KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್&ಟಿ) ವಿಭಾಗ

ಸ್ವಾತಂತ್ರ್ಯದ ಅಮೃತ ಮಹೋತ್ಸವ

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'A' Grade 2014

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No. KU/Aca(S&T)/JS/MGJ(Gen)/2023-24/59 Date: 04/09/2023

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2023–24ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಪದವಿಗಳಿಗೆ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್ NEP-2020 ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 104 ಯುಎನ್ಇ 2023, ದಿ: 20.07.2023.
2. ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 2 ರಿಂದ 7, ದಿ: 31.08.2023.
3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 04/09/2023

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2023–24ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, ಎಲ್ಲ B.A./ BPA (Music) /BVA / BTTM / BSW/ B.Sc./B.Sc. Pulp & Paper Science/ B.Sc. (H.M)/ BCA/ B.A.S.L.P./ B.Com/ B.Com (CS) / BBA & BA ILRD ಸ್ನಾತಕ ಪದವಿಗಳ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್‌ಗಳಿಗೆ NEP-2020ರ ಮುಂದುವರೆದ ಭಾಗವಾಗಿ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದಿತ ಕೋರ್ಸಿನ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ www.kud.ac.in ದಲ್ಲಿ ಭಿತ್ತರಿಸಲಾಗಿದೆ. ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ಡೌನಲೋಡ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಅಧೀನದ/ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

4/9/23

ಅಡಕ: ಮೇಲಿನಂತೆ

ಕುಲಸಚಿವರು.

ಗೆ,
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂರ್ತಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.

BA / BSc in
Library and Information Science

Curriculum of 5th & 6th Semester

with effect from 2023-24

Curriculum structure for Semester V and VI

BA/BSc for Library and Information Science as major (Discipline Specific Core/ Specific elective)/ Minor

SEMESTER V

Course No	Title of the Course	No of Credits	Teaching Hours/ Per week	Formative Assessment	Summative assessment	Total marks
Library and Information Science as Discipline Specific Core (Major)						
LIS C9-T	Knowledge Organization: Processing and Methods Theory	4+0+0	4	40	60	100
LIS C10-P	Knowledge Organization: Processing and Methods Practicals	0+0+2	4	25	25	50
LIS C11-T	Resource Description Standards Theory	4+0+0	4	40	60	100
LIS C12-P	Resource Description Standards Practicals	0+0+2	4	25	25	50
LIS C13-T	Marketing of Information Products and Services	4+0+0	4	40	60	100
Library and Information science as Discipline Specific Elective (Major)						
LIS E1A	Public Library System	3+0+0	3	40	60	100
LIS E1B	Academic Library System	3+0+0	3	40	60	100
LIS E1C	Special Library System	3+0+0	3	40	60	100
Vocational Subject Related to LIS						
LIS V1A	Basic Statistics	2-0-2	4	50	50	100
LIS V1B	Computer Programming	2-0-1	4	50	50	100
LIS V1C	Data Analytics	2-0-1	4	50	50	100

SEMESTER VI

Course No	Title of the Course	No of Credits	Teaching Hours/ Per week	Formative Assessment	Summative assessment	Total marks
Library and Information Science as Discipline Specific Core (Major)						
LIS C14-T	Information Retrieval Theory	4+0+0	4	40	60	100
LIS C15- P	Information Retrieval Practicals	0+0+2	4	25	25	50
LIS C16 – T	Digital Libraries Theory	4+0+0	4	40	60	100
LIS C17-P	Digital Libraries Practicals	0+0+2	4	25	25	50
LIS C18 – T	Introduction to Scientometrics	4+0+0	4	40	60	100
Library and Information science as Discipline Specific Elective (Major)						
LIS E2A-T	Trends in MARC and Dublin Core	3+0+0	3	40	60	100
LIS E2B- T B	Knowledge organization Systems and Ontologies	3+0+0	3	40	60	100
LIS E2C – TC	Preservation and Conservation of Library Materials	3+0+0	3	40	60	100
Vocational Subject related to Library and Information Science						
LIS V2A	Desktop Publishing	2-0-1	4	50	50	100
LIS V2B	Content Creation and Writing	2-0-1	4	50	50	100
LIS V2C	Archives and Records Management	2-0-1	3	50	50	100

SEMESTER V

Course No	Title of the Course	No of Credits	Teaching Hours/ Per week	Formative Assessment	Summative assessment	Total marks
Library and Information Science as Discipline Specific Core (Minor)						
LIS M5.1	ICT for Libraries	2+0+1	4	40	60	100

SEMESTER VI

Course No	Title of the Course	No of Credits	Teaching Hours/ Per week	Formative Assessment	Summative assessment	Total marks
Library and Information Science as Discipline Specific Core (Minor)						
LIS M6.1	Information Processing and Retrieval	3+0+0	3	40	60	100

Curriculum

Program Name	**BA/BSc in Library and Information Science**	Semester	**V**
Course Title	**Knowledge Organisation: Processing and methods (Theory)**		
Course Code:	LIS C9-T	No. of Credits	**4**
Contact hours	**60Hours**	Duration of SEA/Exam	**3hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s):

Course Outcomes (COs): After the successful completion of the course, the student will be able to:CO1.To introduce students to the basic concept of Knowledge organisation, classification and universe of knowledge.

CO2. To provide students with the knowledge, skills, and competencies required assign class number for information resources.

CO3. To familiarize students with various notational systems, devices and mnemonics used in CC

CO4. To develop students' understanding of planes of work as well as canons.

Content	**60Hrs**
Unit-1: Theory of Classification	**15 hours**
Chapter.1: Evolution of theory of classification. Descriptive and dynamic theory, Knowledge classification, Book classification, Species of library classification. *Chapter-2*: Universe of knowledge: concept, definition, structure, attributes. Modes of formation of subjects, different types of subjects. *Chapter-3:*Universe of knowledge as mapped in CC, DDC and UDC.	
Unit.2: Normative principles of classification	**15 hours**
*Chapter-4:*Planes of work and Canons of classification. Normative principles of classification. *Chapter.5*: Major contributions of Dr. S.R.Ranganathan to classification theory. *Chapter.6:*Design and development of schemes of library classification	
Unit-3: Study of major schemes of classification	**15 hours**
Chapter.7:: DDC *Chapter-8:* , UDC *Chapter.9*: CC	

Unit-4: Study of major schemes of classification	**15 hours**
Chapter.10: Fundamental categories: Principles for facet sequence Chapter.11: Phase relations, common isolates. Rounds and levels, Method of residue. *Chapter.12:* Notations: Need, functions, types, qualities. Devices used in CC. Mnemonics, Call number, Systems and specials,	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes (POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1.To introduce students to the basic concept of Knowledge organisation, classification and universe of knowledge.	X	X	X	X	X			X	X	X	X				X
CO2. To provide students with the knowledge, skills, and competencies required assign class number for information resources.	X	X	X	X	X		X	X	X	X	X	X	X		X
CO3. To familiarize students with various notational systems, devices and mnemonics used in CC	X	X	X	X	X	X		X	X	X	X	X	X		X
CO4. To develop students' understanding of planes of work as well as canons.	X	X	X	X	X	X		X	X	X	X				X

Pedagogy:

1. Lecturing and demonstrations are the major methods used.
2. Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Kumar, K. (1988). Theory of Classification. India: Vikas Publishing House Pvt Limited.
Kumar, Krishan. (2005) Theory of Library Classification. New Delhi, Vikas.
Maltby, A. (1996). Sayer's Manual of Library Classification. London: Clive Bingle
Ranganathan,S.R.(1989). Prolegomena to Library Classification. Bangalore,SRELS.
Ranganathan, S.R.(2000).ColonClassification.Ed6,SRELS,(Reprint).
Ranganathan, S. R. (2007). Colon Classification. New Delhi: EssEss Publications.
Satija, M. P. (2018). Library Classification and S R Ranganathan: A Guide. New Dephi: EssEss Publications.
Sharma, A. K. (2007). Library Classification. New Delhi: Atlantic Publishers & Distributors.
Sharma, C K (2006). Practical Handbook of Dewey Decimal Classification. New Delhi: Atlantic.

Course Title	**Knowledge Organisation: Processing and methods (Practical)**	Practical Credits	**0-0-2**
Course Code	LIS C10 - P	Contact Hours	**60Hours**
Formative Assessment	**25Marks**	Summative Assessment	**25Marks**

Practical Content	
Particulars	**Teaching hours**
Content	**Teaching hours (60)**
Unit I: Dewey Decimal Classification: Classifying compound and complex titles. Classification of documents using Table 3 and 4	30
Unit-2 Classification of documents using Table 5 and 6	30

Pedagogy:

1. Lecturing and demonstrations are the major methods used.
2. Hands on experience on the use of DDC(Creating communities and collections)
3. Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Practical	
Assessment Occasion/type	**Marks**
Session Test	5X2= 10
Practical record	10X1=10
Assignment	5X1=5
Total	**25Marks**

Course Title	**Resource Description Standards (Theory)**		
Course Code:	**LIS C11 - P**	No. of Credits	**4-0-0**
Contact hours	**60Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1. Understand the concept of resource description standards.
CO2.Identify and analyse the challenges associated with resource description.
CO3.Evaluate resource description standards.
CO4.Use the various resource description standards and web discovery applications

Contents	**60 Hrs**
Unit-1Content Standard	15 Hrs
Chapter-1: AACR2- Objectives, history, structure, levels of description. Chapter-2: RDA- Understanding E-R Model, and IIFLA's Library Reference Model (FRBR), User tasks, Group 1 (Work, Expression, Manifestation and Item) to Group 3 entities. Chapter-3: Study of VRA (Visual Resource Association) core, CCO (Cataloging Cultural Objects) and METS (Metadata Encoding and Transmission Standard)	
Unit-2 Vocabulary Standards	15 Hrs
Chapter-4:Need for Vocabulary Standards, Technical concepts: Access points/Descriptors, Relationships (BT, NT, RT), Use, Used For, Scope Notes, Cross-walk between vocabulary standards Chapter-5 **:**SLSH (Sears List of Subject Headings) - History and development, Functions and principles, components of entries Chapter-6: LCSH- (Library of Congress Subject Headings) History and development, Structure and Format, components of entries.	
Unit-3 Metadata Standards:	15 Hrs
Chapter-7: MARC Standards: History, Record structure and field designations, MARC formats, MARCXML Chapter-8: Metadata Encoding and Transmission Standard (METS) - History, Structure and Components of METS (Discuss the key elements such as <metsHdr>, <dmdSec>, <amdSec>, <fileSec>, and <structMap>), Concept of METS profiles, METS in digital preservation. Chapter-9: Qualified Dublin core: Basic Dublin Core Review, Schema and Refinements. Application Profiles and Guidelines Features, Metadata crosswalk with MARC21	

Unit-4 Exchange standards	15 Hrs
Chapter-10: Introduction, ISO 2709-structure (leader, directory, variable fields and delimiters), Data Elements and Field Structure, Interoperability and Integration. Chapter-11: OAI-PMH – Introduction, Architecture and Components, Data Model, Protocols and Message Formats, Harvesting and Repository Management. Chapter-12: MARCXML- Structure and Encoding, XML schema definition (XSD) or Document Type Definition (DTD) used for validating MARCXML documents, MARCXML elements and attributes, including the record, control field, data field, and subfield elements	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes (POs)	**Program Outcomes (POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. Understand the concept of resource description standards.	X	X						X	X		X	X	X		X
CO2.Identify and analyze the challenges associated with resource description		X	X	X	X	X		X	X	X	X		X		X
CO3.Evaluate resource description standards.	X	X	X	X	X	X		X	X		X	X	X	X	X
CO4.Use the various resource description standards and web discovery applications	X	X	X	X	X	X		X	X		X	X	X	X	X

Pedagogy:

- Lecturing and demonstrations are the major methods used.
- Modern teaching aids are used.
- Hands on teaching are used to resource description.
- Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session Tests	10 X 2= 20
Seminar/ Group discussion	5 X 2 = 10
Projects/library tour/ field work	5 X 2 = 10
Total	**40Marks**

Further readings

- Allemang, D., &Hendler, J. (2011).*Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL*. Morgan Kaufmann.
- Breeding, M. (2010).*Next-gen Library Catalogs*. Neal-Schuman Publishers.
- Davies, J., Studer, R., & Warren, P. (2006).*Semantic Web Technologies: Trends and Research in Ontology-based Systems*. John Wiley & Sons.
- Heath, T., &Bizer, C. (2022).*Linked Data: Evolving the Web into a Global Data Space*.Springer Nature.
- Hooland, S. van, &Verborgh, R. (2014).*Linked Data for Libraries, Archives and Museums: How to clean, link and publish your metadata*.Facet Publishing.
- Maxwell, R. L. (2013). *Maxwell's Handbook for RDA: Resource Description &Access : Explaining and Illustrating RDA: Resource Description and Access Using MARC21*. American Library Association.
- Mering, M. (2014).*The RDA Workbook: Learning the Basics of Resource Description and Access*. ABC-CLIO.
- Powell, J. (2015). *A Librarian's Guide to Graphs, Data and the Semantic Web*.Chandos Publishing.
- RDA, J. S. C. for development of. (2015). *RDA: Resource Description & Access*. American Library Association.
- Spencer, J. S., &Millson-Martula, C. (2016).*Discovery Tools: The Next Generation of Library Research*. Routledge.

