book handbook : A thoroughly practical guide to formatting, publishing, marketing and sellig your e-book Cambridge* : Full Stop.

Laton T (2011) . E-book publishing DIY : the do it yourself guide to publishing e-books (2nd ed.). United States : LOTONtech.

Meckler, L. (2011) E-book formatting, self-publishing, marketing tips updated. USA: Linda Emeckler on smash words.

Sahida, F.K (2010). Publishing e-book for dummies. USA: Create Space.
Schuster, C (2011). E-publishing for writers: Trends and opportunities. UK: Books to Go Now.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 2	Soft Core- elective	**Information Literacy**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concepts and levels of Information Literacy
CO2	Understand different types and models of Information Literacy
CO3	Comprehend Information Literacy competencies and role of libraries.
CO4	Understand retrieving of information from internet and ethics of using information
CO5	Understand various information literacy policies and standards

COURSE OUTLINE

Unit 1 : Introduction to Information Literacy –meaning, definition need and importance. Historical perspective .Levels of information literacy – entry, mid, high and advanced level. Information literacy-Technological component, digital divide and information literacy, Barriers of information literacy. User Education to Information Literacy — 12 hrs

Unit 2 : Types of Information Literacy – Library literacy, media literacy, technology literacy, digital literacy, computer literacy, research literacy. Models of Information Literacy – SCONUL model, Empowering 8 IL model. Big6, SCONUL Seven Pillar. — 11 hrs

Unit 3 : Information Literacy and higher education. Role of libraries in Information Literacy. Methods in Information Literacy, Information Literacy competencies, Challenges. Information Literacy instruction in different types of libraries. — 11 hrs

Unit 4	Retrieval of information-Library catalogues, OPAC/WebOpac, indexes, webscale discovery tools. Search strategy, techniques and methods, Boolean logic use. Search engines, meta search engines and web directories. Retrieving of relevant information from internet – techniques, evaluation. Ethics of creating and using information	11 hrs
Unit 5 :	Information literacy policies and standards. Guidelines and standards for Information Literacy programs – International and national initiatives, policies and guidelines. ALA, IFLA, UNESCO. Information literacy best practices, Information literacy assessment tools	11 hrs

Reference Books:

American Library Association Presidential committee on information literacy. Final report

Barker, K. and Londsale, R. (Ed.) (1994). Skills for life: value and meaning of literacy. London: Taylor Graham.

Buckingham, D. (2003). *Media Education: Literacy, learning and contemporary* Cambrudge, MA:Polity Press

Corekk, R.M (Ed.) (2013). *Library Reference Services and Information Literacy: Models for Academic Institutions*; Models for Academic Institutions. IGI Global

Eisenberg, M.B., Lowe, C.A. & Spitzer, K. L. (2004). Information literacy : essential skills for information age. London: Libraries unlimited.

Forest Woody, J (2007). *Understanding Infroamtion Literacy*: *a Primer*. United Nations Educational, Scientific and Cultural Organization

Meadows, A.J.(1991). Knowledge and communication: essays on the information chain. London: Library association.

Potter. W.J (2004). *Theory of Literacy: A Cognitive Approach*. Thousand Oaks, CA: Sage

Pantry, S. & Griffiths, P. (2002). Creating a successful e-information service. London: Facet publishers.

Radcliff, C.J.Jensen. M.L.Jr..,J.S, Burhanna, K.J & Gedeon, J.A (2007). *A Practical Guide to Inforamtion Literacy Assessemtn for Academic Librarians*. Greenwood Publishing Group

Zorana, E. (2008). Information literacy: search strategies, tools & resources fr high school students and college freshmen. California : Facet publishers

Third Semester			
Type of Course	**Course name**	**Hrs/ week**	**Credits**
Open Elective	Scholarly Communication	3	3
Hard Core-Theory	Information Technology applications in Libraries	4	4
Hard Core-Theory	Research Methodology	4	4
Soft core elective (any one)	Health Science Libraries And Information Centres	4	4
	Academic Libraries and Information Centers		
	Public Libraries and Information Centers		
	Industrial Libraries and Information Centers		
Hard Core-Practical	Information Technology applications in Libraries(Practice)	8	4
Hard Core-Theory	Communication skills and Technical Writing	4	4
Total credits			**23**

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Open Elective	Scholarly Communications	3	3

Course Outcomes (CO)

CO1	Articulate basic knowledge about concepts and principles of scientific scholarship and communication
CO2	Understand the role and importance of scientific societies in journal publishing.
CO3	Awareness about development and process of scholarly communication.
CO4	Explain open content and implications of intellectual property rights
CO5	Describe research metrics and mapping of scholarly communication.

COURSE OUTLINE

Unit 1 : Introduction of Scholarly communication - Historical perspective of scholarly communication systems, Foundation of Science and scholarship; Principles and paradigms of scientific culture/scholarship: Scholarship and scholarly traditions; Role of library & 12 hrs

information centers in Scholarly communication

Unit 2	:	Study of journals, their functions, working and processes. The importance of scientific and professional societies in journal publishing, the migration of peer review journals from print to Web–based, Serials pricing crisis phenomena. Predatory Journals, UGC Care Indexed journals	11 hrs
Unit 3	:	Scholarly Communication Process- Writing articles: Preparing article, Journal finder tools; Editorial process: peer-review and quality control, editing, Proofreading, designing, typesetting and printing.	11 hrs
Unit 4	:	IPR issues in e-publishing - Understanding copyrights. Creative Commons. Licensing issues. Open Access Movement - Open Access (OA), Introduction to OA, the Green and Gold route to OA, Open Educational Materials and Open Access to scientific literature, Publication Charges / APC.	11 hrs
Unit 5	:	Metrics to scholarly communication - Author Level, Article Level, Journal Level (Citation Count, H-index, Impact Factor), Mapping Science and tools and parameters - usage and influence factors.	11 hrs

Reference Books:

Andersen, D.L. (2014). *Digital scholarship in the tenure, promotion, and review process.* New York : M.E. Sharpe.

David, J. & Brown, Richard (2018). *The impact of Electronic Publishing* New York : the Future for Publishers and Librarians

Derricourt, R. (1996). *An author's guide to scholarly publishing,* New Jersey: Princeton University Press.

Gorman, G.E. (2015). *Scholarly publishing in an electronic era*. London: Facet Pubishers.

Loton, T. (2021). *E-book publishing DIY: the do it yourself guide to publishing e-books,* 2nd ed. United States: LOTONtech

Machlup, F. (1980). *Information through the printed word: The dissemination of scholarly, scientific, and intellectual knowledge.* New York: Praeger Publishers.

Nisonger, T. E. (2017). *Journals in the core collection: Definition, identification, and applications*. *The Serials Librarian*

Rowlands, I. & Nicholas, D. (2015). *New journal publishing models: an international survey of senior researchers*. London: CIBER

Rowlands, I. *et al. (2014).* Scholarly Communication in the digital environment: what do authors want? London, CIBER. Available at: http://www.ucl.ac.uk/ciber/ciber-pa-report.pdf.

