SHIVAJI UNIVERSITY, KOLHAPUR - 416 004,
MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग – ०२३१—२६०९०९४

Estd. 1962
"A++" Accredited by
NAAC (2021)
With CGPA 3.52

जा.क्र./शिवाजी वि./अ.मं./१९३ दि. १७/०३/२०२३

प्रति,

मा. प्राचार्य/संचालक,
सर्व संलग्नित महाविद्यालये/मान्यताप्राप्त संस्था,
शिवाजी विद्यापीठ, कोल्हापूर

विषय : Bachelor of Library and Information Science Part- I व Master of Library and Information Science Part- I **या अभ्यासक्रम दुरुस्ती बाबत...**
संदर्भ : या कार्यालयाचे पत्र क्र.१९३ दि.१२/०९/२०२२.

महोदय,

उपरोक्त संदर्भिय विषयास अनुसरुन आपणास आदेशान्वये कळविण्यात येते की, शैक्षणिक वर्ष २०२२—२३ पासून लागू करण्यात आलेल्या Bachelor of Library and Information Science Part- I व Master of Library and Information Science Part- I अभ्यासक्रमामध्ये किरकोळ दुरुस्ती करण्यात आलेली आहे. सोबत सदर अभ्यासक्रमाची प्रत जोडली आहे. तसेच विद्यापीठाच्या www.unishivaji.ac.in (Online Syllabus) या संकेतस्थळावर ठेवण्यात आला आहे.

सदर अभ्यासक्रम सर्व संबंधित विद्यार्थी व शिक्षकांच्या निदर्शनास आणून द्यावी ही विनंती.

कळावे,

आपला विश्वासू,

सोबत : अभ्यासक्रमाची प्रत. उपकुलसचिव

प्रत : १. अधिष्ठाता,आतंरविद्याशाखा अभ्यास विद्याशाखा.
२. समन्वयक, ग्रंथालय व माहितीशास्त्र अभ्यास मंडळ.
३. संचालक,परीक्षा व मुल्यमापन मंडळ कार्यालयास.
४. परिक्षक नियुक्ती ए व बी विभागास.
५. इतर परीक्षा विभागास.
६. संगणक केंद्र/आय. टी. सेल विभागास.
७. दूरस्थ व ऑनलाईन शिक्षण विभाग.
माहितीसाठी व पुढील कार्यवाहीसाठी.

SHIVAJI UNIVERSITY, KOLHAPUR

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Reaccredited by NAAC with 'A^{++}'Grade with CGPA 3.52

Syllabus For

Master of Library and Information Science

(As Per the National Education Policy, 2020)

(Faculty: Interdisciplinary Studies)

SEMESTER I AND II

(Syllabus to be implemented from June, 2022 onwards)

Syllabus For

Master of Library and Information Science

(Level-9) as Per the National Education Policy, 2020

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1. **PROGRAMME TITLE: Master of Library and Information Science** under the Faculty of **Interdisciplinary Studies**

2. **YEAR OF IMPLEMENTATION**: -
   Revised Syllabus will be implemented from June 2022 - onwards.

3. **GENERAL INFORMATION**

   The Department of Library and Information Science started the Master of Library and Information Science course in 1986-87. The programme leading to the degree of Master of Library and Information Science is primarily intended to develop the professional abilities of students in Academic, Public, Special libraries and similar Library and Information Centres.

4. **PROGRMME OBJECTIVES:**

   1. To provide an understanding of the vital and pervasive role of information as an essential resource in all developmental activities.
   2. To acquaint the students with the application of modern management techniques and ideas essential for Library and Information Science.
   3. To provide a thorough insight in to all techniques of information handling with special emphasis on the application of information technology.
   4. To train the students to develop their insight and skills in recent trends in collection, organization and transfer of information by using emerging technologies.
   5. To provide necessary skills and ICT background for designing, implementing, operating and managing Libraries and Information Centres.

5. PROGRMME OUTCOMES:

LIS Students:

1. Will be trained in Technological knowledge and professional skills.
2. Will be able to effectively administer and manage Libraries and Information Centers.
3. Will learn the skills of organizing information and recorded knowledge.
4. Will become competent for job opportunities in LIS and related field.

6. PROGRAMME SPECIFIC OUTCOMES:

LIS Students:

1. Can manage information resources and the information life-cycle through the processes of collection development, organization, preservation, curation, access, and dissemination in accordance with physical, virtual, and technical infrastructure and needs.
2. Can design and implement policies essential for creating and providing information services and resources guided by the values of patron privacy, equitable access, intellectual freedom, and ethical use of information.
3. Can perform and access research based practices through the application of information literacy, inquiry, and research methods including data discovery, analytics and qualitative measures.

7. NUMBER OF ADMISSIONS: Twenty (20)

8. DURATION

- The programme shall be a full time regular programme
- The duration of programme shall be of one year of two Semesters.

9. PATTERN:-

Pattern of Examination will be Semester with 80+20 (100 marks) with Choice Based Credit System (NEP-2020)

10. ATTENDANCE:

Minimum attendance for each semester is 75% of the total number of Theory, Tutorial, Practical, Seminar, and Group Discussion periods.

11. FEE STRUCTURE: (as applicable to self-supporting course)

Fees will be applicable as per University Rules/ Norms

12. ELIGIBILITY FOR THE PROGRAMME:

Candidates seeking admission to the M. Lib. and I. Sc. programme must hold Bachelor of Library and Information Science Degree (level-8) of this University or equivalent thereto of any other University.