Course Title	**Resource Description Standards (Practical)**	Practical Credits	**(0-0-2)**
Course Code	**LIS-C12- P**	Contact Hours	**60Hours**
Formative Assessment	**25Marks**	Summative Assessment	**25Marks**

Practical Content

Content of practical course	**Number of teaching hours/semester**
Unit I: Group 1 Entities	**30 hrs**
Chapter 1: Understanding Resource Description and Access (RDA) and Understanding the IFLA's Library Reference Model (LRM) and its structure. Chapter 2: Practice exercises on Cataloguing resources using LRM the Group 1 Entity Work and Expression Chapter 3: Practice exercises on Cataloguing resources using LRM the Group 1 Entity Manifestation Item.	
Unit II: Group 2 and Group 3 Entities	**30 hours**
Chapter 4: Understanding the concept of Group 2 and Group 3 entites. Chapter 5: Practice exercises on cataloguing resources using LRM Group 2 entities (Person, Family, Corporate Body) Chapter 6: Practice exercises on cataloguing resources using LRM Group 3 entities (Concept, Object, Event, Place)	

Course Outcomes(COs)/ Program Outcomes (POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1.Use the various resource description standards and web discovery applications	X	X	X	X	X	X		X	X		X	X	X	X	X
CO2: Provide Resource Description	X	X	X	X	X	X		X	X		X	X	X	X	X

Pedagogy:

- Lecturing and demonstrations are the major methods used.
- Hands on teaching are used to prepare resource description.
- Case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Practical	
Assessment Occasion/type	**Marks**
Session Test	5X2= 10
Practical record	10X1=10

Assignment	5X1=5
Total	**25Marks**

Further Readings
Allemang, D., &Hendler, J. (2011).*Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL*. Morgan Kaufmann.
Breeding, M. (2010).*Next-gen Library Catalogs*. Neal-Schuman Publishers.
Davies, J., Studer, R., & Warren, P. (2006).*Semantic Web Technologies: Trends and Research in Ontology-based Systems*. John Wiley & Sons.
Heath, T., &Bizer, C. (2022).*Linked Data: Evolving the Web into a Global Data Space*.Springer Nature.
Hooland, S. van, &Verborgh, R. (2014).*Linked Data for Libraries, Archives and Museums: How to clean, link and publish your metadata*.Facet Publishing.
Maxwell, R. L. (2013). *Maxwell's Handbook for RDA: Resource Description &Access : Explaining and Illustrating RDA: Resource Description and Access Using MARC21*. American Library Association.
Mering, M. (2014).*The RDA Workbook: Learning the Basics of Resource Description and Access*. ABC-CLIO.
Powell, J. (2015). *A Librarian's Guide to Graphs, Data and the Semantic Web*.Chandos Publishing.
RDA, J. S. C. for development of. (2015). *RDA: Resource Description & Access*. American Library Association.
Spencer, J. S., &Millson-Martula, C. (2016).*Discovery Tools: The Next Generation of Library Research*. Routledge.

CourseTitle	**Marketing of Information Product &Services (Theory)**		
CourseCode:	**LIS –C13 -T**	No. of Credits	**4+0+0 Credits**
Contacthours	**48 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s):

- **Course Outcomes (COs**): After the successful completion of the course, the student will be able to:
-
- CO1. Define the basic concepts of marketing.
- CO2. Recognize the role of marketing of Library and Information Product and Services
- CO3. Apply strategies used in marketing.
- CO 4Promote the Information products and services

Contents	**45 Hrs**
Unit I: Basics of Marketing	
Chapter-1: - *Marketing overview, Concepts and definitions* - *Marketing approach, Principles of Marketing* - *Functions of Marketing Barriers of Marketing*	4
Chapter -2: - *Concept of Marketing in Non -profit Organizations* - *Relevance and Application in the Information Field* - *Marketing process, Knowing the users*	4
Chapetr-3 - *Factors that influence the market(Market size,supply,New entrant to market, Competitiveness, Services and strategy)*	4
Unit II: Marketing of Information Products and Services	
Chapter- 4 - *Introduction to Marketing of Information Products and Services:* - *Information Product Categories: Resources and services*	4
Chapter 5. - *Information as a Resource - Economics of Information- Information as a Product;* - *Range of information products; Customers; Profiling the Information Industry*	4
Chapter 6. - *Marketing environment; Pricing Information Products and Services.* - *Five Laws of Library Science and Marketing Implications*	3
Unit III: Marketing Strategies and Planning	

Chapter 7. - *Nature and Models of marketing strategy and planning; Marketing Technique and strategies* - *Product Life Cycle,* - *Portfolio Matrix,*	4
Chapter 8 - *Performance and Impact Analysis:* - *Marketing Mix (4Ps of marketing), Kotler's Four C's* - *Marketing audit* - *Steps in Planning Product/Service Policy*	4
Chapter 9. - *Market Segmentation* - *Market Research/Analysis* - *Marketing Information System* - *Marketing Plan*	4
Unit III: Promoting the Librariesand Information Products	
Chapter 10. - ***Advertising and publicity*** *- Promotion through press & media* *- In-house promotion: Publication, Display*	3
*Chapter 11. -****Web Marketing*** *- Internet marketing* *- Marketing of Libraries through website* *- Product design of the website* *- Promotion of library on the website*	3
Chapter 12. ***E -Marketing*** *- E-marketing Concepts B2B and C2C* *- Internet/Websites/Blogs/SNS* *-Promotion outside the library*	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes

Course Outcomes(COs)/Program Outcomes (POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
To understand the concept of marketing:	X	X	X					X	X		X		X		X
To understand how marketing strategies	X	X	X	X	X			X	X		X		X	X	X
To understand the concept of marketing mix	X	X	X	X	X			X	X		X		X	X	X
To elaborate the issues related with implementation of marketing in a library setup	X	X	X	X	X	X	X	X	X		X		X	X	X

Pedagogy:*Course teacher may adopt participatory discussion / self-study / desk work / Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in thelecture classes. Seminars, case study, discussion sessions etc., are part of tutorial*

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Cawkell, A.E., Ed. Evolution of an Information Society. London : ASLIB, 1987
Chandraiah.I Introduction to Marketing of Library and Information Services, Mangalam Publication 2009
Chopra H S (1996) Information Marketing Jaipur Rawat
Cronin, B: (1981). Marketing of library and information services. London: ASLIB, 1981.
Eileen Elliott de Saez (2002): Marketing concepts for libraries and information services. 2nd Ed. London: Facet Publishing
Jain, AbhinandanK and others (Ed (1995): Marketing of Information Products and Services. Ahmedabad: IIM
Kotler Philip (2002). Marketing management. Ed.12. 2002. Prentice Hall, Delhi
Kumar, P.S.G. (2003) Management of Library and Information Centres, B.R. Publishing Corporation,New Delhi.
Marketing of library and information services, 13th IASLIC Seminar, Calcutta, 1988.

Course Title	**LIS E5.1:Public Library System**		
Course Code:	LIS E1A- T	No. of Credits	**3**
Contact hours	**45Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s):

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1.Identify and understand the role of public libraries in the modern society.

CO2. Understand the organization and management of various types of resources and services

CO3. Identify the type of human resources required to serve in the public libraries.

CO4. Understand the importance of Library Legislation in the promotion of public libraries in India

Contents	**45Hrs**
Unit.1: Introduction to Public libraries	15 hours
Chapter.1: Meaning, Definitions, Origin, Objectives, Functions and Services. UNESCO Public Library Manifesto:1972, 1994 and 2004. *Chapter-2*: Growth and Development of Public Libraries in USA, UK and India. *Chapter-3:* Role of Public Libraries in Modem Society: Socio –Economic Development of a Nation.	
Unit.2: Collection Development, organization, and Management	15 hours
Chapter-4: Collection Development: Policies and Procedures. *Chapter.5*: Selection and Acquisition of different types of documents including non-book materials. *Chapter.6:* Book Selection Tools and Principles of Book Selection	
Unit-3: Library Legislation	15 hours
Chapter.7: Library Legislation: UK, USA and India. *Chapter-8:* Karnataka Public Libraries Act, 1965 and its features. *Chapter.9*: Comparative study of Public Library Acts in India	

Course Articulation Matrix: Mapping of Course Outcomes (Cos) with Program Outcomes

Course Outcomes (COs)/ Program Outcomes (POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. Identify and understand the role of public libraries in the modern society.	X	X	X				X	X			X		X		X

CO2. Understand the organization and management of various types of resources and services	X	X	X				X	X			X	X	X	X	X
CO3. Identify the type of human resources required to serve in the public libraries.	X	X	X	X	X	X	X	X			X		X	X	X
CO4. Understand the importance of Library Legislation in the promotion of public libraries in India	X	X	X			X	X	X			X	X	X	X	X

Pedagogy:

3. Lecturing and demonstrations are the major methods used.
4. Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Beardwell, Ianand Holden, Len.Ed. Human Resource Management: Contemporary Perspective. New Delhi: McMillan, 1996.
Bilal,D. Library Automation: Core Concepts and Practical Systems Analysis.Ed.3 .Libraries Unlimited, 2014.
Iyer,V.K. Library Management of Staff Training and Development.Delhi:Rajat,1999.
Kesavan, B.S. National Library of India, Calcutta. National Library, 1961.
Kumar, M.G. ,&Sethunath, VS. Public Libraries. Crescent Publishing Corporation. 2012.
Mittal, R.L. Public Library Law, Delhi: Metropolitan, 1971.
Ranganathan, S.R. Library Development Plan: A 30 year Programme for India with Draft Library Bill, Delhi: Delhi University, 1950.
Venkatappaiah, Velega. Public Library Legislation in the New Millennium. Bookwell, 2007
Goulding, Anne. Public Libraries in 21st Century: Defining Services and debating the future. Ashgare. United Kingdom. 2012.