Schroter,S. (2015). *Perception of open access publishing: interviews with journal authors*. *British Medical Journal*, 330: 756

Schuster, C. (2021). *E-publishing for writers: Trends and opportunities/Fall 2011* United Kingdom: Books to Go Now.

Tibbitts, G. (2006). *Measuring quality in journal publishing: new and emerging methods. Presentation at International Academy of Nurse Editors conference*, London, August 2003. [Available at: http://www.blackwellpublishing.com/press/files/2006_08August03_INANE_ Conference_London_GTV2.ppt]

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Hard Core - Theory	Information Technology applications in libraries	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about library automation concept, process and requirements
CO2	Familiarity with automation of in-house library operations with ILMS software
CO3	Awareness about various software packages on library automation, free, open, and commercial
CO4	Acquire working knowledge of security systems and its applications in libraries.
CO5	Understand various emerging technologies and its applications in libraries and information centres

COURSE OUTLINE

Unit 1 : Library Automation - Meaning and Definition, History, Need and Importance, Strategies for Library Automation / Integrated Library Management System (ILMS). Requirements – hardware, software, technical standards, prerequisites, Library Automation Tasks — 12 hrs

Unit 2 : Automation of House Keeping Operations: Acquisition and Cataloguing, OPAC, Circulation and Serials Control; Retrospective Conversion: Strategies and Techniques — 11 hrs

Unit 3 : Integrated Library Management Software (ILMS) Packages – Proprietary and Free and Open Source Software (FOSS) - Features of KOHA, NewgenLib, SOUL, e-Granthalaya, Libsys; Implementation and Evaluation; Standards for ILMS. — 11 hrs

Unit 4 Security Systems in Libraries- RFID-characteristics and features; RFID components; how does RFID work, Application of RFID in libraries; Barcode, QR Code, Biometric, Smartcards- features and applications — 11 hrs

Unit 5 : Application of Emerging Technologies in Libraries- Library 2.0/3.0, Application of Artificial Intelligence, Expert Systems, Robotics, Machine Learning, Block Chain technology, Cloud computing, Virtual Reality and Augmented Reality in libraries, Role of libraries in Research Data — 11 hrs

Management, Discovery tools, Semantic Technology and tools, Link resolves.

Reference Books

Ahmad, H. (2016). Integrated library management systems an Indian scenario of modern library automation (1st ed.). New Delhi: Ess Ess Publications.

Ahmad, H., & Alam, M. (2016). Library automation in India: an evaluative study. New Delhi: Ane Books Pvt. Ltd.

Banerjee, K., & Parks, B. (2017). Migrating library data: a practical manual. Chicago: ALA Neal-Schuman, an imprint of the American Library Association.

Bilal, D., & Bilal, D. (2014). Library automation: core concepts and practical systems analysis (3rd ed.). Santa Barbara, CA: Libraries Unlimited.

Brooks, J. (2014). Practical systems analysis in library automation and management. London: Koros Press Limited.

Hennig, N. (2014). Apps for librarians: using the best mobile technology to educate, create, and engage. Santa barbara, CA: Libraries unlimited.

Jost, R. M. (2016). Selecting and implementing an integrated library system the most important decision you will ever make (1st ed.). Amsterdam: Elsevier.

Starker, R. (2017). Transforming libraries: a toolkit for innovators, makers, and seekers. Irvine, CA: EdTechTeam Press.

Webber, D., & Peters, A. (2010). Integrated library systems: planning, selecting, and implementing (1st ed.). Santa Barbara, Calif: Libraries Unlimited.

Williams, Brian K., & Sawyer, Stacey C. (2014). Using information technology: A practical introduction to computers & communications (11th ed.). McGraw-Hill.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Hard Core-theory	Research Methodology	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about research concepts, types and areas of research in library and information science.
CO2	Understand the role of subject headings through various indexing systems.
CO3	Explain concept of sampling and data collection.
CO4	Demonstrate skills in application of statistics for data analysis.
CO5	Describe structure and guidelines for research reporting and reference management software

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COURSE OUTLINE

Unit 1	:	Foundations of Research - Concept, Meaning and definition, nature, and objectives of research, Types of research, Basic concepts of research. Areas of research in Library and Information Science. Planning of research, Review of literature / Literature search – print, non-print and electronic sources; Criteria of selection, Formulation of the selected problem. Hypothesis – Meaning, Types, Functions. Research design - Essentials of good research design & its importance, Ethics in research.	12 hrs
Unit 2	:	Research methods - Quantitative and qualitative methods of LIS research - Scientific Method, Historical method, Descriptive Method, Survey method, Observation method, Experimental method, Case-Study method. Delphi method and Interview method. Research techniques and tools: Questionnaire - types of questions, structured and unstructured questions. Interview schedule – Types, Merits & limitations, Pilot studies.	11 hrs
Unit 3	:	Sampling and Data collection - Sampling techniques, Sample design or choice of sampling techniques, sample size, Sampling and non-sampling errors , Meaning and importance of data, Sources of data, Types of data, Use of secondary data.	11 hrs
Unit 4	:	Data analysis and Interpretation/Statistical analysis of data - Descriptive and inferential Statistics – measures of central tendency, mean, median & mode; Tabulation and Generalization; measures of dispersion – Range, intermediate ranges, measures of aggregate dispersion, standard deviation & normal distribution. Chi-square test. Graphical presentation of data and report writing: Meaning & importance, commonly used graphics forms-line graphs or charts, Data visualisation. Histograms, Frequency polygons, pie charts & pictogram. Statistical Packages –SPSS, PSPP	11 hrs
Unit 5	:	Research reporting - Organization of report, Structure, Style, Contents, Guidelines of Research Reports, Style Manual – Chicago – MLA, Vancouver, APA E-Citation-Zotero, Endnote, Mendeley. Plagiarism: Turnitin, DrillBit. Methods of Research Evaluation. Trends in LIS Research	11 hrs

Further Reading

Busha, C. H., & Harter, S. P. (1986). *Research methods in librarianship: techniques and interpretation*. Orlando: Academic Press.

Charles, H. et.al (1993) *Research Methods in Librarianship: Techniques and Interpretations*. New Delhi, Sage.

Goode, W. & Hatt, P. K (1989). *Methods in Social Science Research*. Auckland: McGraw-Hill.

Greenfield, T. (1996). *Research methods: Guidance for postgraduates*. London; Toronto: Arnold; Wiley.

Kothari, C. R. (2021). *Research Methodology* (5th ed.). New Delhi: New Age International Publishers.

Krishnaswamy, O. R. (1993). *Methodology for Research in Social Sciences*. Delhi: Himalayan Publishing House.

Krishan Kumar (1999). *Research methods in library and information science*. (Rev. ed.). New Delhi: Har-Anand Publications

Lancaster, F. W (1993). *If you want to evaluate Your Library?*. London: LA.

Leedy, Paul, D. and Ormrod Jeanne Ellis (2016). Practical research : planning and design, University of northern, Colorado

Line, M. B. (1982). *Library surveys: An introduction to the use, planning procedure and presentation of survey* (2nd ed.). London: Clive Bingley.