13. ADMISSION PROCESS:

- It is mandatory for students who want to seek admission to the MLISc programme; they have to apply online through the university portal.

- The admissions will on the basis on merit of BLISc programme and reservation policy of the Govt. of Maharashtra

- An application in the prescribed form along with necessary testimonials for admission to the B. Lib. and I. Sc. programme must be accompanied with prescribed fees.

- The last date of application for the admission for M. Lib. and I. Sc. programme shall be notified by the University in the newspapers and on the university Website.

14. REFUND OF MONEY:

i. Library Deposit shall be refunded only at the end of the programme after making such deductions for loss of books etc. as may be required. A student shall withdraw his/her amount of deposit within six months after the declaration of results. If not withdrawn within the prescribed time, it may be forfeited.

ii. No other fees are refundable.

15. MEDIUM OF INSTRACTION:

Medium of Instruction and Examination shall be in English.

16. HOSTEL:

There are men and women Hostels on the University premises and as per the rules in this behalf, the students will be accommodated in these hostels. Students desirous of taking admission to the University Hostels are requested to fill in the hostel admission form and complete the necessary formalities along with form of admission to the programme. Students are required to observe rules and regulations of hostel accommodation.

- **General Rules:**
  - Students of this University must submit their Transference Certificate (from the College/University last attended) before 14th August without fail.
  - No student will be allowed to appear for a Post-graduate Examination unless he/she has taken his/her Bachelor's Degree Certificate.
  - Students from other Universities should apply for Eligibility Certificate on or before 31st August after their admission to this University.
  - Seats are reserved for students belonging to Scheduled Castes, Scheduled Tribes etc. as per the Resolutions passed by the State Government from time-to-time.
  - No application form for admission to an examination will be accepted unless all dues are cleared by the student.

- A candidate shall be admitted to the examination for M. Lib.and I. Sc. programme if :

  i) He/ She has kept two semesters for the M. Lib.and I. Sc. programme satisfactorily and necessary attendance as per rules

  ii) He/ She has satisfactorily completed the prescribed programme of Practical work, Seminars, Tutorials and Assignments.

❖ Seminar, Project Report and Practicals

- The candidates shall be allowed to appear for the final examination provided they fulfill the following conditions:

a) He/she has kept two semesters satisfactorily and necessary attendance as per the rules.

b) The Project report shall be on an approved topic pertaining to Library and Information Science. Each student shall work under the supervision and guidance of a teacher for his/her Project report.

c) The Project report (3 copies) duly approved by the Guide must be submitted through the Head of the Department One week before the commencement of the final practical Examination, failing which the candidates will not be allowed to appear for the examination. In addition, the student will have to submit a soft copy of the Project report in PDF.

d) A certificate stating that the Project report is the outcome of students own work of research during the academic year shall be submitted with the Project report.

e) The Project report shall be examined by one external examiner duly appointed as per rules of the University.

f) The Viva-Voce based on Project report shall be conducted by the External examiner and Internal examiner.

g) The Department through the Head of the Department shall send necessary details of internal work of the students to the Examination section.

h) The details of practical work of students dully certified by the teachers will be submitted to the Head of the Department at the end of each semester

- **Mechanism of Credit Systems:**

Credit is a kind of weightage given to the contact hours to teach the prescribed syllabus, which is in a modular form. Normally one credit is allotted to 15 contact hours. The paper wise instructional days with a norm of 4 contact hours per week per paper will be of 120 days. That is 60 days or 60 contact hours per paper shall be completed during each semester session. By converting these contact hours into credit at the rate of 15 contact hours for each subject, there will be 4 credits allotted to each paper and 2 credits allotted to Skill Enhancement Courses.

The details of the Semester I and II Examinations shall be as under:

Semester I ----- Theory = 550 Marks
Practicals = 300 Marks
Semester II ----- Theory = 550 Marks
Practicals = 300 Marks

- Total credits for M. Lib. and I. Sc. Programme

Sem.	DSC (Theory)	DSC (Practical)	DSE	SEC	Total (Credits)
I	4 Courses × 4 Credits Each= **16**	3 Courses × 4 Credits Each =**12**	1 Course ×4 Credits= **4**	1 Course × 2 Credits =**2**	**34**
II	4 Courses × 4 Credits Each= **16**	3 Courses × 4 Credits Each= **12**	1 Course × 4 Credits= **4**	1 Course × 2 Credits = **2**	**34**
Total Credits (Sem. I & II) = 68					

A candidate who fails and reappears for the Examination as Ex-Students shall be entitled to have the marks previously assigned to him/her by the Head of the Department of Library and Information Science for the record of practical work. These marks will be carried forward in respect with his/her subsequent performance of the examination. In case, however, the candidate joins the programme again as a regular student, He/she shall have to do the record of Practical work afresh.

Standard for passing the examination

1. A candidate shall have to obtain a minimum of 40% marks in each theory paper.
2. Semester Examination: In every paper a candidate should obtain a minimum of 40 % of total marks i.e., 32 marks out of 80 marks. For Skill Enhancement Course every student should obtain minimum of 40% of total marks i.e., 16 marks.
3. CIE – For every CIE component, a candidate should obtain a minimum of 40 % of the total marks, i.e., 08 out of total 20 marks.

4. A candidate shall have to obtain a minimum of 40% of the total marks in the practical examination and candidate has to appear for all the sub-heads under practical examination compulsory.
5. A candidate shall be declared successful if he/she secures 40% of the total marks in the whole examination.
6. A candidate can claim exemption for each theory or practical paper, if he/she secures 40% marks in theory or practical paper.

If a candidate fails in the final result he/she will be held over to the consecutive examinations thereafter.