CourseTitle	**Academic Library System**		
Course Code:	**LIS E1B-T**	No. of Credits	**3-0-0**
Contact hours	**45 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative AssessmentMarks	**60**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1. To understand the functions and challenges of different types of academic libraries and

CO2. To understand the role of UGC and other regulatory agencies in the development of University and College libraries in India

CO3. To Understand the process of Collection Development, organization and Management in academic libraries

CO4. To provide different types of library and information services in academic libraries

Contents	**45 Hrs**
Unit I: **Higher Education and Libraries in India**	15hrs
Chapter- 1 - Academic Libraries: Conceptualization, Importance, Functions. - Types of Academic Libraries: School, College, University Libraries - Role of Libraries in Higher Education	
Chapter – 2 - Higher Education and Libraries in India during pre- independence and post-independence periods - Role of Academic Libraries in the present electronic environment - Challenges of Academic Libraries in the Digital Environment	
Chapter – 3 - Role of UGC in the Development of Academic Libraries - Committees Constituted by UGC for the development of College and University libraries - Role of other regulatory bodies in the promotion of libraries in India.	
Unit II: **Collection development, Organization and Management**	15 hrs
Chapter 4 - Academic Library collection, Collection development, Collection development policy - Problems of collection development	
Chapter 5 - Collection Organization (print and electronic) - Classification of resources in academic libraries - Cataloguing of resources in academic libraries	
Chapter – 6 - Maintenance, Preservation and Conservation of Information Resources: Procedures, policies and techniques - Digitization and Computerization - Stock verification; Evaluation and Weeding -	

Unit III: Information services	15 hrs
Chapter – 7 - Traditional library services (Circulation, Reference, Referral, Photocopying, ILL, CAS, SDI, Literature search service, outreach services etc) -	
Chapter 8 - Web-enabled digital services (Digital Reference Service, E-Document Delivery service, Alerting services etc,) - Research Support Service (Database search service, Plagiarism detection, Metrics based services etc)	
Chapter 9 - Library/Information Networking: - Information Network Development in India: DELNET and INFLIBNET - Library Consortia: E-Shodha Sindhu, FORSA, INDEST	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs)

Course Outcomes (COs)/ Program Outcomes (POs)	**Program Outcomes (POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. To understand the functions and challenges of different types of academic libraries and	X	X	X	X	X			X	X				X		
CO2. To understand the role of UGC and other regulatory agencies in the development of University and College libraries in India	X	X	X	X	X			X	X						X
CO3. To Understand the process of Collection Development, organization and Management in academic libraries	X	X	X	X	X	X	X	X	X			X	X	X	X
CO4. To provide different types of library and information services in academic libraries	X	X	X	X	X	X	X	X	X			X	X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Written tests 2 X 10	20
Seminars/ Group discussions/Quizzing 2 X 5	10
Assignments/ Field work 2 X 5	10
Total	**40Marks**

Further Readings

- Budd, J.M. (1998). The Academic Library: Its Context, Its purpose and Its operation. Englewood, Colorado: Libraries Unlimited.
- Dayal, B. (2011). Managing Academic Libraries Principles and Practice. New Delhi: Isha Books.
- Deshpande, K.S.(1985). University Library System in India. NewDelhi: Streling Publishers Pvt. Ltd.
- Dhiman, A.K. (2002). Academic Libraries. New Delhi: EssEss Publications.
- Flemming, H. (1990). User Education in Academic Libraries. London.
- Kumar, P.S.G. (2004). Information Sources and Services: Theory and Practice. Delhi: B.R. Publishing Corporation.
- Mathews, B. (2009). Marketing Today's Academic Library: A Bold New Approach to Communicating with Students. Chicago: American Library Association.
- Mitchell, E. and Seiden, P. (2015). Reviewing the Academic Library: A Guide to Self-Study and External Review. Chicago: American Library Association
- Petruzzelli,B.W.(2006).Real Life Marketing and Promotion Strategies in College Libraries: Connecting with Campus and Community. London: Routledge.

Course Title	**Special Library System**		
Course Code:	**LIS E1C-T**	No. of Credits	**3-0-0**
Contact hours	**45 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1.Understand the characteristics, aims, objectives and functions of different types of Special Libraries.
CO2. Understand the development of special libraries
CO3. Understand the process of Collection Development, organization and Management in special libraries
CO4. Provide different types of library and information services in special libraries

Contents	**45 Hrs**
Unit I: **Special Libraries**	15 hrs
Chapter – I - Meaning, Definitions, Characteristics, Aims, Objectives, Functions	
Chapter – 2 - Types of Special Libraries: Government, R&D Libraries, Industrial, Hospital, Prison, Newspaper, etc.	
Chapter – 3 - History and Development of Special Libraries in USA, UK and India	
Unit II:Collection development, Organization and Management	15 hrs
Chapter 4 - Library collection, Collection development, Collection development policy - Collection Development Process: - Problems of collection development	
Chapter 5 - Collection Organization (print and electronic) - Classification of resources in special libraries - Cataloguing and indexing of resources in special libraries	
Chapter – 6 - Maintenance, Preservation and Conservation of Information Resources: Procedures, policies and techniques - Digitization and Computerization - Stock verification; Evaluation and Weeding	
Unit III:Planning of Various Information Services	15 hrs
Chapter – 7 - Traditional library services (Circulation, Reference, Referral, Photocopying, ILL, CAS, SDI, Literature search service, outreach services etc)	

- Abstracting and Indexing service, Newspaper clipping service, Designing of information products	
Chapter 8 - Web-enabled digital services (Digital Reference Service, E-Document Delivery service, Alerting services etc,) - Research Support Service (Database search service, Plagiarism detection, Metrics based services etc)	
Chapter 9 - Library/Information Networking: - Information Network Development in India with reference to special libraries - Library Consortia:	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs)

Course Outcomes (COs) /Program Outcomes(POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1.Understand the characteristics, aims, objectives and functions of different types of Special Libraries.	X	X	X	X	X			X	X				X		
CO2. Understand the development of special libraries	X	X	X	X	X			X	X						X
CO3. Understand the process of Collection Development, organization and Management in special libraries	X	X	X	X	X	X	X	X	X			X	X	X	X
CO4. Provide different types of library and information services in special libraries	X	X	X	X	X	X	X	X	X			X	X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session tests	10 X 2 = 20
Seminars/ Group discussions/Quizzing	5 X 2 = 10
Assignments/ Field work	5 X 2 = 10
Total	**40 Marks**

Further Readings

- Ashworth Wilfred. (1985). Handbook of Special Librarianship and Information Work. Ed. 4. London: ASLIB.
- Ashwrorth, Wilfred (1979). Special Librarianship. London: Clive Bingley.
- Burket, J. (1968). Trends in Special Librarianship. London: CliveBingley.
- EvaSemertzaki(2011).SpecialLibrariesasKnowledgeManagementCentres.NewDelhi:Chandos.
- Jackson,E.B.(1985).SpecialLibrarianship:ANewReader.Metuchen:Screcrowpress.
- James,M.MatarazzoandToby,Pearlstein(2013).SpecialLibraries:ASurvivalGuide.LibrariesUnlimitedInc.
- Singh,S.P.andKrishan,Kumar(2005).SpecialLibrariesintheElectronicEnvironment.New Delhi:Bookwell.
- Krishan Kumar (1973). Research Libraries in the Developing Countries. New Delhi.Vikas.
- Panda,B.D.(1992).TowardsaSpecialLibrarySystem.NewDelhi:Anmol.
- Mishra,R.K.(2013).SpecialLibrarySystemandInformationServices.CentrumPress.

Course Title	**Basic Statistics**		
Course Code:	**LIS V1- A**	No. of Credits	**2-0-1**
Contact hours	**60 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**50**	Summative Assessment Marks	**50**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1 Understand the importance of statistics in library science and recognize ethical considerations in data analysis

CO2. Apply fundamental statistical concepts and techniques to organize, summarize, and analyze data.

CO3. Conduct statistical inference to make informed decisions and draw meaningful conclusions.

CO4. Interpret and effectively communicate statistical findings in the context of library science.

Contents	**60 Hrs**
Unit 1: Introduction to Statistics and Data Collection	20 hrs
Chapter 1 : Understanding Statistics - Definition of statistics and its importance in library science - Role of statistics in library management and decision-making - Ethical considerations in data collection and analysis	
Chapter 2: Types of Data and Data Collection Methods - Differentiating between qualitative and quantitative data - Overview of primary and secondary data sources in library science - Introduction to various data collection methods suitable for library science research	
Chapter 3: Data Presentation and Descriptive Statistics - Data organization and cleaning techniques - Tabular presentation and graphical representation of data - Measures of central tendency (mean, median, mode) and dispersion (range, variance, standard deviation)	
Unit 2: Probability and Probability Distributions	20 hrs
Chapter 4: Fundamentals of Probability - Basic concepts of probability theory - Calculating probabilities using the addition and multiplication rules - Understanding the concept of independence and conditional probability	
Chapter 5: Discrete Probability Distributions - Introduction to discrete probability distributions (e.g., binomial, Poisson) - Applications of discrete distributions in library science - Probability calculations and solving problems using discrete distributions	
Chapter 6: Continuous Probability Distributions - Introduction to continuous probability distributions (e.g., normal, exponential) - Understanding the characteristics and applications of continuous distributions in library science - Probability calculations and solving problems using continuous distributions	
Unit 3: Statistical Inference and Hypothesis Testing	20 hrs
Chapter 7: Sampling and Sampling Distributions - Basics of sampling and different sampling techniques - Central Limit Theorem and its significance in statistical inference - Understanding sampling distributions of means and proportions	
Chapter 8: Estimation - Point estimation and interval estimation	

- Confidence intervals for population parameters - Sample size determination for estimation	
Chapter 9: Introduction to Hypothesis Testing - Formulating null and alternative hypotheses - Type I and Type II errors in hypothesis testing - One-sample and two-sample hypothesis tests for library science applications	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs)

Course Outcomes (COs) /Program Outcomes(POs)	Program Outcomes(POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1 Understand the importance of statistics in library science and recognize ethical considerations in data analysis	X	X	X	X	X			X	X	X	X		X		
CO2. Apply fundamental statistical concepts and techniques to organize, summarize, and analyze data.	X	X	X	X	X			X	X		X	X	X		X
CO3. Conduct statistical inference to make informed decisions and draw meaningful conclusions.	X	X	X	X	X	X	X	X	X		X	X	X	X	X
CO4. Interpret and effectively communicate statistical findings in the context of library science.	X	X	X	X	X	X	X	X	X	X		X	X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment	
Assessment Occasion/type	**Marks**
Session test	15X2= 30
Laboratory Records	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**50 Marks**

Further Readings
Babbie, E. (2016). The Basics of Social Research (7th ed.). Cengage Learning.
Bluman, A. G. (2019). Elementary Statistics: A Step by Step Approach (10th ed.). McGraw-Hill Education.
Egghe, L., & Rousseau, R. (2003). Elementary Statistics for Effective Library and Information Service

Management. Routledge.

Gravetter, F. J., & Wallnau, L. B. (2016). Essentials of Statistics for the Behavioral Sciences (9th ed.). Cengage Learning.

Gupta, S. C., & Kapoor, V. K. (2020). Fundamentals of Mathematical Statistics. Sultan Chand & Sons.

Levine, D. M., Stephan, D. F., Krehbiel, T. C., & Berenson, M. L. (2019). Statistics for Managers Using Microsoft Excel (8th ed.). Pearson.

Mendenhall, W., Beaver, R. J., & Beaver, B. M. (2017). Introduction to Probability and Statistics (15th ed.). Cengage Learning.

Pillai, R. S. N. (2008). Statistics (Theory & Practice). S. Chand Publishing.

Powell, R. R. (1997). Basic Research Methods for Librarians. Greenwood Publishing Group

Triola, M. F. (2017). Elementary Statistics (13th ed.). Pearson.

Course Title	**Computer Programming**		
Course Code:	**LIS V1- B**	No. of Credits	**2-0-1**
Contact hours	**60 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**50**	Summative Assessment Marks	**50**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1. Develop practical programming skills and problem-solving abilities.

CO2. Understand and apply key programming concepts, such as modular programming and data structures.