Powell, R. R. & Silipigni, C. L. (2004). *Basic research methods for librarians*. (4th ed.). Westport: Libraries Unlimited.

Stebbins, L. F. (2005). *Student guide to research in the digital age: how to locate and evaluate information sources.* Santa Barbara: Libraries Unlimited.

Williamson, K. (2002). *Research methods for students, academics and professionals: Information management and systems*. Elsevier.

Young, P. V. (1982). *Scientific Social Surveys and research* (4th ed.). New Delhi: Prentice-Hall

of India.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Soft Core elective	**Health Science Libraries And Information Centres**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about growth and development of health science libraries.
CO2	Identify health information sources for collection development in health science libraries.
CO3	Understand information systems and networks in health science libraries.
CO4	Describe the planning and organization of services in health science libraries
CO5	Discuss about expert systems and artificial intelligence and its application in health science libraries

COURSE OUTLINE

Unit 1 : Introduction to health Science Libraries: Growth and development of health Science Libraries . Types of health Science Libraries/Information centers. Information services : Current Awareness Service, SDI service, Indexing and abstracting service, Literature search. Users of health Science Information — 12 hrs

Unit 2 : Health Science Information sources: Sources of Information - Print, Non-print and Electronic media, Institutional Sources of Information. Electronic Sources – e-journals, e-books, databases, Websites – identification, Selection and access. Open Access Sources — 11 hrs

Unit 3 : Health Science Information Institutions: National Medical Library. WHO, UNICEF, ICMR. National Institute of Health and Family Welfare. CDRI, CFRI, CFTRI, NIN, NII, NIC 11 hrs

Unit 4 : Information Systems and Networks: HELLIS, MEDLARS, BIOSIS. Trends in Health Science Information System. Application of Hypertext, Hypermedia, Multimedia 11 hrs

Unit 5 : Expert System and Artificial Intelligence- PubMed, Open access in Biomedical. Health Information Networks and Resource Sharing and Consortia approaches. HELINET Consortium, HeLLIS, Northeast Florida Health Information Consortium 11 hrs

Reference Books:

Carmel, M. (1995). *Health care librarianship and Information work*. (2nd ed.). London: LA.

Dixit, R. P. (1995). *Information management in Indian medical Libraries*. New Delhi: New Concepts.

Gupta, S. P., & others (1993). *Information technology and health Science (ed.). Libraries*. MLAI Special Publication.

Malinowsky, H. R. (1994). *Reference sources in Science, engineering, medicine and agriculture*. OryxPress.

Prudence, W. (1993). *Library trends: Libraries and Information services in the health Sciences, Summer 1993*.(ed.). University of Illinois Graduate School.

Sasikala, C. (1994). *Industrial library systems*. New Delhi: Reliance Publication House.

Wood, M. S. (1994). *Reference and Information services in health Science Libraries.* (ed.). Scarecrow Press.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Soft Core elective	**Academic Libraries and Information Centers**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept, types, role of academic libraries and to manage them effectively.
CO2	Identify the various sections in academic libraries and illustrate their functions.
CO3	Define principles of collection development and apply them in academic libraries.
CO4	Understand finance and human resources management in academic libraries.
CO5	Describe the services and networks in academic libraries.

COURSE OUTLINE

Unit 1 : Academic Libraries. Meaning, Objectives and Functions. Types of academic Libraries. 11 hrs

Role of UGC in academic Library development.

Unit 2 : Collection development and collection management – Book selection principles and policies, procedures and problems. 10 hrs

Unit 3 : Academic Library services: Virtual Reference Services, Documentation and Information services, Current awareness services, SDI services. Abstracting and Indexing services, Information product development services, ILL document delivery services. Literature survey and bibliography. 12 hrs

Unit 4 : Academic Library Finance and Budgeting. Human Resource Management. Library Buildings and Equipments. 11 hrs

Unit 5 : Academic Library networks. Library co-operations: Resource sharing, networks and consortia. International and National scenario. Academic networks: INFLIBNET and its services and activities. OCLC – Its activates and functions. 12 hrs

Reference Books:

Applegate, R. (2021). *Managing the small college library*. Santa Barbara, California: Libraries Unlimited.

Bavakutty, M. (1986). *College libraries in India: a case study* (Vol. 7). Bradford, England.: MCB University Press.

Bavakutty, M.(1988). Libraries in higher education. New Delhi: ESS ESS.

Cowley, John. (1982). Personnel management in Libraries.

Henry, M. & Morgan, S. (2002). *Practical strategies for modern academic Library*. London: Aslib-IMI.

Isaac, D. et.al. (1993). *Academic Libraries: Role in the national development*.

Jenkins, C. & Mary, M. (1996). *Collection development in academic Libraries*.

Mathu, M. V. & Arora, R. K. (2021). *Indian University Library System revitalization*.

Singh, S., & Arora, M. (1995). *Handbook of college Libraries: Problems, finance and relatedaspects.*

Srivastava, S. N., & Verma, S. C. (1980). *University Libraries in India*. New Delhi:Vikas.

Trehan, G. L. (1985). *College Library development.* London : Bingley.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Soft Core elective	**Public Libraries and Information Centers**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about importance, principles and role of public libraries in society.
CO2	Identify the role of governments and non government agencies in development of public libraries.
CO3	Describe finance, budgeting and public library movements

CO4	Understand the planning and organization of services in public libraries
CO5	Define role of national and international association in promotion of public libraries

COURSE OUTLINE

Unit 1 : Meaning and definition, origin, objectives, and functions of Public Libraries, History and Development of Public Libraries in India and other countries. Role of Public Libraries in 21st century. Role of government and non-government agencies in the development of public Libraries. Role of public Library in literacy and mass education. Library legislation- model public library bill of Ranganathan, Karnataka Public Library Act, 1965, Public Library users. 12 hrs

Unit 2 : Public Library Finance and Budgeting: Source of public Library finance, Administration of Budget. Study of public Library legislation: Need and importance. An overview of Public Library Acts in UK, USA, and other countries. Public Library Acts in different states with emphasis on Karnataka State Public Library Act, 1965 11 hrs

Unit 3 : Public Library Services: Planning and Organization of various types of Information services to the different categories of users including the physically and mentally challenged persons and special groups: women and children. Rural Library Services; Need and importance; Library users in rural areas. Library services to rural public. 12 hrs

Unit 4 : Library publicity, exhibition, seminar, book talks, A.V. programs; Mobile Library Services; user awareness programmes. Outreach activities 10 hrs

Unit 5 : Role of national and international associations and organizations in the promotion of public Libraries. Raja Ram Mohan Roy Library Foundation, UNESCO, IFLA etc. Internet Public Library (http://www.ipl.org). 11hrs

Reference Books:

American Library Association (1966). *Minimum standards for public Library system*. Chicago: ALA.

Atman, E. (2020). *Local library administration in association with International City Management Association*.(3rd ed.). Chicago: ALA.

Esdails, A. (1957). *National Libraries of the world. London*: Library Association.

Great Britain, Ministry of Education (1959). *Standards of public Library services in England & Wales*. Report. London: HMSO.

Kesavan, B.S.(1961). *National Library of India*. Calcutta: National Library.