Conversion of Marks into grades:

Table 1: Conversion of Marks out of 100 to grade point

Sr. No.	Marks Range out of 100	Grade Point	Letter grade
1	80-100	10	O: Outstanding
2	70-79	9	A^+: Excellent
3	60-69	8	A: Very Good
4	55-59	7	B^+: Good
5	50-54	6	B: Above Average
6	45-49	5	C: Average
7	40-44	4	P: Pass
8	0-39	0	F: Fail
9	Absent	0	Ab: Absent

Table 2: Conversion of Marks out of 50 to grade point

Sr. No.	Marks Range out of 50	Grade Point	Letter grade
1	40-50	10	O: Outstanding
2	35-39	9	A^+: Excellent
3	30-34	8	A: Very Good
4	28-29	7	B^+: Good
5	25-27	6	B: Above Average
6	23-24	5	C: Average
7	20-22	4	P: Pass
8	0-19	0	F: Fail
9	Absent	0	Ab: Absent

Based on CGPA, final letter grade is assigned as follows

Final Cumulative Grade Point Average (CGPA) and Final Grade for course.

Sr. No.	CGPA Range	Grade	Grade Descriptions

1	9.50- 10.00	O	Outstanding
2	8.86- 9.49	A^+	Excellent
3	7.86- 8.85	A	Very Good
4	6.86- 7.85	B^+	Good
5	5.86- 6.85	B	Above Average
6	4.86- 5.85	C	Average
7	4.00- 4.85	P	Pass
8	0.00- 3.99	F	Fail

Scheme for B Plus/ Improvement of Class-Revised Rules

Persons who hold a pass or Second Class at the M. Lib. and I. Sc. and who wish to improve their class to secure B + Class , shall be allowed to do so as per the provisions of the following rules:

1. The concession to re-appear will be available only to : a] The holders of the Master's degree of this university.
2. Persons holding, M. Lib. and I. Sc. degree of this University in the Pass Class or Second Class and desirous of re-appearing for the same examination for improvement of class shall be given three chances to do so within a period of three years from his/her first passing the said examination in the Pass Class or Second Class.
3. A candidate intending to re-appear at the M. Lib. and I. Sc. Examination under these rules shall be allowed to do so without keeping fresh terms.
4. A Candidate intending to re-appear for M. Lib. and I. Sc. examination of this university under these rules shall be governed by the rules and regulations relating to the courses and syllabi which may be prescribed by the university authorities. It is entirely the responsibility of the candidate to ascertain that the papers he/she chooses are a part of a syllabus in force and are actually taught for the said examination.
5. A candidate is required to get his/ her name registered as an external student by submitting the prescribed registration form along with the necessary Certificates and fees within the prescribed dates under this scheme.
6. The result of the candidate appearing for M. Lib. and I. Sc. Examination under than the class he/she possesses. The marks obtained by the candidate whose class is not improved will be made known to him/her on request and on the payment of prescribed fees. So also, the statement of marks for his/her examination will be issued on payment of prescribed fees.
7. The answer-books of the candidate appearing for this scheme can be verified and re-valued, as per University rules.
8. A candidate re-appearing for the M. Lib. and I. Sc. examination under these rules, and obtaining B+ Class shall not be eligible to appear again for the

same examination in the same subjects or subject for securing a class higher than the B+.

9. A candidate passing any of the postgraduate examinations mentioned above under these rules shall not be eligible to receive any prizes, scholarships etc. instituted by the University and he shall also not be entitled to a merit certificate from the University
10. If a candidate is unable to get a higher class under this scheme, his/ her previous performance in the corresponding examination shall hold good.
11. A Candidate who improves his/ her class under this scheme shall have to surrender his / her 'Pass Class Degree Certificate' to the Shivaji University. In the absence of this the Degree under the "Improvement of Class Scheme" will not be conferred on him/ her.

Note:

1) The Examination Reforms regarding matters pertaining to Examinations of the University shall be made applicable as per the policy of the University. Information regarding the same shall be notified as and when Examination Reforms are made effective.
2) The pattern of question papers will be as per the rules and regulations of the University. The following shall be the papers prescribed for the Examination

Note: Each theory course requires 60 hours for teaching. Teacher shall engage 10 hours altogether for conducting tests, assignments, seminars/presentations, discussion/round table, tutorial, brainstorming session, case studies, and any other activities respective teacher feels to be conducted for continuous evaluation and internal examination.

❖ Common Question Paper Pattern: Theory Course (Sem. I and II)

Time: 3 Hours **Total Marks: 80**

❖ **Instructions:** 1) All questions are compulsory.

2) All questions carry equal marks.

Q.1 – A) Multiple Choice Questions: **[10 Marks]**

- Solve five multiple choice questions.
- All multiple choice questions carry equal marks **i.e. 2 marks each.**

Q.1 – B) Answer the questions in two or three sentences **[10 Marks]**

- Attempt 5 questions.
- All questions carry equal marks **i.e. 2 marks each.**

Q.2 and Q.3): Descriptive Questions

- Solve any two descriptive questions out of four.
- All descriptive questions carry equal marks **i.e.** **[20 marks each]**

Q.4) Short Notes: **[20 Marks]**

- Write any four short notes out of Six.
- All short notes carry equal marks **i.e. 5 marks each.**

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Question Paper Patterns for Skill Enhancement Course (SEC)
(Semester- I and II)

Time: 3 Hours **Total Marks: 40**

Q.1) Multiple Choice Questions: **[10 Marks]**

- Solve five multiple choice questions.
- All multiple choice questions carry equal marks **i.e. 2 marks each.**