CO3. Build applications for library science using file handling, data manipulation, and GUI development.

CO4. Apply programming skills ethically and responsibly within the library science context.

Contents	**60 Hrs**
Unit 1: Introduction to Programming Concepts and Fundamentals	20 hrs
Chapter 1: Introduction to Programming - Overview of programming languages and their applications in library science - Importance of programming skills in library management and information organization - Ethical considerations in programming and data handling	
Chapter 2:Programming Basics - Introduction to programming concepts: variables, data types, and operators - Understanding control structures: conditionals and loops - Fundamentals of input and output operations in programming	
Chapter 3:Functions and Modular Programming - Defining and using functions to organize code - Scope and lifetime of variables - Modular programming principles for code reusability and maintainability	
Unit 2: Programming Techniques and Data Structures	20 hrs
Chapter 4:File Handling and Data Manipulation - Reading and writing data from/to files - Manipulating text and numeric data for library science applications - Handling file input/output errors and exceptions	
Chapter 5:Data Structures and Collections - Understanding arrays and lists for efficient data storage and retrieval - Introduction to dictionaries and sets for structured data representation - Working with data structures for library-related tasks and projects	
Chapter 6:Algorithmic Thinking and Problem Solving - Introduction to algorithm design and analysis - Problem-solving strategies and techniques - Applying algorithmic thinking to library science scenarios	
Unit 3: Advanced Programming Topics and Application Development	20 hrs
Chapter 7:Object-Oriented Programming (OOP) Principles - Fundamentals of object-oriented programming - Encapsulation, inheritance, and polymorphism	

- Building and using classes for library-related applications	
Chapter 8:Graphical User Interface (GUI) Development - Introduction to GUI programming - Designing user-friendly interfaces for library management systems - Event handling and user input validation	
Chapter 9:Web Development and APIs - Basics of web development: HTML, CSS, and JavaScript - Utilizing web APIs for library-related applications - Introduction to web scraping for data collection and analysis	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs)

Course Outcomes (COs) /Program Outcomes(POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. Develop practical programming skills and problem-solving abilities.	X	X	X	X	X			X	X	X	X		X		
CO2. Understand and apply key programming concepts, such as modular programming and data structures.	X	X	X	X	X			X	X		X	X	X	X	X
CO3. Build applications for library science using file handling, data manipulation, and GUI development.	X	X	X	X	X	X	X	X	X		X	X	X	X	X
CO4. Apply programming skills ethically and responsibly within the library science context.	X	X	X	X	X	X	X	X	X	X		X	X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment	
Assessment Occasion/type	**Marks**
Session tests	15 X 2 = 30
Laboratory Records	5 X 2= 10
Assignments/ Field work	5 X 2 = 10
Total	**50 Marks**

Further Readings
Eck, D. J. (2017). Java: How to Program (11th ed.). Pearson.
Farrell, J. (2018). Python Programming and Problem Solving (4th ed.). Cengage Learning.
Horstmann, C. S., & Cornell, G. (2018). Java Concepts: Early Objects (8th ed.). Wiley.
Liang, Y. (2019). Introduction to Java Programming and Data Structures: Comprehensive Version (12th ed.). Pearson.
Malik, D. S. (2018). C++ Programming: From Problem Analysis to Program Design (8th ed.). Cengage Learning.
Prata, S. (2019). C Primer Plus (6th ed.). Addison-Wesley Professional.
Savitch, W. (2018). Absolute Java (6th ed.). Pearson.
Sebesta, R. W. (2017). Concepts of Programming Languages (11th ed.). Pearson.
Singh, R. P. (2017). Fundamentals of Programming in C and C++. S. Chand Publishing.
Horstmann, C. S. (2019). Big C++ (3rd ed.). Wiley.
Liang, Y. (2018). Introduction to C++ Programming and Data Structures (4th ed.). Pearson.
Prata, S. (2014). C++ Primer Plus (6th ed.). Addison-Wesley Professional.

Course Title	**Data Analytics**		
Course Code:	**LIS V1- C**	No. of Credits	**2-0-1**
Contact hours	**60 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**50**	Summative Assessment Marks	**50**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1. Apply data exploration and preprocessing techniques to analyze library science datasets effectively.

CO2. Implement data mining techniques for predictive analytics in library science research and decision-making.

CO3. Create visually appealing data visualizations and interactive dashboards to communicate insights in the library science context.

CO4. Communicate data findings ethically and effectively to diverse audiences, considering privacy and avoiding misinterpretation.

Contents	**60 Hrs**
Unit 1: Introduction to Data Analytics and Data Exploration	15 hrs
Chapter 1: Understanding Data Analytics - Definition and importance of data analytics in library science - Role of data analytics in library management and user services - Ethical considerations in data analytics and privacy protection	
Chapter 2: Data Exploration and Preprocessing - Techniques for data cleaning and handling missing values - Exploratory data analysis: data visualization and summary statistics - Introduction to data preprocessing methods for library science datasets	
Chapter 3: Introduction to Statistical Analysis - Key statistical concepts for data analytics - Statistical techniques for descriptive analysis and inference - Application of statistical analysis in library science research	
Unit 2: Data Mining Techniques and Predictive Analytics	15 hrs
Chapter 4: Introduction to Data Mining - Overview of data mining techniques and their applications - Data mining process: data selection, preprocessing, transformation, and model evaluation - Ethics and privacy considerations in data mining for library science	
Chapter 5: Predictive Analytics - Understanding predictive modeling and its applications in library science - Techniques for predictive modeling: regression analysis, decision trees, and classification algorithms - Model evaluation and performance metrics for predictive analytics	
Chapter 6: Text Mining and Natural Language Processing - Introduction to text mining and its significance in library science - Text preprocessing techniques: tokenization, stemming, and stop-word removal - Basics of natural language processing for sentiment analysis and topic modeling	

Unit 3: Data Visualization and Communication	15 hrs
Chapter 7: Data Visualization Principles and Techniques - Importance of effective data visualization in communicating insights - Principles of data visualization design and best practices - Tools and software for creating visually appealing and informative visualizations	
Chapter 8: Dashboard Development and Interactive Data Visualization - Designing and building interactive dashboards for library science applications - Exploring tools for creating interactive visualizations and user-friendly interfaces - Incorporating visual analytics principles into dashboard development	
Chapter 9: Communicating Data Insights - Techniques for effectively communicating data findings to diverse audiences - Presenting data insights through reports, presentations, and visualizations - Ethical considerations in data communication and avoiding misinterpretation	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs)

Course Outcomes (COs) /Program Outcomes(POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. Apply data exploration and preprocessing techniques to analyze library science datasets effectively.	X	X	X	X	X			X	X	X	X		X		
CO2. Implement data mining techniques for predictive analytics in library science research and decision-making.	X	X	X	X	X			X	X		X	X	X	X	X
CO3. Create visually appealing data visualizations and interactive dashboards to communicate insights in the library science context.	X	X	X	X	X	X	X	X	X		X	X	X	X	X
CO4. Communicate data findings ethically and effectively to diverse audiences, considering privacy and avoiding misinterpretation.	X	X	X	X	X	X	X	X	X	X		X	X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment	
Assessment Occasion/type	**Marks**
Session tests	15 X 2 = 30
Laboratory Records	5 X 2= 10
Assignments/ Field work	5 X 2= 10
Total	**50 Marks**

Further Readings
Chatterjee, S., & Hadi, A. S. (2015). Regression Analysis by Example (5th ed.). Wiley.
Field, A. (2018). Discovering Statistics Using IBM SPSS Statistics (5th ed.). Sage Publications.
Grolemund, G., & Wickham, H. (2017). R for Data Science: Import, Tidy, Transform, Visualize, and Model Data. O'Reilly Media.
Han, J., Kamber, M., & Pei, J. (2011). Data Mining: Concepts and Techniques (3rd ed.). Morgan Kaufmann.
James, G., Witten, D., Hastie, T., & Tibshirani, R. (2017). An Introduction to Statistical Learning: with Applications in R. Springer.
Johnson, R. A., & Wichern, D. W. (2007). Applied Multivariate Statistical Analysis (6th ed.). Pearson.
Kuhn, M., & Johnson, K. (2019). Applied Predictive Modeling. Springer.
Lantz, B. (2015). Machine Learning with R: Expert Techniques for Predictive Modeling (2nd ed.). Packt Publishing.
Meyer, D., & Pilgrim, R. (2017). Interactive Data Visualization for the Web: An Introduction to Designing with D3. O'Reilly Media.
Provost, F., & Fawcett, T. (2013). Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking. O'Reilly Media.
Tufte, E. R. (2001). The Visual Display of Quantitative Information (2nd ed.). Graphics Press.
Wickham, H. (2016). ggplot2: Elegant Graphics for Data Analysis. Springer.

Program Name	**BA/BSc in Library and Information Science**	Semester	**VI**
Course Title	**Information Retrieval (Theory)**		
Course Code:	**LIS – C14 - T**	No. of Credits	**(4 + 0 + 0 credits)**
Contact hours	**60Hours**	Duration of SEA/Exam	**2 hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s):

1. **Course Outcomes (COs)**: After the successful completion of the course, the student will be able to:

CO1. illustrate the basic concepts and processes of information retrieval systems,
CO2.explain the role of subject representation and compare indexing languages,
CO3.demonstrate the ability to derive subject headings through various indexing systems,
CO4. demonstrate the ability to use citation databases, and
CO5. explain and evaluate the information retrieval models.

Contents	**60 Hrs**
Unit -1: Information retrieval Chapter 1: Definition information retrieval. History of IR. Functions of information retrieval systems (IRS).Components of information retrieval systems (Lancaster's diagram). Chapter 2: Approaches to information retrieval: System-Cantered Approach and User-Cantered Approach. Kinds of IRS: OPACs, Online databases, Digital libraries and web-based information services and Web Search Engines. Chapter 3: Data retrieval Vs. information retrieval.	15 Hrs
Unit -2: Subject representation and conventional indexing systems. Chapter 4: Need for indexing language. Significance of citation order. An overview of historical development of indexing including but not limited to the contributions of Cutter, Kaiser, Ranganathan, Farradane and Coates. Chapter 5: Pre-coordinate indexing systems. Study of Chain indexing, PRECIS,POPSI, Chapter 6: Post-Cordinate indexing systems: Study of Uniterm, Peek-a-boo, Edge-notched cards.	15 Hrs
Unit -3: Understanding alternative subject indexing systems Chapter 7: Title based (KWIC, KWOC and KWAC), Chapter 8: Citationbased (SCI, SSCI, etc.) Chapter 9: Vocabulary control: Meaning, Need and Importance. Vocabulary control tools – Subject heading Lists and Thesauri. Thesaurus Construction. Case Study of Controlled vocabularies/ Ontologies including but not limited to ERIC, MeSH, SLSH, LCSH, and Getty.	15 Hrs
Unit -4: IR models. Chapter 10: Boolean model of information retrieval Chapter 11 : Concepts of Ranking, Term weight, Document frequency (DF), Inverse Document Frequency (IDF). Vector space model, and vector space model. Chapter 12: Need for evaluation of information retrieval systems. Understanding the criteria for	15 Hrs

evaluation including but not limited to recall, precision, specificity and exhaustivity.Evaluation studies: ASLIB/Cranfield, MEDLARS, TREC, SMART.	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1: Illustrate the basic concepts and processes of information retrieval systems	X	X	X	X	X			X	X	X	X				X
CO2:Explain the role of subject representation and compare indexing languages	X	X	X	X	X			X	X	X	X			X	X
CO3:Demonstrate the ability to derive subject headings through various indexing systems	X	X	X	X	X	X		X	X	X	X				X
CO4:Demonstrate the ability to use citation databases	X	X	X	X	X	X		X	X	X	X				X
CO5: Explain and evaluate the information retrieval models	X	X	X	X	X			X	X	X	X				X

Pedagogy: Lecture and Discussion, Comparative Analysis, Hands-on Activities, Case Studies

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Atchison, J. & Gilchrist, A (1972). Thesaurus construction, a practical manual. London: ASLIB.
Austin, D. (1984). PRECIS: A manual of concept analysis and subject indexing. (2nd ed.)