McCloven, L.R. (2022). *Public Library system of Great Britain: Report on its present conditions with proposals for reorganization*. London: Library Association.

McCloven, L.R. (1951). *Public Library extension*. Paris : UNESCO.

Penna, C.A. et.al. (1977). *National library and information services, handbook for planners*. London: Butterworths.

R, L.Mittal. (1971). *Public Library law*. Delhi: Metropolitan.

Ranganathan, S.R. (1950). *Library development plan. A 30 year programme for India with*

draft Library bill. Delhi: Delhi University.

White, Carl M. (1964). Bases of modern librarianship. (ed.). New York: Pergmon.

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Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Soft Core elective	**Industrial Libraries and Information Centers**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about importance, principles and role of industrial libraries
CO2	Comprehend collection development policies and procedures to apply them in industrial libraries.
CO3	Understand human resources management and development in industrial libraries.
CO4	Describe the planning and organization of services in industrial libraries
CO5	Discuss about industrial library networks and activities in different countries

COURSE OUTLINE

Unit 1 : The industry –Features, Objectives, Types and structure, Industrial policies, Industrial Information and its importance, Roles of industrial Libraries, Function and services Industrial Library. Development of Library systems in different countries such as USA, UK and India. Industrial Library users- Types, Need, User study and techniques. User education – Importance and implications. 12 hrs

Unit 2 : Collection development policies and procedures. Management of industrial Library collection. Industrial Library Collection - Types, Features and procurement with special reference to patents, standards and specifications and trade literature. Problems in collection development. 11 hrs

Unit 3 : Human Resource Management- Characteristic of personnel manager, Functional areas of personnel management, Personnel policies. Industrial Library personnel - Kinds, Qualifications, Duties and Responsibilities, Knowledge and skills. Selection and recruitment and performance. Training, Education and performance evaluation. Human Resource Development for management of industrial Information systems and services. 11 hrs

Unit 4 : Library and Information Services: Reference services, CAS and SDI services, Abstraction/ condensation and Indexing service, Bibliographic service, Document supply service, Information product development service, and Marketing service, On-line Information service. Resource sharing and networking among industrial Libraries. 11 hrs

Unit 5 : Industrial Library networks in different countries. Activities and services of Industrial Support Organisations and Documentation Centers- INSDOC, SIDO, SENDOC, SISI, NISSAT, CSIR, UNIDO, WIPO, INPADOC, ICICI, IBID STPI, PERA. Chambers of Commerce and Industry. Professional organizations and associations, Research associations- ASLIB, IASLIC, KSIA, TECSOK. Case study of an industrial Library. 11 hrs

Reference Books:

Ashworth, W. (1985). *Handbook of special librarianship and Information work.* (4th ed.).London: ASLIB.

Autherton, P. (1977). *Handbook of Information systems and services*. Paris: UNESCO.

Bakewell, K. G. B., (1969). *Industrial Libraries throughout the world*. Oxford: Pergaman.

Burket, J. (1968). *Trends in special librarianship*. London: Clive Bingly.

Chen, C. (1987). *Scientific and Technical Information Sources*. (2nd ed). The MIT Press.

Claderhead, P. (1972) Libraries for professional practice.(ed.). London: Architectural Press.

Conkling, T. W., & Musser, L. R. (2002). *Engineering Libraries: Building collections and delivering Services. Haworth Press.*

Hurt, C. D. (1998). Information sources in Science and technology. (3rd ed.). London: Libraries Unlimited.

Jackson, E. B. (1985). *Special librarianship: A new reader*. Metuchen: Scare crow Press.

Krishan K. (1973). Research Libraries in the developing countries. Delhi: Vikas.

Lord, C. R. (2000). *Guide to Information sources in engineering*. London: Libraries Unlimited.

Macleod, R. A. & Corlett, J. (2005).*Information sources in engineering (Guides to Information Sources).* (ed.).New Delhi: K. G. Saur Publications.

Malinowsky, H. R.(1994). *Reference Sources in Science, engineering, medicine and agriculture.* Oryx Press.

Mount, E. (1984). *Management of scientific and technical Libraries*. New York: Haworth.

Pruett, N.J. (1986). *Scientific and Technical Libraries*. vol.2. Orlando: Academic.

Singh, S. P., & Krishan, K. (2005). *Special Libraries in the electronic environment*. New Delhi: Bookwell.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Hard Core -- Practical	Information Technology Applications in Libraries- Practice	8	4

Course Outcomes (CO)

CO1	Demonstrate ability to design and develop spreadsheet using MS Excel in library automation
CO2	Acquire skills to install, customize and use ILMS software Koha
CO3	Acquire hands on skills to generate various types of reports using library management software
CO4	Acquire hands on skills to develop library websites

COURSE OUTLINE

Unit 1	:	Spreadsheet – MS Excel	10 hrs
Unit 2	:	ILMS – Koha/e-Granthalaya	10 hrs
Unit 3	:	Metadata Entry- bibliographic holdings records in MARC21 format, Import & Export of Catalogue Entries from LOC/WorldCat in Koha, creation of authority records.	15 hrs
Unit 4	:	Online Search Tools and Techniques- Search Engines; Catalogue search: WebOPAC, LOC, WorldCat, IndCat; E-Resources-Full-Text and Bibliographic Databases; Discovery Tools such as VuFind, Blacklight, Google Scholar	15 hrs
Unit 5	:	Website Design – Introduction to HTML and Google Sites	10 hrs

Note:Each student should maintain Practical Record and submit the same at the time of Practical Examination

Reference books

Amit G. & Sirohi, S. (2020) Koha 3 Library Management System**,** New Delhi: Packt Publishing.

Clayton, Marlene (2018). *Managing library automation.* 2nd ed. London

Mishra, Vinod K. (2021*). Basics of library automation, Koha library management software and data migration: Challenges with case studies*. New Delhi: EssEss Publications

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 3	Hard Core-theory	**Communication Skills and Technical Writing**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept of communication skills and effective speaking
CO2	Awareness about writing skills and techniques and tools for effective writing.
CO3	Comprehend technical editing and use of editorial tools.
CO4	Familiarity with technical communication and criteria for evaluation of scientific and technical communication.
CO5	Understand about workplace and job related skills

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COURSE OUTLINE

Unit 1	:	Communication skills –Definition, Types of Communication, Verbal and Non-verbal communication. Effective speaking. Improving vocabulary and grammar. Elements of effective speaking. Types of speaking – Briefing, teaching, lectures, speeches and others.	12 hrs

Stages in the preparation - understanding the audience, audience analysis, subject , gathering materials, evaluating materials, presenting a talk, and other processes . Non-verbal communication and body language, Communication skills required to LIS Professionals.