Q2) Descriptive Questions: **[20 marks each]**

- Solve any one descriptive questions out of Two.
- All descriptive questions carry equal marks **i.e.**

Q3) Short Notes: **[10 Marks]**

- Write any Two short notes out of Three.
- All short notes carry equal marks **i.e. 5 marks each.**

- **DSC -P1: Question Paper Pattern: ICT Applications (Sem. - I)**

Time: 3 Hours **Total Marks: 80**

- All questions carry equal marks

Q.1) Question on any modules of Library Automation Software **[30 Marks]**

Q.2) Internet Searching Techniques **[15 Marks]**
Q.3) Searching OPAC/Use of Search Engines/ Use of Web 2.0 Tools. **[15 Marks]**

Q. **4)** Viva- Voce **[20 Marks]**

Evaluation of Internal Assessment: 20 Marks

- **Internal Practical Test: 20 Marks**

Note: Passing minimum shall be 40% out of 20 marks i.e. 8 Marks

DSC –P2: Question Paper Pattern: E-Publishing (Sem. - I)

Time: 3 Hours **Total Marks: 80**

- All questions carry equal marks

Q.1) Design a web page using any open source platform **[20 Marks]**

Q.2) Create an informative blog using any open source blogging platform **[20 Marks]**

Q.3) Use of Calibre software **[20 Marks]**

Q. 4) Application of OJS **[20 Marks]**

Evaluation of Internal Assessment: 20 Marks

- **Internal Practical Test: 20 Marks**

Note: Passing minimum shall be 40% out of 20 marks i.e. 8 Marks

DSC –P3: Question Paper Pattern: Documentation Services: Abstracting and Indexing (Sem. - I)

Time: 3 Hours **Total Marks: 80**

Q.1) Prepare descriptive/indicative abstract for the given article. **[20 Marks]**

Q.2) Design of IR Thesaurus on given topic (Use and Generation of BT, NT, RT, ST, SN,UF, SA etc.) **[20 Marks]**

Q.3) Preparation of different types of Indexes **[20 Marks]**

Q.4) Searching of online thesaurus **[20 Marks]**

Evaluation of Internal Assessment: 20 Marks

- **Internal Practical Test: 20 Marks**

Note: Passing minimum shall be 40% out of 20 marks i.e. 8 Marks

❖ **DSC–P4: Question Paper Pattern: Open Source Softwares and Services (Sem.-II)**

Time: 3 Hours **Total Marks: 80**

Q.1) Use of Open Access Self Archives. [20 Marks]

Q.2) Use of Protege Software [20 Marks]

Q.3) Measuring Research Productivity Using OSS [20 Marks]

Q.4) Use of citation databases [20 Marks]

Evaluation of Internal Assessment: 20 Marks

- **Internal Practical Test: 20 Marks**

Note: Passing minimum shall be 40% out of 20 marks i.e. 8 Marks

❖ **DSC–P4: Question Paper Pattern: Designing Database and Searching (Sem.-II)**

Time: 3 Hours **Total Marks: 80**

Q.1)Create a Digital Library / IR by using any open source software Dspace or Greenstone **[30 Marks]**

Q.2) Searching Web OPAC's **[10 Marks]**
Q.3) Scholarly Database Searching **[20 Marks]**
Q. 5) Viva- Voce **[20 Marks]**

Evaluation of Internal Assessment: 20 Marks

- **Internal Practical Test: 20 Marks**

Note: Passing minimum shall be 40% out of 20 marks i.e. 8 Marks

Practical P6: Project Report

- The project report consists of 100 marks.
- **Internal Assessment**: Twenty **(20) marks** for Seminar i. e. One Seminar presentation for Synopsis and other after the completion of Work but before final printing.
- Sixty **(60) marks** will be given on the basis of project report and twenty **(20) marks** based on Viva-voce by the external and internal examiner.

Master of Library and information Science

The following shall be the courses prescribed for examination

(Semester- I)

Course Type & No.	Title of the Course	Examination Marks			Credits	Teaching Hours per Week
		Max. Marks	Internal Marks	Total Marks		
DSC: Discipline Specific Core Course (**Theory**) **(CGPA)** [Lectures & Internal – Seminars, Home Assignments, Internal Tests etc.] (All courses are compulsory)						
DSC – 1	Information Retrieval, Repackaging and Consolidation	80	20	100	4	4
DSC -2	Research Methodology	80	20	100	4	4
DSC-3	Information & Communication Technology Applications	80	20	100	4	4
DSC-4	Web Technologies	80	20	100	4	4
DSC: Discipline Specific Core Course **(Practical)** [Practical & Internal – Seminars, Home Assignments, Internal Tests, Projects etc.]						
DSC -P1	ICT Applications	80	20	100	4	8
DSC -P2	E-Publishing	80	20	100	4	8
DSC -P3	Documentation Services: Abstracting and Indexing	80	20	100	4	8
DSE - Discipline Specific Elective Course (**Theory**) **(CGPA)** [Lectures & Internal – Seminars, Home Assignments, Internal Tests etc.] (**Note: - Student has to take one DSC(E) from same discipline i.e. from this group)**						
DSE -1	E-Publishing	80	20	100	4	4
DSE -2	Scientometrics	80	20	100	4	4
SEC- Skill Enhancement Course **(Note:- Student from same as well as other department may take any one SEC from pool of 2 credit courses of our university OR the SEC prepared by the department)**						
SEC-1	Research and Publication Ethics	40	10	50	2	2
Total Credits					**34**	

DSC – 1: Information Retrieval, Repackaging and Consolidation

Course Objectives/Outcome (CO)

- To become familiar with the standard methods used to organize and store collections of terms.
- To become able to analyze and evaluate ISAR tools and systems.
- To know the different ways in which information can be repackaged.