Chernyi, A. I. (1973). Introduction to information retrieval theory.
Viniti, Chowdhury, G. G. (2010). Introduction to modern information retrieval. Facet.
Cleaveland, D. B., & Cleveland, A. D. (1983). Introduction to indexing and abstracting.
Foskett, A.C. (1982). The subject approach to information. (4th ed.) London: Bingley.
Jennifer E. Rowledy. (1987). Organising knowledge: An introduction to information retrieval.Aldorshot: Gower.
Kochen, M. (Ed.). (1974). Principles of information retrieval.
Lancaster, F. W. (1979). Information retrieval systems: characteristics, testing, and evaluation. (2nd ed.). New York, John Wiley.
Lancaster, F. W. (2003). Indexing and abstracting in theory and practice. London: Facet Publishing,
Rowley, J. E. (1994). The controlled versus natural indexing language debate revisited: A perspectiveon information retrieval practice and research. Journal of Information Science, 20(2), 108-119.
Vickery, B. C. (1970). Techniques of information retrieval. London: Butterworths.

Course Title	**Information Retrieval (Practical)**	Practical Credits	**(0+0+2 Credits)**
Course Code	**LIS – C15- P**	Contact Hours	**60Hours**
Formative Assessment	**25Marks**	Summative Assessment	**25Marks**

Practical Content	
Content of practical course	**Number of teaching hours**
Unit-1: Creation of subject headings	**30 hours**
Chapter 1: Chain indexing through DDC class number Chapter 2: PRECIS role operators in standard format, Chapter 3: Using PRECIS role operations for predicate transformation format and inverted format	
Unit-2: Search techniques	**30 hours**
Chapter 4: Database searches: Boolean search, truncation search, phrase search, Chapter 5: Proximity search, field search, wild card search, concept search, Fuzzy search. Chapter 6: Saving and exporting result in Spread sheet, CSV. BibTex formats **Note: Conducting the above searches in search engines and bibliographic databases including OPACs**	

Pedagogy: Demonstration, Tutorial, Hands-on

Formative Assessment for Practical	
Assessment Occasion/type	**Marks**
Session Test	5X2= 10
Practical record	10X1=10
Assignment	5X1=5
Total	**25Marks**

Further Readings
Browne, G. J., &Jermey, A. J. (2009). The indexing companion. Cambridge University Press.
Lancaster, F. W. (2003). Indexing and abstracting in theory and practice. Libraries Unlimited.
Mulvany, N. C. (2012). Indexing books. University of Chicago Press.

Perlman, M. (2012). Chain indexing: A guide to the indexers' workshop. Information Today.

Raitt, D. I. (2009). The art of indexing. Cambridge University Press.

Rowley, J. E. (2007). Information organized and retrieval: A survey of indexing and abstracting methods. Gower Publishing.

Course Title	**Digital Libraries (Theory)**		
Course Code:	LIS C16 - T	No. of Credits	**04**
Contact hours	**60Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:
CO1. describe the concept and principles of digital libraries
CO2.create, manage, and disseminate digital collections using various digital library software and tools
CO3.identify and analyze the challenges associated with digital preservation
CO4.evaluate digital library resources and services
CO5. communicate effectively about digital libraries and related issues and work collaboratively on digital library projects

Contents	**60 Hrs**
Unit: 1: Digital Library – A Conceptual Framework	**15**
Chapter 1: Definitions, objectives, and Characteristics; Digital Library Initiatives - Global and Indian Perspective; National Digital Library of India (NDLI); Multilingual Digital Repositories.	05
Chapter 2: Digital Library Architecture and Design — Components and their relationships involved in digital libraries — Digital Objects (textual documents, images, audio, video), Architecture, Interoperability, Compatibility, User Interfaces— Planning, Implementation, Promotion and Evaluation of digital libraries;	05
Chapter 3: Digital Collection Development: Digital Collection Development and Selection Criteria; Acquiring Digital Resources and Licenses; Building and managing digital collections.	05
Unit: 2 Digital Library Software and Hardware Components:	15
Chapter 4: Features and Functional Modules of Open-Source Digital Library Software –-DSpace, Green Stone Digital Library (GSDL), Epints, Fedora, Omeka;	05
Chapter 5: Proprietary Digital Library Software –EnCompass, VTLS, DigiTool, CONTENTdm& others; File Formats, Identifiers & Handle Systems in digital libraries	05
Chapter – 6: **Supporting Hardware and Software Components:** Computers, Scanners, Printers, Servers,	05

Editing software, OCR,Bulk renaming software, Checksum software, cloud storage	
Unit: 3Digitization, Digital Preservation,Standards, IPR, and Legal Issues:	15
Chapter 7: Digitization – forms, process, techniques; scanning, OCR, editing, and publishing — Guidelines, methods, techniques, and best practices for digital preservation	05
Chapter 8: Issues and challenges for digital archiving and preservation; Digital preservation – Means and methods.	05
Chapter 9: Metadata standards – Dublin Core, Character Encoding Standards METS, MODS, TEI,& other; Persistent Identifiers & DOI, OAI-PMH — Metadata interoperability – cross walking and mapping; IPR and Copyright; Digital Rights Management (DRM), Protocols for Digital Libraries.	05
Unit: 4 Institutional Repositories, Ontology, and Semantic Web:	15
Chapter 10: Institutional Repository: Concept, Definition, and Importance; Steps in Creation of Institutional Repository; Institutional Repositories in India; ETDs, Institutional Repositories in Karnataka.	05
Chapter 11: Ontology, and Semantic Web - concept, vision, vocabularies, and languagesmodel ontologies using Resource Description Framework (RDF) — Model and design ontologies using Web Ontology Language (OWL).	05
Chapter 12: Semantic Web & Intelligent Agents; Emerging Trends and Technologies in Digital Libraries	05

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes

Course Outcomes (COs)/ Program Outcomes (POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. describe the concept and principles of digital libraries	X	X	X	X	X			X	X				X		
CO2.create, manage, and disseminate digital collections using various digital library software and tools	X	X	X	X	X			X	X						X
CO3.identify and analyze the challenges associated with digital preservation	X	X	X	X	X	X	X	X	X			X	X	X	X
CO4.evaluate digital library resources and services	X	X	X	X	X	X	X	X	X			X	X	X	X
CO5. communicate effectively about digital libraries and related issues and work collaboratively on digital library projects	X	X	X	X	X			X	X				X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate

more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings

- Andrews, J. (2010). Digital Libraries. London: Ashgate.
- Balasubramanian, P &Sherin, Yohannan (2021). **Library Automation and Digitization New Delhi: EssEss Publications, p.195**
- Bishop, A. P., Van House, N. A., &Buttenfield, B. P. (Eds.). (2003). Digital library use: Social practice in design and evaluation. MIT Press.
- Borgman, C. L. (2015). Digital libraries and the continuum of scholarly communication. Journal of Documentation, 71(2), 241-263
- Chowdhury, G. G. (2010). Introduction to digital libraries. London: Facet Publishing
- Chowdhury, G. G., & Foo, S. (Eds.). (2012). Digital libraries and information access: research perspectives. Facet Publishing.
- Dahl, Mark et al. (2006).Digital Libraries: Integrating content and systems .London: Chandos.
- Deegan, Marilyn & Tanner, S. (2006). Digital Preservation. London, Facet Publishing.
- Fenner, Audrey (ed.).2005. Managing Digital Resources in Libraries. New York: HaworthFoster, Ian &Kesselman, Carl. (2004). The Grid 2: Blueprint for a New Computing Infrastructure (The Morgan Kaufmann Series in Computer Architecture and Design). 2nd ed. San Francisco: Morgan Kaufmann
- Hahn, J., &Kankanhalli, A. (2002). Designing digital library architectures: A middleware perspective. Journal of Management Information Systems, 18(3), 155-191
- Iris, Xie & Krystyna, Matusiak. (2016). Discover Digital Libraries: Theory and Practice Hardcover. Netherland: ELSIVER
- Jones, Richard et al. (2006). The Institutional Repository. Oxford: Chandos Publishing.
- Kim, H., & Yun, J. (2015). The role of digital libraries in e-learning environments: A case study of Korea National Open University. Journal of Educational Technology & Society, 18(2), 73-84.
- Purcell, Aaron.(2016). Digital Library Programs for Libraries and Archives: Developing, Managing, and Sustaining Unique Digital Collections. ALA
- Van House, N. A., Butler, M. H., & Dowding, J. (Eds.). (2017). Theories of the digital in libraries. Chicago, IL: Association of College and Research Libraries

- Yilmaz, M. (2018). Digital libraries: Knowledge, information, and data in an open access society. Hershey, PA: IGI Global.
- William, Arms. 2005. Digital Libraries. New Delhi: Ann.

Course Title	Digital Libraries (Practical)	Practical Credits	**0-0-2**
Course Code	LIS C17 - P	Contact Hours	**60Hours**
Formative Assessment	**25Marks**	Summative Assessment	**25Marks**

Practical Content

Particulars	**Teaching hours**
Unit-1	**30 hours**
Chapter.1: Installation of DSpace Digital Library Software *Chapter-2*: Creating communities and collections *Chapter-3:* Submission of documents	
Unit-2Metadata harvesting and customization	**30 hours**
Chapter-4: Submission Workflow management. *Chapter.5*: Metadata Harvesting using OAI-PMH. *Chapter.6:* Customization of Digital Library.	

Pedagogy:

4. Lecturing and demonstrations are the major methods used.
5. Hands on experience on the use of DSpace(Creating communities and collections)
6. Hands on Metadata Harvesting using OAI-PMH.
7. Customization of Digital Library.
8. Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Practical	
Assessment Occasion/type	**Marks**
Session Test	5X2= 10
Practical record	10X1=10
Assignment	5X1=5
Total	**25Marks**

Course Title	LIS 6.5 Introduction to Scientometrics (Theory)		
Course Code:	LIS C18-T	No. of Credits	**4**
Contact hours	**60Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

CoursePre-requisite(s):

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1.Explain the concepts of Bibliometric, Informatics and Scientometrics

CO2. Exhibit the knowledge and skills to apply the classical bibliometric laws

CO3. Delineate the bibliometric and citation indicators

CO4. Demonstrate the ability to use citation analysis methods and software used for Scientometrics analysis.

Contents	**xx Hrs**
Unit -1 Basic Concepts of Scientometrics	**15 hours**
Chapter.1: Introduction metric studies. Historical development *Chapter-2*: Bibliometrics, Informetric, Scientometrics, Webometrics – Meaning, definitions and scope. *Chapter-3:* Self-Learning Component: History and Development of Bibliometrics	
Study and Application of Classical Bibliometric Laws	**15 hours**
*Chapter-4:*Lotka's law of scientific productivity, Bradford's law of scatter, and Zipf's law of word occurrence. *Chapter.5*: Empirical Laws of Price, Garfield law, 80/20 rule. *Chapter.6:* Applications of Bibliometric laws in Web.	
Unit-3: Study of the Citation Concepts and Analysis	**15 hours**
Chapter.7: Citation Analysis, Citation Network, Citation Matrix, Bibliographic Coupling, Co-Citation Analysis, Journal Citation Reports. *Chapter-8:* Growth and Obsolescence of Literature. Various Growth Models, the Half-life Analogy, Determination of Aging Factor and Half-life, Authorship Collaboration and productivity. *Chapter.9*: Self-Learning Component: Acquaintance and hands on experience with various bibliometrics, scientometrics and webometrics techniques.	
Bibliometric Indicators	**15 hours**

Chapter-10: Publication indicators, Journal indicators: Impact Factor. *Chapter.11*: Immediacy Index, Cited Half-life, SCImago Journal Ranking. *Chapter.12:*Citation indicators:-h-Index, g-index, i-10 index, Citation Index, Self-Citation	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes(COs)/ Program Outcomes(POs)	Program Outcomes(POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1.Explain the concepts of Bibliometric, Informatics and Scientometrics	X	X	X	X	X			X	X		X				X
CO2. Exhibit the knowledge and skills to apply the classical bibliometric laws	X	X	X	X	X	X		X	X	X	X		X		X
CO3. Delineate the bibliometric and citation indicators	X	X	X	X	X	X		X	X	X	X		X		X
CO4. Demonstrate the ability to use citation analysis methods and software used for Scientometrics analysis.	X	X	X	X	X	X		X	X	X	X		X		X

Pedagogy:

1. Lecturing and demonstrations are the major methods used.
2. Hands on teaching are used to solve the problems in bibliometric laws.
3. Hands on for searching and data collection from citation databases and other
4. bibliographical databases is encouraged.
5. Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Andres,.A (2009). Measuring the academic research: how to undertake bibliometric study, Oxford, Chandos Publishing.