Unit 2 : Writing Skills – Principles of presentation of ideas – Techniques and tools for effective writing – Internal and External correspondence at the workplace – preparation of a project proposal/research papers. Basics of Technical Writing – Definition, Purpose, Types. Functions – Target group in Written Communication – Reader / Writer Relationship. Technical Writing Process: Planning, drafting, editing, finishing and producing the document; 11 hrs

Unit 3 : Technical Editing and Editorial Tools: Editor – Editorial process – Editorial Tools - Dictionaries, Style Manuals, Standards and specifications. Technical Writing Style: Language and technical Skills, styles, Semantics, Syntax, Diction, Sentence Structure, Readability. Technical Writing Techniques – Information searching and gathering skills, Summarizing, - Designing pages – Elements of page design, basic design guidelines; Designing pages: Tables, Line Graphs, Bar graphs, Pie Charts, Charts and illustrations, footnotes and end notes. 11 hrs

Unit 4 : Technical Communications : Structure and format of journal articles, seminars/ conference papers, review articles, technical reports, research proposals, monographs, dissertations / theses. Technical Presentations and Evaluation – Use of MS-Office for the preparation, production and presentation of scientific and technical communications – use of multimedia facilities for presentation – Criteria for evaluation of scientific and technical communications and presentations – Technical Writing Software Tools. 11 hrs

Unit 5 : Workplace Skills – Telephone Skills – Group Discussion - Body Language. Leadership and working in teams. Working collaboratively. Working and sharing knowledge and experience. Team development. Meetings and negotiation skills. Meetings, including video conferencing, conference calls. Conducting a meeting. Negotiation strategies; Job Related Skills – Preparing Personal Profile, Portfolio, Resume – Job Interview – Public Relations; Different types of meetings and Negotiation Strategies. 11 hrs

Reference Books:

Alex, K. (2017). *Soft skills: Know yourself & know the world*. New Delhi: S. Chand & Company Ltd.

Corfield, R. (2009). *Preparing the perfect CV: how to make a great impression and get the job you want*. London: Kogan Page.

Forsyth, P. (2009). *How to be better at writing. Reports and proposals*. London: Kogan Page.

Greenhall, M. (2004). *Report writing skills training course: how to write a report and executive summary and plan, design and present your report: an easy format for writing business reports*. Lancashire: Universe of learning.

Gupta, N. K. (2012). *Cracking the Job Interviews.*G4 IBC Academy.

Gupta, S. (2009).*Personality development and communication skills.* Jaipur, India: Book Enclave.

Hamp-Lyons, L., & Heaasley, B. (2006). *Study writing: a course in written English for academic and professional purposes*.UK: Cambridge.

Hewings, M., & Thaine, C. (2012).*Cambridge Academic English CI Advanced Student's Book*. Cambridge University Press

Karten, N. (2010). *Presentation Skills for Technical Professionals: Achieving Excellence*. IT Governance Ltd.

Kirkman, J., & Turk, C. (2015). *Effective writing: improving scientific, technical and business communication* (2nd ed.). London: Taylor & Francis.

Riordan, D. G. (2004). *Technical report writing today* (8th ed.). Boston, MA: Wadsworth, Cengage Learning.

Rogers, J. (2011). *Job interview success: your complete guide to practical interview skills*. New York: McGraw-Hill Professional.

Society for Technical Communication. Code for communicators. (1998). Washington D C : STC.

Staples, K., Ornatowski, C., & Killingsworth, J. M. (1997). *Foundations for teaching technical communication: Theory, practice and program design*. London: Ablex Pub. Corp.

Taylor, N. (2009). *Brilliant business writing: how to inspire, engage and persuade through words (*1st ed.). Harlow England: Prentice Hall.

Winokur, J. (1986). *Writers on writing*. Philadelphia, PA: Running Press.

Fourth Semester			
Type of Course	**Course name**	**Hrs/ week**	**Credits**
Hard Core-Theory	Digital Libraries	4	4
Hard Core-Practical	Digital Content Management (Practice)	8	4
Soft core elective (any one)	Users, and User Studies	4	4
	Information Retrieval		
	Research Metrics		
Hard Core	Dissertation	-	12
Total credits			**24**

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 4	Hard Core-theory	**Digital Libraries**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept and evolution of digital library.
CO2	Familiarity with various digital library resources and formats
CO3	Comprehend digital library architecture, creation of digital content and its preservation.

CO4	Understand digital library technologies and intellectual property issues
CO5	Understand concept of institutional repository and the various software available.

COURSE OUTLINE

Unit 1	:	Introduction to Digital Libraries- Definitions, Objectives, 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 Digital Library in education and research,	12 hrs
Unit 2	:	Digital Resources: Concept, characteristics and types: Born digital, legacy documents and online resources. Electronic documents-ebooks, audio books, ejournals, econference sources. Digital File Format- electronic documents, e-books, audio books, e-journals, e-reference sources, files and file formats - JPEG, MPEG, GIF, TIFF and PDF: features, creation of PDF files.	11 hrs
Unit 3	:	Digital library architecture, Interoperability, Compatibility, Protocols and standards and User Interfaces. Digital content creation- Digitization**:** scanning software, OCR and conversion to PDF, Information access, user behaviour and Interaction Metadata development; Digital content management - persistent identifiers, handle system, DOI, Open URL, CrossRef. Resource linking, Security and backup.Digital preservation and conservation - archiving Security and preservation issues;	11 hrs
Unit 4		Digital Library Technologies- Digital representation and compression, Access control and DRM. Network platforms and server management Digital information - Intellectual property issues Rights management.	11 hrs
Unit 5	:	Institutional Repository (IR) - Definition and Importance, Electronic Thesis & Dissertation (ETD); Contents and standards of institutional repositories; Institutional repository software – DSpace. EPrints, Fedora; Registry & Guideline: ROAR, DOAR, SHERPA-ROMEO; Study of select digital Libraries and IRs –Project Gutenberg, California Digital Library, Alexandria Digital Library, ArXive; Cogprintis; Indian Scenario -Digital Library Initiatives: Shodhganga, NDLTD, Internet Archive, National Digital Library of India (NDLI).	11hrs

Reference Books:

Arms, W. Y. (2005). *Digital libraries*. New Delhi: Ane Books.

Arthur, M. H. (2006). *Expanding a digital content management system: for the growing digital media enterprise*. Amsterdam: Elsevier Focal Press.

Bhardwaj, R. K. (2016). *Digitizing the modern library and the transition from print telectronic*. Hershey, PA: IGI Global.

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

Corrado, E. M., & Sandy, H. M. (2017). *Digital preservation for libraries, archives, and museums(2nd ed.)*. Lanham: Rowman & Littlefield.

Eden, B. L. (2008). *Content management systems in libraries: case studies*. Lanham, MD: Scarecrow Press.

Hussey, T. (2011). *Using WordPress*. INpolis, IN: Que Publishing/ Pearson Education.

Mackenzie, A., & Martin, L. (2016). *Developing digital scholarship: emerging practices in academic libraries*. Chicago: Neal Schuman, an imprint of the American Library Association.

Mauthe, A., & Thomas, P. J. (2004). *Professional content management systems:*

handling digital media assets. Chichester: John Wiley & Sons.

Paulus, T. M., Dempster, P. G., & Lester, J. N. (2014). *Digital tools for qualitative research* (1st ed.). London: SAGE Publ.

Purcell, A. D. (2016). *Digital library programs for libraries and archives developing, managing, and sustaining unique digital collections*. Chicago, IL: Neal-Schuman, an imprint of the American Library Association.