Course Content (CC)

Unit 1: Information Storage and Retrieval System

- Information Retrieval: Concept, Characteristics, Objectives and Process
- Purpose and Functions of Information Retrieval
- Users of IR System: Nature, Types of Information needs, Information needs in different areas of activity.
- Information Extraction: Introduction, architecture, types, application, tools and services for Information extraction.

Unit 2: Information Storage and Retrieval (ISAR) System: Functions and design

- Introduction, User Interface system, and query processing system
- Database Modelling System
- Sampling of Information Retrieval systems
- Evaluation of ISAR System

Unit 3: Database and DBMS

- Database: Meaning, Definition, Types, Structure, Steps in preparation of Database
- Database Management System: Advantages and DBMS

Unit 4: Querying of the Information Retrieval System:

- Introduction
- Sets and subsets
- Relational Statements
- Boolean query Logic
- Ranked and fuzzy sets
- Similarity measures

Recommended Books:

1. Atchison, J. Gilchrist: Thesaurus Construction, a practical manual, 1972.
2. Austin D., Precis, A Manual of concept analysis and subject indexing: 2nd ed. 1984.
3. Chowdhary G.C. Introduction to Modern Information Retrieval, London.Facet Publising, 2009.
4. Dhawan, K.S. Principles of Information Retrieval. New Delhi, Commonwealth Publication, 1997.
5. Ellis, D.New Horizons in Information Retrieval, London: Library Association, 1990.
6. Fosket, A.C. Subject Approaches to Information 5th Ed. London: Clive Blingley, 1996.
7. Ghosh, S.B. and Satpathi, J.N. Subject Indexes: Methods and Techniques.
8. Gopinath, M.A. Preparation of an Index to a Book: Case study Lib.Sci with a slant to Documentation, 1967, Paper E.
9. Kesarwani, S.K. Information Access to contributions from LIS feschrifts published from India. New Delhi, EssEss Publication, 2011.
10. Kumbhar, Rajendra. Thesaurus of Library and Information Science terms. New Delhi, EssEss Publication, 2004.
11. Lancaster, F.W. Vocabulary Control for Information Retrieval, New York: Information Resources Press, 1972.
12. Prashar, R.G. Index and indexing system, New Delhi, Medollian Press, 1990.
13. Sengupta, B. and others. Documentation and Information Retrieval, Calcutta, World Press, 1972.
14. Sutar D.B. A Compendium of Library and Information Science.Part-I.Varanasi, ABS Publications,2013.

DSC – 2 : Research Methodology

Course Objectives/Outcome (CO)

- Understanding the value of research in Library and information Science.
- To make students acquainted with research process.
- To introduce the students with various research methods.

Course Content (CC)

Unit 1: Basic concepts of Research

- Concept, Meaning, Need and Process of Research
- Types of Research: Pure, Applied and Action Research
- Spiral of Scientific Method
- Literature Search
- Research Ethics

Unit 2: Research Design

- Research Design: Meaning , Definition and Steps in Research Design
- Synopsis- concept and essential Components
- Criteria for selection of research problem
- Identification and formulation of Problem
- Hypothesis: Meaning, Definitions, types and qualities of good hypotheses

Unit 3: Research Methods

- Historical Method.
- Descriptive Method
- Case Study Method
- Experimental Method
- Delphi Technique

Unit 4: Data Collection Tools & Techniques

- Types of data: Primary & Secondary
- Questionnaire
- Interview
- Observation
- Recent data collection Techniques

Recommended Books:

1. Kumar (PSG) (2004) Research Methods and Statistical Techniques, Delhi, B.R. Publishing.
2. Kothari, C . R. (1990), Research Methodology: Methods and Techniques 2 - Ed, New Delhi.
3. Allen, (T) (Harrel): New Methods in Social Science Research, 1978.
4. Kaul, Lokesh (1997). Methodology of Educational Research, New Delhi, Vikas Publishing House.
5. Kumar, Krishan (1992). Research Methods in Library & Information Science. Delhi Har- Anand Publications.
6. Good, W. J. and Hatt, P.K. (1986). Methods in Social Science Research. New Delhi, McGraw Hill,
7. Slater, M (1990). Research Methods in Library and Information Studies. London, L.A.
8. Powel, Ronald R.(1985). Basic Research methods for Librarians, New Jersey, albex, Greenwood.
9. Mohsin, S.M.(1984).Research Methods in Behavioral Science, New Delhi, Orient Logman.
10. Fwler, F.J.(1993). Survey Research Methods. New Delhi: Sage Pub.
11. Lihitkar, S. R. (2014). Edited workshop proceeding on *Research Methodology in Social Science*. Sai Publication: Nagpur

DSC – 3: Information and Communication Technology Applications

Course Objectives/Outcome (CO)

- To be acquainted with the ICT technology.
- To train students about the Advanced ICT Applications.
- To develop acquaintance for effective implementation of ICT in libraries.