Anddrews, Penndy and Leeds Metropolitan University. (2013). Amplifying your research and academic profile. A researcher‘s guide to social media and altmetrics.
Bargeman , C.L(1990). Scholarly Communication and Bibliometrics. Newbury Park, Sage Publications.
Bradford, S C (1971). Documentation. London: Crosby Lockwood
Cronin, B (1984). The citation process. The Role and significance of citations in scientific Communications. London: Taylor Graham.
Cronin, B and Sugmoto, C R (2014). Beyond bibliometric : harnessing Multidimensional Indicators of Scholarly Impact Cambridge , Mass, MIT Press.
Egghe, L (1990). Introduction to Informetrics. Amsterdam: Elsevier
Meadows A J (1974). Communication in Science. London: Buttetworths
Nicholas D and Ritchie, M (1978). Literature and Bibliometrics. London: Clive-Bingley

Course Title	**Advanced MARC and Dublin Core(Theory)**		
Course Code:	**LIS – E2 A – T**	No. of Credits	**(3+0+0 credits)**
Contact hours	**45Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

CoursePre-requisite(s):

1. **Course Outcomes (COs): After the successful completion of the course, the student will be able to:**

CO1. Understand and differentiate between different types of library records, including bibliographic, bibliographic (LITE), authority, holdings, and classification.

CO2.Develop proficiency in preparing MARC 21 coded data, including the 006, 007, and 008 fields, for different types of materials at different levels.

CO3.Analyze and evaluate the quality of metadata records, and develop strategies for improving metadata quality and consistency.

CO4.Demonstrate proficiency in creating Dublin Core metadata records, including knowledge of basic elements, vocabulary encoding schemes, syntax encoding schemes, and classes.

Contents	**45 Hrs**
Unit 1: Introduction to MARC formats.	15 Hrs
Chapter 1: Understanding MARC formats: Bibliographic, Bibliographic (LITE), Chapter 2: Understanding MARC formats: Authority, Holdings, Classification. Chapter 3: Understanding MARC code lists: Countries, GACs, Languages, Organizations	
Unit 2:MARC 21 Coded Elements	15 Hrs
Chapter 4: Understanding and preparation of records using the MARC 21 coded data: 006 (Fixed-Length Data Elements--Additional Material Characteristics), Chapter 5: Understanding and preparation of records using the MARC 21 coded data 007 (Physical Description Fixed Field), Chapter 6: Understanding and preparation of records using the MARC 21 coded data : 008 (Fixed-Length Data Elements).	
Unit 3: Dublin Core	15 Hrs
Chapter 7: Understanding basic concepts in Dublin Core: Basic elements, Terms Namespace, Chapter 8: Vocabulary Encoding Schemes, Syntax Encoding Schemes, Classes, DCMI type vocabulary, Terms for description of vocabulary. Chapter 9: Understanding encoding of Simple and Qualified Dublin Core in XML and RDF.	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes(POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1: Understand and differentiate between different types of library records, including bibliographic, bibliographic (LITE), authority, holdings, and classification.	X	X	X	X	X			X	X	X	X		X		X
CO2: Develop proficiency in preparing MARC 21 coded data, including the 006, 007, and 008 fields, for different types of materials at different levels.	X	X	X	X	X	X		X	X	X	X		X		X
CO3: Analyze and evaluate the quality of metadata records, and develop strategies for improving metadata quality and consistency.	X	X	X	X	X	X		X	X	X	X		X		X
CO4: Demonstrate proficiency in creating Dublin Core metadata records, including knowledge of basic elements, vocabulary encoding schemes, syntax encoding schemes, and classes.	X	X	X	X	X	X		X	X	X	X		X		X

Pedagogy: Lecture, Discussion, Case studies, Demonstration, Comparative analysis.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Coyle, K. (2006). Understanding the semantic web: Bibliographic data and metadata. Libraries Unlimited.
Dublin Core Metadata Initiative. (2012). Dublin Core Metadata Element Set, Version 1.1: Reference. Retrieved from https://www.dublincore.org/specifications/dublin-core/dces/
Library of Congress. (2016). MARC 21 format for bibliographic data. Retrieved from https://www.loc.gov/marc
Maxwell, R. L. (2003). Maxwell's handbook for RDA: Explaining and illustrating RDA: Resource description and access using MARC 21. American Library Association.
Taylor, A. G. (2019). Understanding MARC bibliographic: Machine-readable cataloging. Libraries Unlimited.

Course Title	**Knowledge Organization Systems and Ontologies (Theory)**		
Course Code:	**LIS - E2 B- T**	No.ofCredits	**(3+0+0 Credits)**
Contact hours	**45Hours**	DurationofSEA/Exam	**2hours**
Formative Assessment Marks	**40**	SummativeAssessmentMarks	**60**

Course Pre-requisite(s):

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1. Understand the concepts and terminologies of Knowledge Organization Systems (KoS) and explain their functions and structures.

CO2.Demonstrate the knowledge representation process, including domain selection, concept capturing, structuring based on relationships, and encoding for computer systems using suitable Knowledge Representation Languages.

CO3.Describe the different Knowledge Representation Languages, including RDF, OWL, and SPARQL, and use them to represent and query linked data.

CO4.Apply the learned concepts and skills to design and develop a simple knowledge organization system and representation model using Protégé and linked data services.

Contents	**xx Hrs**
Unit 1: Knowledge Organization Basics	15 Hrs
Chapter 1: Knowledge Organization and Knowledge Organization Systems (KoS): Need, Concept, Definitions, Functions. Chapter 2: Basic terminologies in KO: Concepts (ideas/objects/events), Terms (labels/names), Relationships, Hierarchies, Facets, Synonyms, Cross-references. Chapter 3: Types KoS: Classification systems, Controlled vocabularies, Ontologies and Folksonomies.	
Unit 2: Knowledge representation	15 Hrs
Chapter 4: Knowledge representation process: Domain Selection for knowledge representation, Identifying Concepts and relationships, Selection of Knowledge Representation Language, Encoding for Computer Systems. Chapter 5: Knowledge Representation Methods: Conceptual modeling (UML, ER Modeling), Formalization (Creation of ontologies, taxonomies, controlled vocabularies), Chapter 6: Relevance of Metadata schema (Dublin Core, MODS, or MARC), Integration (OAI-PMH, OpenURL, or Z39.50)	
Unit 3: Knowledge representation languages	15 Hrs
Chapter 7: Knowledge Representation Languages. RDF÷Linked data, RDF Syntax and basic modeling, RDF Schema. Chapter 8: OWL: classes, properties, and individuals, Introduction to Protégé. Chapter 9: Introduction to SPARQL. Querying in Library of Congress Linked Data Service.	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes (POs)	Program Outcomes(POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1: Understand the concepts and terminologies of Knowledge Organization Systems (KoS) and explain their functions and structures.	X	X	X	X	X			X	X	X	X		X		X
CO2: Demonstrate the knowledge representation process, including domain selection, concept capturing, structuring based on relationships, and encoding for computer systems using suitable Knowledge Representation Languages.	X	X	X	X	X	X		X	X	X	X		X		X
CO3: Describe the different Knowledge Representation Languages, including RDF, OWL, and SPARQL, and use them to represent and query linked data.	X	X	X	X	X	X		X	X	X	X		X		X
CO4: Apply the learned concepts and skills to design and develop a simple knowledge organization system and representation model using Protégé and linked data services.	X	X	X	X	X	X		X	X	X	X		X		X

Pedagogy: Lecture, Discussion, Case studies, Demonstration, Comparative analysis.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

References
Allemang, D., &Hendler, J. (2011). Semantic web for the working ontologist: Effective modeling in RDFS and OWL. Morgan Kaufmann.
Antoniou, G., &Harmelen, F. V. (2004). A semantic web primer (2nd ed.). MIT press.

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Cyganiak, R., & Wood, D. (2014). RDF 1.1 primer. W3C recommendation.
Harris, C. (2016). Information storage and retrieval systems: Theory and implementation. Walter de Gruyter GmbH & Co KG.
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Heery, R., & Patel, M. (Eds.). (2000). Proceedings of the 5th European conference on research and advanced technology for digital libraries (Vol. 1923). Springer.
Hider, P. (2018). Information resource description: Creating and managing metadata. Facet Publishing.
McGuinness, D. L., & van Harmelen, F. (2004). OWL web ontology language overview. W3C recommendation, 10, 2004.
Noy, N. F., & McGuinness, D. L. (2001). Ontology development 101: A guide to creating your first ontology. Stanford knowledge systems laboratory technical report KSL-01-05.
Smiraglia, R. P. (2014). The elements of knowledge organization. Springer
Svenonius, E. (2000). The intellectual foundation of information organization. MIT press.
Szostak, R., Gnoli, C., & López-Huertas, M. (2016). Interdisciplinary knowledge organization Cham: Springer.
Tennis, J. T. (2015). Building context: Using linked data to improve subject access to moving image materials. Cataloging & Classification Quarterly, 53(5-6), 579-601.
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Course Title	**Preservation and Conservation of Information Resources**		
Course Code:	**LIS E2 C-T**	No. of Credits	**3-0-0**
Contact hours	**45 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO 1.Understand the issues of preservation of information sources.
CO 2. Preserve and conserve the information resources based on scientific preservation and conservation techniques.
CO 3. Understand the practice of digital preservation.