Ron S., & Kenneth C. (2010). *Using Joomla*. Beijing, Cambridge:O'Reilly.

Shreves, R., & Dunwoodie, B. (2011). *Drupal 7 bible*. Indianapolis, IN: Wiley.

Xie, I., & Matusiak, K. (2016). *Discover Digital Libraries: Theory and Practice* (1st ed.). San Diego, CA, USA: Elsevier Science.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 4	Hard Core (Practical)	**Digital Content Management – Practice**	8	4

Course Outcomes (CO)

CO1	Demonstrate skills to install and digital library software
CO2	Demonstrate skills for digitization process.
CO3	Acquire skills use the digital library

COURSE OUTLINE

Unit 1	:	Digital Library software – installation of DSpace/Greenstone –building small collection of HTML files, image collection	15hrs
Unit 2	:	Building small collection- Word and pdf , multimedia collection, formatting word and pdf collection	15hrs
Unit 3	:	Building communities and collection	10hrs
Unit 4	:	searching in digital libraries-Shodhganga, National Digital Library of India	10hrs
Unit 5	:	CMS - Drupal / WordPress - introduction	10hrs

Note: Each student should maintain Practical Record and submit the same at the time of Practical Examination.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 4	Soft Core Elective	**Users and User Studies**	4	4

Course Outcomes (CO)

CO1	Identify and interpret the concepts of information seeking and use.
CO2	Articulate basic knowledge about concept, types, levels and factors related to information need.
CO3	Identify the characteristics and categories of information users.
CO4	Understand concept of user and user studies.
CO5	Familiarity with the user education.

COURSE OUTLINE

Unit 1	:	Information seeking and use – conceptual framework need. Theory of information seeking – desired characteristics of the theory. Integrating theories with broader theories and framework.. conceptual framework development . classification of approaches to conceptual framework, sources of theory.- mensal, Paisley, .J Allen Dervin and Crane.	12hrs
Unit 2	:	Information need – definition, conceptual problems. Differentiate between need, want demand and requirement.Levels of information need- taylor's need, Lancaster's four levels Cronin's three levels, Koikela's two levels. Needs- kinds – continuous and discreet, factors affecting needs	11hrs
Unit 3	:	User – understanding the psychology, of information user, Categories of information users; identifying users and potential users, users by professional groups- industrial, commercial.	11hrs
Unit 4	:	Information use and user studies- origin, development and evolution of user studies, two generation of user studies –first generation studies – their characteristics and limitations, second generation user studies- their characteristics and limitations.	11hrs
Unit 5	:	User Education - concept, meaning and definition, Need and scope, planning and designing of user education. Methods and techniques of user education program.	11hrs

References

Brittain, J. M. (1970). *Information and its users*. Bath. Bath University Press.Chowdhury,

G.G. & Chowdhury, S. (2011). *Information users and usability in digital age*. New York : Neal Schuman Publishers.

Dobreva G. G.et al. (2012).*User studies for digial Library development*. London: Facet Publishing.

Kim C. H. & Little R.D. (1987). *Public library users and uses:a market research handbook*. New Jersey: Scarecrow Press.

Kopycinski, D. & Sando, K. (2007). *User survey in college libraries*. Chicago: College Librray information pacjet committee. ACRL.

Sridhar, M.S. (2002). *Library use and user research: twenty case studies*. New Delhi: Concept Publishers

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 4	Soft core elective	Information Retrieval	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concepts and processes of information retrieval systems
CO2	Understand the role of subject headings through various indexing systems.
CO3	Explain concept of controlled vocabularies and its tools
CO4	Awareness about various information retrieval models and evaluation of information of information retrieval systems.
CO5	Demonstrate understanding of web based information retrieval system and use of search techniques

COURSE OUTLINE

Unit 1 : Information Retrieval Systems**:** Information Retrieval Systems - purpose and components Functional aspects of Information Retrieval Systems Information Retrieval System Design and performance requirements — 12hrs

Unit 2 : Subject Indexing - Assigned and Derived Indexing. Pre-Coordinate and Post-Coordinate Indexing, Chain Indexing, PRECIS. Keyword Indexing- KWIC, KWAC, KWOC Automatic Indexing, Citation Indexes. — 11hrs

Unit 3 : Vocabulary control tools – Subject heading Lists, Thesauri, Thesaurofacet, Claussarus. Thesaurus construction techniques. Controlled vocabularies/ Ontologies – MeSH, LCHS, ERIC, INSPEC, UNESCO-IB, AgroVac, UMLS; Evaluation of IRS: Purpose; Steps and criteria evaluation. — 11hrs

Unit 4 : Information Retrieval Models- IR models; Evaluation of information retrieval systems, Recall and Precision. Evaluation experiments - Overview of the Aslib Cranfield test, MEDLARS, the SMART Retrieval Experiment, The STAIRS project, TREC, vector space model, Probabalistic Model,. — 11hrs

Unit 5 Web-based Information Retrieval Systems - Web-based information retrieval, Web search through search engines, metasearch engines, web indexes; Searching techniques: Keyword search, Boolean operators, proximity search, phrase search, field searching, concept searching, wild card search, truncation, searching of databases, catalogues, etc — 11hrs

Reference books

.

Atchison, J., & Alan G. A. (2022). *Thesaurus construction: a practical manual*. London: Aslib.

Austin, D. (2014). *PRECIS: A manual of concept analysis and subject indexing a manual of concept analysis and subject indexing*. (2nd ed.). London: British Libr. Bibliographic Services

Division.

Balakrishnan, S., & Paliwal P. K. (2020). *Principles of information retrieval*. New Delhi: Anmol Publications.

Balasubramanian, P., & Vasanthakumar N. (2015). *Information processing and retrieval: In library and information science.* New Delhi: Regal Publications.

Chowdhury, G. G. (2020). *Introduction to Modern information retrieval* (3rd ed.). London: Facet publishing.

Chowdhury, G. G., & Chowdhury, S. (2007). *Organizing information: From the shelf to the web.* London: Facet Publishing.

Dhawan, K.S. (1997). *Principles of information retrieval*. New Delhi: Commonwealth Publishers.

Korfhage, Robert R. (1997). *Information storage and retrieval*. New York: John Wiley & sons Inc.

Lancaster, F W. (1979). *Information retrieval systems: Characteristics, testing and evaluation* (2nd ed.). New York: Wiley
Lancaster, F.W. (2003). *Indexing and Abstracting in Theory and Practice*. London: Facet Publishing.

Satyanarayana, N.R. (2016). *An introduction to information processing and retrieval: For library and information professionals*. New Delhi: ESS ESS publication.

Sharma, C. K., & Sharma, A. K. (2017). *Information process and retrieval*. Atlantic Publishers.

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 4	Soft Core Elective	**Research Metrics**	4	4

Course Outcomes (CO)

CO1	Articulate basic knowledge about concept of bibliometrics, informetrics, scientometrics, webometrics and altmetrics
CO2	Acquire skills to conduct quantitative studies in various subject fields.
CO3	Comprehend metric laws and its application.
CO4	Familiarity with the research metrics concepts, citation analysis, networks
CO5	Understand various levels of research metrics and its application.