Course Content (CC)

Unit 1: Information and Communication Technology

- Concept, Meaning, Definitions, Scope, Need, Advantages and Use
- Information generation and communication channels : Formal and Informal
- Barriers of Information communications
- Basics of communication Technology: Transmission media, Switching systems ,Modes

Unit 2: Networking

- Network: Concept, Need, Advantages and Types
- Network Media
- OSI model, ISDN, Wi-Fi, Li-Fi
- Networking Techniques
- Switching Systems: Techniques and Types
- Networking Security: Authentication, Firewalls, Virus & Spyware

Unit 3: ICT applications in LICs

- Advanced tools: AI, Virtual reality, Augmented technology, Robotics
- Barcode, RFID, QR Code, Biometrics and Smart Card: Features and Applications

Unit 4: Development of Digital Library

- Digital Library : Concept , Meaning, Definition, Need & Characteristics
- Major components of Digital Library
- Digitization Process
- Digital Library Architecture
- Technical infrastructure
- Digital Library Software: DSpace, E-print, Greenstone, Fedora etc.

Recommended Books:

1. Phadke, D. N. (2018). *Library & Information Technology*. Pune: Universal.
2. Shubham, B.A.(2001). Issues for Libraries and information science in the internet age.Englewood: Libraries Unlimited Inc.
3. Balasubramanian, P. (2012).Web technologies in Library & Information Science. New Delhi: Regal publications.
4. Westman, S.R. (2009).Creating data based-backed library and web pages using open source tools.Chicago: American Library Association.
5. Chowdhury, G.G. & Chowdhury, S. (2003). *Introduction to digital libraries*. London: Facet.
6. Lihitkar,S.R. (2017).*Information landscapes: A scenario*. New Delhi: Ess. Ess.
7. Kumar, P.S.G. (2004). *Information technology: Applications (Theory and Practice)*. Delhi: B.R Publishing.

DSC – 4: Web Technologies

Course Objectives/Outcome (CO)

- To introduce the students with basic concepts of Web technology.
- To familiarize the students with the concepts of web page design.
- To acquaint students with the current trends in web technologies.

Course Content (CC)

Unit 1: Internet Basics/Web Technology

- World Wide Web: History and Evolution, Uniform Resource Locator (URL), Open URL, Web Servers, Network Protocols: TCP/IP, FTP, SSHD, SOAP, etc.
- Web Browsers- Netscape Navigator, Internet Explorer and Mozilla Firefox
- Search Engines: Google and Yahoo
- Security Issues

Unit 2: Application of Cloud computing in Libraries

- File, Folder, Sharing and Organization in Cloud Computing
- Drive Synchronization
- Collaborative Team work in Docs, Spreadsheets
- Effective use of Forms, Slides etc.

Unit 3: Web 2.0/ Web 3.0 Concepts and Applications

- Web OPAC, Web 2.0 functions and features,
- Web 2.0 Tools and their application in Libraries: RSS Feed, Blogs/Weblogs, Tags, Folksonomy,
- Mashups, Podcasts, Instant Messaging, Flicker, Wikis and Social Networking
- Library 2.0, Web 3.0
- Semantic Web

Unit 4: Current Trends

- Cloud computing: Concept, types
- Vender/Players in cloud computing: Google, Amazon, Microsoft, Rackspace etc.
- M-computing: Concept and Applications

Recommended Books:

1. Hahn, Harley: The Internet Complete Reference. 2nd Ed. New Delhi: Tata Mcgraw Hill, 2002.

2. Young, Margaret, Levine and others: The complete Reference Internet, Millennium Ed. New Delhi: McGraw-Hill, 1999.

3. Singh, J.N. and others: Internet and Information Technology. Bangalore: Subhas Stores, 2003.

4. Williamson, Heather: The Complete Reference XML. New Delhi: Tata McGraw-Hill, 2004.

5. Manohar, V. & Lihitkar, Shalini (2017). *Web 2.0 in Libraries*. Delhi: Studera

DSC – P1: ICT Applications

Course Objectives/Outcome (CO)

- To provide practical hands on training in library automation softwares.
- To develop the internet searching skills & techniques among the students.
- To train the students about effective use of search engines.

Course Content:

Unit- 1: Library Automation Software

• Any commercial or open source Library Automation software (SOUL, KOHA or Greenstone) :

Hands on training in Acquisition, Circulation, Cataloguing, Serial Control, OPAC and Administrative

Unit: 2- Internet Searching tools :

- Basic, Advanced Search Techniques, Google Searching Tools

Unit: 2- Information Sources searching:

WorldCat, WebOPACs, Library of Congress (LC) Online Catalog, British Library Catalogues etc.

• Information Searching – E-Books and E-Reference Sources

DSC –P2: E- publishing

Course Objectives/Outcome (CO)

- To provide practical hands on training on webpage designing.
- To train the students in creation of blogs
- To make students acquainted with Calibre software & OJS.

Course Content (CC)

• Webpage designing of Library

• Creation of Blog for Library/ Personal

• Application of Calibre - E-Book Management Software

• Application of Open Journal System (OJS)

DSC –P3: Documentation Services: Abstracting and Indexing

Course Objectives/Outcome (CO)

- To train the students in designing & developing IR Thesaurus.
- To train the students to prepare different types of abstracts and indexes.

Course Content:

- Design and Development of IR Thesaurus.
- Preparation of Indicative Abstracts
- Preparation of Descriptive Abstracts
- Preparation of Author Index
- Preparation of Subject Index
- Preparation of Title Index
- Online Thesaurus Search and generating of Terms

DSE -1: E-Publishing

Course Objectives/Outcome (CO)

- To make the students acquainted with the basic concepts E- Publishing.
- To make the students acquainted with the recent trends in E-Publishing.
- To familiarize the students with the current issues in E-Publishing.
- To introduce the students with the technologies used for E-Publishing.