Contents	**45 Hrs**
Unit I: Basics of Preservation and Conservation	15 hrs
Chapter – 1 • Archiving, Preservation and Conservation; Need and significance of Archiving, Preservation and Conservation of Information Resources;	
Chapter – 2 • Records management; Information Resource Management; Electronic Resource Management; Evolution of writing materials; Paper Based materials -Book and Non Book materials	
Chapter – 3 • Hazards to Library materials and their preservation: Environmental hazards, Biological hazards and Human being as an enemy of Library materials. Disaster prevention and recovery -	
Unit II:**Preservation of Library materials**	15 hrs
Chapter 4 • Different types of Library materials: Their preservation and maintenance • Preservation program: Techniques and strategies	
Chapter 5 • Library Binding, Binding Standards. Other Materials: AN records, Magnetic Plates, Tapes & Diskettes, Microforms, Optical media, Magneto Optical Discs, etc. • Core activities; principles of preservation assessment, planning and budgeting; Copyright framework and its applications on preservation	
Chapter – 6 • Disaster preparedness planning, risk management, security issues • Establishment of preservation unit; Code of Ethics	
Unit III: **Digital Preservation**	15 hrs
Chapter – 7	

• Digital Preservation: Overview; Digitization – Introduction, selection of material for digitization, digital technologies – hardware and software, project management and costs of digitization	
Chapter 8 • Digital reformatting – Text, photos, audio, video and other formats. Open formats v/s Proprietary formats Digital preservation strategies	
Chapter 9 • Study various National Archival Initiatives of different countries: NARA of US, Australian National initiatives, Public archives of Canada, National Library of India, etc. for Archivists	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs)

Course Outcomes (COs) /Program Outcomes(POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO 1.Understand the issues of preservation of information sources.	X	X	X	X				X	X		X	X			
CO 2. Preserve and conserve the information resources based on scientific preservation and conservation techniques.	X	X	X	X	X	X	X	X	X		X	X	X		X
CO 3. Understand the practice of digital preservation.	X	X	X	X	X		X	X	X	X			X		X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40 Marks**

Further Readings

- Balloffet, N., Hille, J., and Reed, J. A. (2005). Preservation and conservation for Libraries and archives. Chicago: American Library Association.
- Belicove, M. E., and Kraynak, J. (2007). Internet yellow pages: the fun, fast, and easy way to get productive online. Indianapolis, Ind.: Que.
- Henderson, K. L. (1983). Conserving and preserving Library materials. Urbana-Champaign, Ill.:University of Illinois, Graduate School of Library and Information Science.
- Johnson, P. (2009). Fundamentals of collection development and management, 2nd Ed. Chicago:

American Library Association.
- Wynar, B. S., Strickland, S. D., & Graff, S. M. (1999). Library and Information Science annual. Englewood, Colo.: Libraries Unlimited.

Course Title	**Desktop Publishing**		
Course Code:	LIS V2- A.	No. of Credits	**2-0-1**
Contact hours	**60 Hours**	Duration of SEA/Exam	**3hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s):

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1.To introduce students to the basics of Computer, Folder creation and directories

CO2. To provide students with the knowledge, skills, and competencies required use PageMaker and CorelDraw. .

CO3. To familiarize students with Photoshop software

Contents	**60Hrs**
Unit-1: PageMaker	**20 hours**
Chapter.1: Introduction to Computer, concept, historical development, need and types of computers, *Chapter-2:* Type Settings for Publication, Page Layout, Word Wrapping, Grouping, Merging two or more files, Creating columns, Tab settings, Paragraph settings, Hyphenation. *Chapter.3*: Paper Style, Index & Table of Contents, Fonts, Mixing Text & Graphics, Linking objects, Printing facility, Fonts, Mixing Text & Graphics, Linking objects, Printing facility.	
Unit.2: CorelDraw	**20 hours**
Chapter.4: Logo Designing, Frame Settings, Graphical Tools, Bitmap & Shadow Effects, Special Effects such as Perspective *Chapter-5:* Blending, Text Settings into objects, Alignment Setting, Tabs, Power Line. *Chapter.6*: Power Clip, Contour, Import & Export Facility	
Unit-3: Photoshop	**20 hours**
Chapter.10: Tools: Marquee Tool, Magnetic Tool, Slice Tool, Patch Tool, Clone Stamp Tool, Gradient Tool, Smudge Tool, Blur Tool, Text Tool Chapter.11: Fill, Stroke Option, Histogram, Group, Ungroup, Lock Object, Color Range, Feather, Modify *Chapter.12: G*row, Filter, Liquify, Artistic, Blur, Video Option e	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes(POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1.To introduce students to the basics of Computer, Folder creation and directories	X	X	X	X	X			X	X	X	X				X
CO2. To provide students with the knowledge, skills, and competencies required use PageMaker and CorelDraw. .	X	X	X	X	X		X	X	X	X	X	X	X		X
CO3. To familiarize students with Photoshop software	X	X	X	X	X	X		X	X	X	X	X	X		X

Pedagogy:

1. Lecturing and demonstrations are the major methods used.
2. Seminars, case studies, discussion sessions etc., are part of the tutorials

Formative Assessment	
Assessment Occasion/type	**Marks**
Session test	15X2= 30
Laboratory Records	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**50Marks**

Further Readings
Chavez, C., Faulkner, A. (2021). Adobe Photoshop Classroom in a Book (2022 Release). United Kingdom: Adobe Press.
Moughamian, D., Valentine, S. (2009). Real World Compositing with Adobe Photoshop CS4. United States: Pearson Education.
Evening, M. (2012). Adobe Photoshop CS6 for Photographers: A Professional Image Editor's Guide to the Creative Use of Photoshop for the Macintosh and PC. Netherlands: Focal Press.
Adobe PageMaker 7.0. (2002). United Kingdom: Adobe Press.
Pagemaker In Easy Steps. (2000). India: Dreamtech Press.

COREL DRAW TRAINING GUIDE. (2018). (n.p.): BPB Publications.

Course Title	**Content Creation and Writing**		
Course Code:	**LIS V2-. B**	No. of Credits	**2-0-1**
Contact hours	**60 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**50**	Summative Assessment Marks	**50**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1. Develop effective writing skills: Enhance students' ability to create clear, concise, and engaging written content suitable for diverse audiences and purposes.

CO2. Foster critical thinking and creativity: Cultivate students' analytical and creative thinking abilities to generate innovative ideas and produce original content across different formats.

CO3. Enhance language proficiency: Improve students' language proficiency, particularly for non-native English speakers, through grammar, vocabulary, and syntax development, enabling effective communication in written English.

CO4. Build content creation expertise: Equip students with the knowledge and skills to plan, organize, and structure various types of content, such as articles, blog posts, social media updates, and web pages, incorporating effective writing techniques and industry best practices.

Contents	**60 Hrs**
Unit 1: Foundations of Content Creation and Writing	20 hrs
Chapter 1: Introduction to Content Creation - Definition and scope of content creation - Importance of content creation in library science - Understanding target audience and purpose of content	
Chapter 2: Principles of Effective Writing - Basic grammar and sentence structure - Clear and concise writing style - Punctuation and capitalization rules	
Chapter 3: Planning and Organizing Content - Pre-writing techniques: brainstorming, outlining, and mind mapping. - Structuring content for readability and coherence. Study of Neelameghan's presentation of ideas. - Creating effective introductions and conclusions	
Unit 2: Developing Content for Different Formats	20 hrs
Chapter 4: Writing for Websites and Blogs - Web writing best practices - Creating engaging and scannable web content - Optimizing content for search engines	
Chapter 5: Writing for Social Media - Understanding social media platforms and their unique writing styles - Crafting effective posts and captions - Engaging with the online community and promoting library services	
Chapter 6: Creating Engaging Visual Content - Basics of graphic design for non-designers - Incorporating images, infographics, and videos in content	

- Copyright considerations for using visual elements	
Unit 3: Content Editing and Quality Assurance	20 hrs
Chapter 7: Editing and Proofreading - Techniques for self-editing and revising content - Common grammar and spelling errors to watch out for - Seeking feedback and incorporating constructive criticism	
Chapter 8: Content Evaluation and Metrics - Assessing the effectiveness of content through analytics and user feedback - Key performance indicators (KPIs) for content evaluation - Making data-driven decisions for content improvement	
Chapter 9: Ethical Considerations in Content Creation - Plagiarism and copyright infringement awareness - Ensuring accuracy, credibility, and diversity in content - Adhering to ethical guidelines in library science communication	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs)

Course Outcomes (COs) /Program Outcomes(POs)	**Program Outcomes (POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. Develop effective writing skills: Enhance students' ability to create clear, concise, and engaging written content suitable for diverse audiences and purposes.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CO2. Foster critical thinking and creativity: Cultivate students' analytical and creative thinking abilities to generate innovative ideas and produce original content across different formats.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CO3. Enhance language proficiency: Improve students' language proficiency, particularly for non-native English speakers, through grammar, vocabulary, and syntax development, enabling effective communication in written English.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CO4. Build content creation expertise: Equip students with the knowledge and skills to plan, organize, and structure various types of content, such as articles, blog posts, social media updates, and web pages, incorporating effective writing techniques and industry best practices.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment	
Assessment Occasion/type	**Marks**
Session test	15X2= 30
Laboratory Records	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**50 Marks**

Further Readings
Bly, R. W. (2011). The Copywriter's Handbook: A Step-By-Step Guide to Writing Copy That Sells. Holt Paperbacks.
Clark, R. (2006). Writing Tools: 55 Essential Strategies for Every Writer. Little, Brown and Company.
Ede, L. S., & Lunsford, A. A. (2016). The St. Martin's Handbook. Bedford/St. Martin's.
Hacker, D., & Sommers, N. (2020). A Writer's Reference. Bedford/St. Martin's.
Hemingway, E. (2018). Ernest Hemingway on Writing. Scribner.
King, S. (2000). On Writing: A Memoir of the Craft. Scribner.
Neelameghan, A. (2015). Presentation of Ideas in Technical Writings. Ess Ess Publications.
Strunk, W., Jr., & White, E. B. (2000). The Elements of Style. Pearson.
Trimble, J. R. (2016). Writing with Style: Conversations on the Art of Writing
Williams, J. M., & Bizup, J. (2020). Style: Lessons in Clarity and Grace. Pearson.
Zinsser, W. (2016). On Writing Well: The Classic Guide to Writing Nonfiction. Harper Perennial.
Zogby, J. (2013). Writing for the Web: Creating Compelling Web Content Using Words, Pictures, and Sound. New Riders.

Course Title	**Archives and Records Management**		
Course Code:	**LIS V2-. C**	No. of Credits	**2-0-1**
Contact hours	**60 Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**50**	Summative Assessment Marks	**50**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to understand:

CO1. The concept of archives and records, and their management.
CO2.Various archival and recordkeeping functions.
CO3.Principles and techniques of arrangement and description of records.
CO4.Preservation and management of physical and digital records.

Contents	45 Hrs
Unit-1Introduction to Archives and Records Management	15 Hrs
Chapter-1: Archives and records: concepts and terminology – record, record series, archive, provenance; Record media and formats; types of archives – national, state, local government, non-government, business, individual and family archives. Chapter-2: Archives and Records Management: concept, need and importance, historical overview, theories/models of archival and records management: records continuum model, diplomatics, functional analysis. Chapter-3: Legal and Regulatory Framework: laws and regulations; compliance requirements; Data protection, privacy and access issues.	
Unit-2 Archival and Recordkeeping Functions	15 Hrs
Chapter-4:Record creation and capturing - records lifecycle and management: Records lifecycle – creation, maintenance, storage, and disposition; principles of records management; records appraisal and retention. Chapter-5: Arrangement and Description of records – Understanding the principles and techniques for organizing and arranging records, including original order, provenance, and *respect des fonds*. Chapter-6: Description Standards and finding tools: archival descriptionstandards - ISAD(G), DACS; Finding tools – inventories, registers, catalogues, indexes, research guides.	
Unit-3 Preservation and Digital Records Management	15 Hrs
Chapter-7: Preservation of physical records – principles and best practices in preservation; storage, handling and environmental control; conservation and restoration techniques.	

Chapter-8: Managing digital records–Digital preservation strategies and technologies; authenticity and integrity of digital records; challenges in digital records management. Chapter-9: Electronic Records Management Systems (ERMS)–introduction to ERMS, functionalities; implementing and managing ERMS, integration of ERMS with organizational workflows.	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs)

Course Outcomes (COs) /Program Outcomes(POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
CO1. The concept of archives and records, and their management.	X		X						X	X	X	X	X		X
CO2.Various archival and recordkeeping functions.	X	X	X	X	X					X	X				X
CO3.Principles and techniques of arrangement and description of records.	X	X	X	X	X	X		X	X	X	X	X	X		X
CO4.Preservation and management of physical and digital records.	X	X	X	X	X	X	X	X	X	X	X	X	X		X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Laboratory Records	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40 Marks**

Further Readings

Boel, J., &Sengsavang, E. (2020).*Recordkeeping in International Organizations: Archives in Transition in Digital, Networked Environments*. Routledge.