COURSE OUTLINE

Unit 1	:	Metrics Evaluation - Concept, Evolution & Definitions – Classifications, Librametry, Bibliometrics, Scientometrics, Informetrics, Webometrics, and Altmetrics.	12hrs
Unit 2	:	Growth of Literature - Growth of Literature – Information Explosion/Publication Explosion, Growth models- synchronous and diachronous, Obsolescence, the half-life, determination of aging factor and half-life, real vs apparent.	11hrs
Unit 3	:	Classical Bibliometric Laws – Lotka's law of scientific productivity, Bradford's law of scattering, and Zipf's law of word occurrence. Other notable regularities: 80/20 rule, Success-breeds-success model, law of Price	11hrs
Unit 4	:	Scientometrics- Scientific Productivity: Citation Analysis: Authorship Study, Collaboration, Techniques of authorship studies. Altmetrics- Concept, Meaning and Definitions, Advantage and Limitation, Scope criteria of Measure; URL, Web decay, Link Checker, half life, Doi, web archives	11hrs
Unit 5		Level of Research Metrics - Author Level, Article Level, Journal Level and Institutional Level; Citation Analysis; Study of the citation concepts: citation analysis, citation network, citation matrix, bibliographic coupling, co-citation analysis, Journal Citation Reports ; Innovations in measuring Science and scholarship Mapping Science and tools and parameters: usage and influence factors.Sources of Data: PubMed, Scopus	11hrs

Reference Books:

Abraham, R.H. (1996). *Webometry: Measuring the complexity of the World Wide Web.* Santa Cruz: Visual Math Institute, University of Claifornia.

Ajiferuke, I., Burell, Q., & Tague, J. (1988). Collaborative coefficient: A single measure of the degree of collaboration in research. *Scientometrics*, *14*(5-6), 421–433. doi: 10.1007/bf02017100

Ashraf, U., & Kumar V. S (2014). Measuring research output and collaboration in South Asian countries. *Current Science*, 107(1).

Bibliometrics : New Dimensions and Latest Trend, Srivastava R, Alfa Publications 2011.

Biradar, B.S. ,& Sampathkumar, B.T. (2003).Chemical Technology literature: An obsolescence study, *Annals of Library and Information Studies*, 50(4), 156-162.

Castellano, K. E., & Ho, A. D. (2013). *A Practitioners Guide to Growth Models*. CCSSO, ERIC Clearinghouse.

Egghe, L. ,& Rousseau, R.(2001). *Elementary statistics for effective library and information service management*. London : Aslib,
Garfield, E.(1979*). Citation Indexing: Its theory and applications in Science, technology and humanities.* New York: John Wiley.

Gingras, Y. (2016). *Bibliometrics and research evaluation: uses and abuses*. Cambridge, MA: The MIT Press

Meadows, A. J. (1974). *Communication in science*. London: Butterworths.
Neuendorf, K. A. (2002). *The content analysis guidebook.* Los Angeles: SAGE.

Nicholas D.,& Ritchi, M. (1979). *Literature & bibliometrics*. London: CliveBingley.

Ravichandra, R. (1985). *Quantitative methods for library and information science*. NewDelhi: Wiley Eastern

Sangam, S.L. (2015). *Scientometrics: Quantitative Methods for Library and Information science.*Dharwad:Content Craft.

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

Semester	Type of Course	Course name	Hrs/week	Credits
Semester 4	Hard Core	**Dissertation**	-	12

Course Outcomes (CO)

CO1	Solve research problem using acquired knowledge and skills
CO2	Function in research project management and report writing.

Dissertation (Project Work)

The student will complete an individual project work within this semester including literature review, research design, and carry-out research work by preparing short research report under the guidance of a faculty member and prepare a dissertation. Students have to follow research methodology suitable to the area of interest with the approval of the supervisor. The short-term project work must be related to any of the subject covered during their former semesters or related to them. Students shall devote at least 6 hours per week to their project work. The dissertation shall be from plagiarism. Approved style of referencing is APA.

EVALUATION COMPONENTS
1. PROJECT MANAGEMENT
Student log book
2. PROJECT REPORTING
Scientific Reporting
Plagiarism verification report
3. TECHNICAL WORK
Quantum of work
Meeting Objectives
Refining relevant literature
Data analysis and interpretation
Demonstration of Results
4. COMMUNICATION SKILLS
Presentation skills
Scientific report writing
Evident communication skills with team

Semester	Type of Course	Course name	Hrs/week
Semester 4	-	**Internship**	2 weeks

Course Outcomes (CO)

CO1: Acquire hands-on field experience of working in various sections of a library

Work experience - Each student is required to complete a two-week internship at a Yenepoya library selected by the department during the 4th semester. This internship aims to provide firsthand experience in various library functions, activities and services. Students must submit a report detailing their work done in the library under the guidance and supervision of the relevant library staff. This internship will not carry any academic credits.

Annexure 2

List of Journals in Library and Information Science

Sl. No.	Title of The Journal	Publisher	ISSN
Indian Journals			
1.	Annals of Library and Information Studies	National Institute of Science Communication and Information Resources (NISCAIR)	09725423
2.	DESIDOC Journal of Library and Information Technology	Defence Scientific Information & Documentation Centre (DESIDOC)	09740643
3.	College Libraries	West Bengal College Librarians Association	0972-1975
4.	IASLIC Bulletin	Indian Association of Special Libraries and Information Centres	0972-1975
5.	Journal of Indian Library Association	Indian Library Association	2277-5145
6.	SRELS Journal of Information Management	Informatics Publishing Limited and Sarada Ranganathan Endowment for Library Science	0972-2467
International Journals			
7.	International Journal of Information Management	Elsevier	0268-4012
8.	Journal of Information Technology	Springer Nature	0268-3962
9.	Library Hi Tech	Emerald	0737-8831
10.	Electronic Library	Emerald	0264-0473

List of Books in Library and Information Science

Isaac, K. A. (2014). *Library legislation in India: A critical and comparative study of state Library acts book description*. New Delhi: Ess Ess Publication.

Kumar, G. (1988). *Library development in India*. New Delhi: Vikas.

Kumar, P. S. G. (2021). *Foundations of Library and Information Science. Paper I of Ugc Model Curriculum.* B.R. Publishing Corporation.

Ranganathan, S. R. (2016). *The Five Laws of Library Science*. Bangalore: ESS ESS.

Anil, D., & Yashada, R. (2015). *Learn Library Science Series*. New Delhi: ESS Publication.

Ranganathan, S. R. (1992). *Reference service* (2nd ed.). Bangalore: Sarada Rangnathan Endowment for Library Science.

Singh, G. (2013). *Information sources, Services and Systems*. India: PHI Learning Private Limited.

Parashar, R.G. (1991). Information and its communication, New Delhi: Medallion Press.

Dhyani, P. (1998). *Library Classification: Theory and practice*. New Delhi: VishwaPrakashan.

Kumar, P. S. G. (2003). *Knowledge organization, Information processing and retrieval theory*. Delhi: BR.