Course Content (CC)

Unit 1: Basics of E-Publishing

- Concept, Definitions , Scope, & Evolution of E-Publishing
- Advantages & Problems of E-Publishing
- Kinds of E-Publishing Products/Models
- Business Models of E- Publishing

Unit 2: Current Issues in E-Publishing

- Issues like Commissioning and Peer Review, Editing and Proofreading, Design and Typesetting, Printing, Sales and Marketing, Warehousing and Distribution etc.
- Social, Economic, & Legal Issues in Electronic Publishing
- Access ,Use & Usability Issues, & Pricing Issues

Unit 3: Open Access Publishing

- Open Access Publishing: Concept, Models, Advantages & Disadvantages
- Open Science : Concept, Principles, Open Science Schools of Thought, Advantages & Challenges, Major Initiatives
- Predatory Open Access Publishing: Concept, Meaning & Growth
- Global & Indian Initiatives to Control the Menace of Predatory Open Access Publishers

Unit 4: Technologies for E-Publishing

- Software & Hardware Requirements
- Concept of Markup Languages: SGML, HTML and XML.
- Digital Content Types, File Formats, Encoding Systems : ASCII, UNICODE and ISCII
- E-Publishing Standards.
- Open Journal System.

Recommended Books/Articles

1. Kist, J. (1989). *Electronic publishing : Looking for a blue print*.NewDelhi:Sterling
2. Standera, O. (1987). *The electronic era of publishing: An overview of concepts, technology &methods*.New York: Elsevier Science.
3. Karen, S. W. , Marilynn, B, & Stone, T. A. (2003). Electronic publishing: The definitive guide. UK: Hard Shell Word Factory.
4. Schuster, C. (2011). *E-publishing for writers: Trends and opportunities*/Fall 2011 (Kindle Edition). UK: Books to Go Now.
5. Kadam, S. D. & Veer, D. K. (2014).*Digital libraries, E-resources and e-publishing* (Set of 2 Volumes). New Delhi: EssEss.
6. Henke, H. (2001). *Electronic books and e publishing: A practical guide for authors*. London: Springer-Verlag.
7. Patwardhan, B. & Others (2018). A critical analysis of the UGC approved list

of journals.*Current Science*, 114(6), 1299-1303.

8. Seethapathy, G.S., Kumar, J.U.S., &Hareesha, A.S. (2016). India's scientific publication in predatory journals: need for regulating quality of Indian science and education. *Current Science*, 111(11), 1759-1764.
9. Patil, S. B. (2016). Predatory Open-Access Journals in India: A Study. *Pearl: A Journal of Library and Information Science*, *10*(2), 94-97.
10. Beall, J. (2013). Predatory publishing is just one of the consequences of gold open access. *Learned Publishing*, 26(2), 79–83. doi: http://dx.doi.org/10.1087/20130203
11. https://publicationethics.org/

DSE- 2: Scientometrics

Course Objectives/Outcome (CO)

- To impart in depth knowledge on scientometries.
- To inculcate skills in learners that would enable them to collect and analyses scientometries data.
- To train the students for measuring Research output.

Course Content (CC)

Unit I: Introduction to Metrics Studies

- Concept of Librametry
- Concept of Bibliometrics
- Concept of Informatics
- Concept of Web metrics
- Concept of Scientometries
- Concept of Altmertics

Unit II: Laws related to Metrics

- Classical Laws of Bibliometrics
- Lotka's Law: Concept, formula & Application
- Zipf's Law: Concept, formula & Application
- Bradford's Law: Concept, formula& Application

Unit III: Citation Analysis and Databases

- Citation Analysis: Concept, Definition, need, types, applications.
- Web of Science - Science Citation Index Expanded , Social Sciences Citation Index, Arts & Humanities Citation Index, Emerging Sources Citation Index
- Scopus, Emerald, Springer
- Google scholars, PubMed, Dimensions, Lens, Scite

Unit IV: Impact Factor, Research Visibility and Software for metric studies

- Impact Factor: Meaning, Definitions, It's calculation.
- Research Visibility: Meaning, Definitions, and tools: academic and Social networking sites, ORCID, Research Gate, Mendley, Vidwan Expert database
- Software for metrics studies: Hiscite, Vosviewer, Publish or Perish, Soscibot etc.
- Altmetrics.com, Impact story, Plum Analytics, PLOS Article Level Metrics.
- Ranking and case studies with examples

Recommended Books:

2. Egghe, L. and Rousseau, R.(2001). *Elementary statistics for effective Library and Information services management*. London: Aslib
3. Garfield, E. (1979). *Citation Indexing: Its theory and applications in Science, technology & humanities*. New York: John Wiley.
4. Meadows, A.J.(1974). *Communication in Science.* London: Butterworths.
5. Neuendorf, K. (2002). *The content analysis guidebook*. London: Sage.
6. Nicholas D. and Ritchi, M. (1979). *Literature & bibliometrics*. London: Clive Bingley.
7. Ravichandra Rao, I.K. (1985). *Quantitative methods for Library and Information Science*. New Delhi: Wiley Eastern, 1985.
8. Thelwall, M. (2009). *Introduction to webometrics: Quantitative web research for the social Sciences*. Morgan and Claypool Publishers.