Brown, C. (Ed.). (2014). *Archives and Recordkeeping: Theory into practice*. Facet Publishing.

Franks, P. C. (2013). *Records and Information Management*.American Library Association.

Hill, J. (2011). *The Future of Archives and Recordkeeping: A Reader*. Facet Publishing.

International Records Management Trust. (1999). *Managing Archives*. International Records Management Trust.https://www.irmt.org/documents/educ_training/public_sector_rec/IRMT_manage_archives.pdf

McKemmish, S. (2001).Placing records continuum theory and practice.*Archival Science*, *1*(4), 333–359. https://doi.org/10.1007/BF02438901

McKemmish, S., Piggott, M., Reed, B., & Upward, F. (Eds.). (2005). *Archives: Recordkeeping in Society*. Centre for Information Studies.

Millar, L. A. (2017).*Archives: Principles and practices*. Facet Publishing.

OECD.(2018). Storage and retention of records and materials. In OECD, *Guidance Document on Good In Vitro Method Practices (GIVIMP)* (pp. 153–160). OECD Publishing. https://doi.org/10.1787/9789264304796-15-en

Yeo, G. (2018). *Records, Information and Data: Exploring the Role of Record-keeping in an Information Culture*. Facet Publishing.

Course Title	**Internship**		
Course Code:	**LIS C19**	No. of Credits	**0-0-2**
Contact hours	**30 days**	Duration of SEA/Exam	**-**
Formative Assessment Marks	**25**	Summative Assessment Marks	**25**

LEARNING OUTCOMES

1. The students will be able to demonstrate an understand library policies and procedures such as collection development, circulation and reference services.
2. The students will be able to assist the management in cataloguing, shelving and inventory.
3. The students will be able to effectively communicate with library patrons and staff members.
4. To learn practical Knowledge of working in Libraries.

COURSE OUTCOMES

After completing the internship, the students will be able to:

1. Develop practical skills and knowledge related to library science practices and procedures.
2. Gain hands on experience working in a library setting.
3. Demonstrate a basic understanding of library systems, technologies and resources.
4. Gain the practical knowledge of library housekeeping activities.
5. Understand the practical problems of library management.

Internship: There shall be an Internshipfor a period of one month immediately after the completion of fifth semester examination before the start of sixth semester. Each student shall undergo internship in any one of the reputed librariesunder the geographical jurisdiction of the university approved by BOS in Library and Information Science.

On completion of Internship the students have to submit a report. Internship completion certificate in this respect from the concerned Head of the Library shall be produced by the candidate.

Program Name	**BA/BSc/BCom in Library and Information Science**	Semester	**V**
Course Title	Information and Communication Technology (ICT) in Libraries **(Theory)**		
Course Code:	LIS M5.1	No.ofCredits	**03**
Contact hours	**45 Hours**	DurationofSEA/Exam	**2hours**
Formative Assessment Marks	**40**	SummativeAssessmentMarks	**60**

Course Pre-requisite(s): NIL

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO1: Understand the concept and significance of library automation

CO2: Develop proficiency in utilizing internet resources and services

CO3: Gain proficiency in accessing and utilizing bibliographic and citation databases

Contents	**45 Hrs**
Unit 1: Library Automation	15
Chapter 1: Need, objectives, functions and history of library automation	
Chapter 2: Functions and features of Acquisitions and Cataloguing	
Chapter 3: Functions and features of Cataloging, Serials Control, and OPAC	
Unit 2: Internet Resources and Services	15
Chapter 4: Introduction to the features of Search engines including advanced searching.	
Chapter 5: Understanding the Internet Information Resources and their evaluation	
Chapter 6: Fundamentals of Social networking	
Unit 3: Trends in Applications to Library and Information Centers	15
Chapter 7: Overview of Bibliographic and Citation Databases.	
Chapter 8: Major Bibliographic Databases: Scopus, Web of Science, Google Scholar, Dimensions.AI, and _Scite	
Chapter 9: Understanding the use of databases for studying research impact (citation, count, h-index, impact factor, and iFeld-Weighted Citation Impact (FWCI))	

.Further Readings

Bosch, S., & Henderson, K. (2019). Library automation simplified: An introduction to integrated library systems. Libraries Unlimited

Matthews, J. R. (2019). Implementing the automated library system: A how-to-do-it manual for librarians. ALA Neal-Schuman.

Koontz, C. M., & Montgomery, C. (2013). Fundamentals of library automation: A practical guide. Libraries Unlimited.
Cohen, L. (2020). The Internet: Understanding digital resources and information services. Facet Publishing.
Herring, S. D. (2018). Internet and society: Social theory in the information age. Routledge.
Cronin, B., & Sugimoto, C. R. (Eds.). (2014). Beyond bibliometrics: Harnessing multidimensional indicators of scholarly impact. MIT Press.
Harzing, A.-W., & van der Wal, R. (Eds.). (2008). Google Scholar as a new source for citation analysis. University of Melbourne.

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes(POs1-15)

Course Outcomes(COs)/ Program Outcomes(POs)	ProgramOutcomes(POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1. Describe the concept and planning and development of library automation.	X		X		X				X	X					X
CO2. Identify and analyze various internet resources and services	X	X	X	X	X		X		X	X			X		X
CO3. Effectively search and utilize the bibliographic and citation databases for scholarly communication.	X	X	X	X	X	X	X	X	X	X			X		X
CO4. Understand the trends in ICTs and their use in libraries.	X	X	X		X			X	X	X			X		

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

References
Abbott, Andrew. (2014). Digital Paper: A Manual for Research and Writing with Library and Internet Materials (Chicago Guides to Writing, Editing, and Publishing). University Of Chicago Press, ISBN: 978-0226167787.
Alison Cooke: A guide to finding quality information in the Internet. 2nd Ed. London: Facet, 2001.
Brügger, Niels., & Schroeder, Ralph. (2017). The Web as History: Using Web Archives to Understand the Past and the Present / 1st ed., UCL Press
Hilal Ahmed. (2016). Integrated Library Management Systems: An Indian Scenario of Modern Library Automation / 1st ed., EssEss Publications
Jost, Richard M. (2016). Selecting and Implementing an Integrated Library System: The Most Important Decision You Will Ever Make / 1st ed., Chandos Publishing.
Liz van Aswegen (2010). Research and the Harvard method of bibliographic citation: a research writing and style guide for postgraduate students.
Nicole Hennig. (2014). Apps for Librarians: Using the Best Mobile Technology to Educate, Create, and Engage. Libraries Unlimited.
Pasi, Gabriella, Bordogna, Gloria., & Lakhmi, Jain C. (2015). Quality Issues in the Management of Web Information. Springer Publications.
Planning for library automation: A Practical Handbook / John M. Cohn, Ann L. Kelsey and Keith Michael Fiels – London : Library Association, 1998.
Webber, Desiree.,& Peters, Andrew. (2016). Integrated Library Systems: Planning, Selecting, and Implementing / 1st ed., Libraries Unlimited.
William Saffady (1999). Introduction to Automation for Librarians. ALA: Washington

Program Name	**BA/BSc** Library & Information Science	Semester	**VI**
Course Title	**Information Processing and Retrieval (Theory)**		
Course Code:	**LIS - M6.1**	No. of Credits	**3-0-0**
Contact hours	**45Hours**	Duration of SEA/Exam	**2hours**
Formative Assessment Marks	**40**	Summative Assessment Marks	**60**

Course Pre-requisite(s):

Course Outcomes (COs): After the successful completion of the course, the student will be able to:CO1.

CO1 Illustrate the basic concepts and processes of information retrieval systems
CO2. Explain the role of indexing languages
CO3. Demonstrate the ability to derive subject headings through various indexing systems
CO4. Explain and evaluate the information retrieval models

Contents	**45 Hrs**
Unit II Information Retrieval	15 hrs
Chapter-1 - *Concept Meaning and Definition Objectives* - *Characteristics components and functions*	
Chapter -2: Indexing and Abstracting - *Indexing languages: Types and Characteristics, Pre-coordinate indexing and Post-coordinate indexing. Detailed study of Chain indexing, PRECIS,POPSI, Uniterm* - *Subject indexing systems* - *Vocabulary control Device* - *Thesaurus: Structure, function and design* - *Computer based indexing (Auto indexing).*	
Chapetr-3 Abstracting - *Concept, Meaning and definitions and Types*	
Unit II. Information Searching	15 hrs
Chapter- 4 *Search Process* - *Common features of search process, Steps in creation of a search file, Search features,* *Query search and steps in query formulation*	
Chapter 5. - *Search process –strategies and techniques, Search software, Search engines, Multiple* *Database searching.*	
Chapter 6. Search engines as IRS: Features of Google. Search techniques	
Unit III. Information Retrieval Model	15 hrs

Chapter 7. Retrieval methods - *Basic Retrieval methods-manual and automated*	
Chapter 8. IR Model types - *Boolean logic, Cognitive, Fuzzy and Probabilistic Models*	
Chapter 9. Retrieval techniques. - *Concepts of Ranking, Term weight,* - *Document frequency (DF), Inverse* - *Document Frequency (IDF).* *Study of structural models*	

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs1-15)

Course Outcomes (COs)/ Program Outcomes (POs)	**Program Outcomes(POs)**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
introduce students to the conceptual understanding and principles of information retrieval	X	X	X	X						X	X				
provide students with the knowledge, skills, and competencies required for searching	X	X	X	X	X		X			X	X	X		X	X
familiarize students with various systems of subject headings and vocabulary control	X	X	X	X			X			X	X		X	X	X
enable students to critically evaluate IR systems	X	X	X		X	X	X			X	X		X	X	X

Pedagogy: Course teachers may adopt participatory discussion/self-study/desk work/Library visits/ Educational Video channels/Quizzes/OERs/Academic Web portals/Institutional websites/seminar presentation/assignments by students and such other novel methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. Seminars, case studies, discussion sessions etc., are part of the tutorial.

Formative Assessment for Theory	
Assessment Occasion/type	**Marks**
Session test	10X2= 20
Seminar/Group discussion	5X2=10
Assignment/Field work/Minor project	5X2=10
Total	**40Marks**

Further Readings
Atchison, J. & Gilchrist, A (1972). Thesaurus construction, a practical manual. London: ASLIB.

Austin, D. (1984). PRECIS: A manual of concept analysis and subject indexing. (2nd ed.)
Chernyi, A. I. (1973). Introduction to information retrieval theory.
Viniti, Chowdhury, G. G. (2010). Introduction to modern information retrieval. Facet.
Cleaveland, D. B., & Cleveland, A. D. (1983). Introduction to indexing and abstracting
Foskett, A.C. (1982). The subject approach to information. (4th ed.) London: Bingley
Jennifer E. Rowledy. (1987). Organising knowledge: An introduction to information retrieval.Aldorshot: Gower.
Kochen, M. (Ed.). (1974). Principles of information retrieval.
Lancaster, F. W. (1979). Information retrieval systems: characteristics, testing, and evaluation. (2nded.). New York, John Wiley.
Lancaster, F. W. (2003). Indexing and abstracting in theory and practice. London: Facet Publishing
Rowley, J. E. (1994). The controlled versus natural indexing language debate revisited: A perspectiveon information retrieval practice and research. Journal of Information Science, 20(2), 108-119
Vickery, B. C. (1970). Techniques of information retrieval. London: Butterworths.

CBCS Question Paper Pattern for UG SemesterDSC, DSEC & OEC

Course Code:		**Course Title:**			
Duration of Exam	**2Hours**			Max Marks	**60**
Instruction:	**Answer all the sections**				

Section-A

Answer **any ten** of the following.	**10 X 2 = 20 Marks**
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	

Section-B

Answer any Four of the following	**4 X 5 = 20 Marks**
13. 14. 15. 16. 17.	

Section-C

Answer any two of the following	**2 X 10 = 20 Marks**
18. 19. 20.	