Ranganathan, S. R. (1957). *Prolegomena to Library Classification* (2nd ed.). London: LA.

Sajija M. P (2013). *The Theory and Practice of the Dewey Decimal Classification System*. New Delhi: Chandos Publishing.

Anil Kumar Dhiman & Yashoda Rani (2004) Library Management : A Manual for Effective Management, Ess Ess Pubns.

Kumar, K. (1987). *Library administration and management*. New Delhi: Vikas Publications.

Mittal, R. L. (1984). *Library administration: theory and practice*. New Delhi: Ess Ess Publications.

Prajapati, R. S. (2023). *Theories and practices of library management*. New Delhi: Discovery Pub. House.

ALA. (2012). Anglo-*American cataloguing rules* (2 nd rev). New Delhi: Oxford.

Barbara, M. W. (1997). *Sears list of subject headings*. New York: H.W. Wilson.

Kumar, K. (1981). *An Introduction to Cataloguing & Practice*. New Delhi : Vikas Publishing House.

Mishra A.R., & Ahmad M.D. (2014). *Issues in Digital Cataloging.* Shree Publishers & Distributors : New Delhi,

Ranganathan, S. R. (1950). *Library Catalogue: Fundamentals and procedures*. LA: Madras.

Ranganathan, S. R. (1955). *Headings and canons*. Madras: S Vishwanathan.

Ranganathan, S. R. (1998*). Classified Catalogue code.* Madras : UBSPD.

Ahmad, H., & Alam, M. (2016). *Library automation in India: an evaluative study*. New Delhi: Ane Books Pvt. Ltd.

Banerjee, K., & Parks, B. (2017). *Migrating library data: a practical manual*. Chicago: ALA Neal-Schuman, an imprint of the American Library Association.

Jost, R. M. (2016). *Selecting and implementing an integrated library system the most important decision you will ever make* (1st ed.). Amsterdam: Elsevier.

Anglo-American Cataloguing Rules (2002) 2nd RevEd.

MARC 21 and Related standards for Bibliographic Records. New York: LC. http://dublincore.org

RDA: Resource, description and access: 2013 revision. London: CILIP.

Dhimani, A., & Rani, Y. (2005). *Learn Library Science Series*. ESS Publication: New Delhi.

Kumar, K. (2003), *Reference services* (3rd ed.). New Delhi: Vikas

Ranganathan, S. R. (1992). *Reference service* (2nd ed.). Bangalore: Sarada Ranganathan Endowment for Library Science.

Rao, I. K. R. (2001). *Electronic Sources of information*, Bangalore: DRTC

Singh, S. (1997). *International manual of Reference and information services*. Delhi: Beacon Book.

Singh, S. *(*1997). *Handbook of Reference and Information Services*. New Delhi: Crest Publishing house.

Rowlands, I. *et al. (2004).* Scholarly Communication in the digital environment: what do authors want? London, CIBER. Available at: http://www.ucl.ac.uk/ciber/ciber-pa-report.pdf.

Gorman, G.E. (2005). Scholarly publishing in an electronic era. London: Facet Pub.

Schroter,S. (2005). *Perception of open access publishing: interviews with journal authors*. *British Medical Journal*, 330: 756

Nisonger, T. E. (2017). *Journals in the core collection: Definition, identification, and applications*. *The Serials Librarian*

Chowdhruy, G. G. (2013). *Introduction to modern information retrieval*. London: FACET Publishing.

Ghosh, S. B., & Biswas, S. C. (1998). *Subject indexing systems: concepts, methods and techniques* (Rev). Calcutta: Indian Association of Special Libraries and Information Centres

Lancaster, F. W. (1968). *Information retrieval systems, characteristics, testing and evaluation*. London: Facet Publishing.

Pandey, S.K., (2000). *Library Information retrieval*. New Delhi: Anmol.

Seetharama, S. (1997). *Information consolidation and repackaging*. New Delhi: ESS ESS.

Busha, C. H., & Harter, S. P. (1986). *Research methods in librarianship: techniques and*

interpretation. Orlando: Academic Press.

Charles, H. et.al (1993) *Research Methods in Librarianship: Techniques and Interpretations*. New Delhi, Sage.

Kothari, C. R. (2019). *Research Methodology* (4th ed.). New Delhi: New Age International Publishers.

Lancaster, F. W (1993). *If you want to evaluate Your Library?*. London: LA.

Young, P. V. (1982). *Scientific Social Surveys and research* (4th ed.). New Delhi: Printice-Hall of India.

Vickery, B. (1987). *Information systems.* London: Butterworths.

Smith, L. C., & Wong, M. A. (2010). *Reference and information services: an introduction* (5th ed.). Santa Barbara, CA: Libraries Unlimited

Bell, A. (2019). *Exploring Web 2.0: second generation internet tools - blogs, podcasts, wikis, networking, virtual worlds, and more*. Georgetown, TX: Katy Crossing Press.

Casey, M. E., & Savastinuk, L. C. (2007). *Library 2.0: a guide to participatory library service*. Medford, NJ: Information Today.

Bhardwaj, R. K. (2016). *Digitizing the modern library and the transition from print telectronic*. Hershey, PA: IGI Global.

Corrado, E. M., & Sandy, H. M. (2017). *Digital preservation for libraries, archives, and museums(2nd ed.)*. Lanham: Rowman & Littlefield.

Mackenzie, A., & Martin, L. (2016). *Developing digital scholarship: emerging practices in academic libraries*. Chicago: Neal Schuman, an imprint of the American Library Association.

Spitzer, K. L., Eisenberg, M. B., & Lowe, C. A. (2004). *Information literacy: Essential skills for information age*. London: Libraries unlimited.

Effy, O. Z., (2006.). *Management Information Systems.* New Delhi: Cengage learning India Pvt. Ltd.

Prajapathi, R. S. (2013). *Theories and practices of library management* (1st ed.). New Delhi: Discovery Pub. House.

Garfield, E.(1979*). Citation Indexing: Its theory and applications in Science, technology and humanities.* New York: John Wiley.

Sangam, S.L. (2015*). Scientometrics: Quantitative Methods for Library and Information science.*Dharwad:Content Craft.

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

Ravichandra, R. (1985). *Quantitative methods for library and information science*. NewDelhi: Wiley Eastern

Alex, K. (2017). *Soft skills: Know yourself & know the world*. New Delhi: S. Chand & Company Ltd.

Corfield, R. (2009). *Preparing the perfect CV: how to make a great impression and get the job you want*. London: Kogan Page.

Forsyth, P. (2009). *How to be better at writing. Reports and proposals*. London: Kogan Page.

Greenhall, M. (2004). *Report writing skills training course: how to write a report and executive summary and plan, design and present your report: an easy format for writing business reports*. Lancashire: Universe of learning.

Gupta, S. (2009).*Personality development and communication skills.* Jaipur, India: Book Enclave.

Riordan, D. G. (2014). *Technical report writing today* (8th ed.*)*. Boston, MA: Wadsworth, Cengage Learning.

Rogers, J. (2011). *Job interview success: your complete guide to practical interview skills*. New York: McGraw-Hill Professional