SEC-1: Research and Publication Ethics

Course Objectives/Outcome (CO)

- To understand the values of ethics in research
- The student will have awareness about the publication ethics and publication misconducts

Unit 1: Publication Ethics

- Ethics: definition, moral philosophy, nature of moral judgements and reaction
- Publication ethics: definition, introduction, Violation and importance
- Best practices /Standards setting initiatives and guidelines: COPE. WAME, etc.,
- Conflicts of interest
- Authorship and contributorship

Unit 2: Scientific Conduct

- Intellectual honesty and research integrity
- Scientific misconducts: Falsification, Fabrication, and Plagiarism(FFP)
- Publication misconduct, complaints and appeals
- Redundant publications: duplicate and overlapping publications, salami slicing
- Selective reporting and misrepresentation of data.
- Predatory publishers and journals

- **References**

1. Nicholas H. Steneck. Introduction to the Responsible Conduct of Research. Office of Research Integrity. 2007. Available at: https://ori.hhs.gov/sites/default/files/rcrintro.pdf
2. The Student's Guide to Research Ethics By Paul Oliver Open University Press, 2003
3. Responsible Conduct of Research By Adil E. Shamoo; David B. Resnik Oxford University Press, 2003
4. Ethics in Science Education, Research and Governance Edited by Kambadur Muralidhar, Amit Ghosh Ashok Kumar Singhvi. Indian National Science Academy, 2019. ISBN : 978-81-939482-1-7.
5. Anderson B.H., Dursaton, and Poole M.: Thesis and assignment writing, Wiley Eastern 1997.
6. Bijorn Gustavii: How to write and illustrate scientific papers? Cambridge University Press.
7. Bordens K.S. and Abbott, B.b.: Research Design and Methods, Mc Graw Hill, 2008.
8. Graziano, A., M., and Raulin, M.,L.: Research Methods – A Process of Inquiry, Sixth Edition, Pearson, 2007.

Master of Library and information Science

Semester- II

The following shall be the courses prescribed for examination

Course Type & No.	Title of the Course	Examination Marks			Credits	Teaching Hours per Week
		Max. Marks	Internal Marks	Total Marks		
DSC: Discipline Specific Core Course (**Theory**) **(CGPA)** [Lectures & Internal – Seminars, Home Assignments, Internal Tests etc.] (All courses are compulsory)						
DSC – 5	Digital Information Management	80	20	100	4	4
DSC -6	Statistical Techniques and Report Writing	80	20	100	4	4
DSC-7	Marketing of Library and Information Products and Services	80	20	100	4	4
DSC-8	Electronic Information Sources & Services	80	20	100	4	4
DSC: Discipline Specific Core Course **(Practical)** [Practical & Internal – Seminars, Home Assignments, Internal Tests, Projects etc.] (All courses are compulsory)						
DSC –P4	Open Source Software and Services	80	20	100	4	8
DSC –P5	Designing Database and Searching	80	20	100	4	8
DSC –P6	Project Work	80	20	100	4	8
DSE - Discipline Specific Elective Course (**Theory**) **(CGPA)** [Lectures & Internal – Seminars, Home Assignments, Internal Tests etc.] (**Note: - Student has to take one DSC(E) from same discipline i.e. from this group)**						
DSE -3	Agricultural Information System	80	20	100	4	4
DSE -4	Industrial Information System	80	20	100	4	4
SEC- Skill Enhancement Course **(Note:- Student from same as well as other department may take any one SEC from pool of 2 credit courses of our university OR the SEC prepared by the department)**						
SEC-2	Technical Writing	40	10	50	2	2
Total Credits including SEC					**34**	

DSC – 5: Digital Information Management

Course Objectives/Outcome (CO)

- To introduce basic concepts and characteristics of digital libraries to the students.
- To familiarize the students with standards and protocols and their need and importance in digital libraries.
- To impart knowledge on need, relevance, problems and challenges of digital preservation to students.

Course Content (CC)

Unit 1: Digitization

- Definition, Needs of Digitization
- Selection of Material for Digitization, Steps in the Process of Digitization
- Optical Character Recognition (OCR), Compression Protocols, File Formats and Media Types
- Equipment for digitization and Implementation, Scanning Software, Digitization of Audio and Video,Planning Digitization
- Digital Preservation- Meaning, Needs, Problems and Challenges, Principles of Preservation, Factors of Digital Preservation, Digital Preservation Strategies, Digital Preservation Metadata, Storage Management for Digital Preservation.
- Digital Preservation Initiatives in India.

Unit 2: Digital Library Protocols and Standards

- Protocols : Definition and Importance
- Record Structure, ISO 2709 / Z39.2
- Metadata Standards- General purpose metadata standards, Metadata standard used in sciences, Social Sciences and Arts & Humanities
- Formats and Media Types: Formats and Encoding used for Text, Page Image Format
- Preservation Standards: PREMIS and Open Archival Information System (OAIS)

Unit 3: Digital Library Services

- Semantic Digital Library Services, Architecture of Semantic Digital Libraries, Semantic Library Projects-JeromeDL Project, BRICKS Digital Library Infrastructure, MarcOnt Initiative, SIMILE Project
- Open Access and Digital Library - Open Access Journals, Institutional Repositories , Open Courseware, Metadata Harvesting Services

Unit 4: Digital Rights Management (DRM)

- Digital Rights Management (DRM) - Meaning, Functional Architecture, Information Architecture, DRM and Legal Aspects
- Need for Access Management and Security, User Authentication and Authorization, Technologies for Access Control and Access Tracking, Authentication of Digital Content
- Technology for Secured Digital Communication- Cryptography and Encryption, Digital Certificates

- **Recommended Books/Articles:**

1. Arms, William Y.(2000). Digital Libraries.: MIT Press.
2. Lynch, Clifford (1999). Canonicalization: A Fundamental Tool to Facilitate Preservation and Management of Digital Information. D-Lib Magazine, 5 (9).
3. Schwartz, C. Digital libraries: An overview. Journal of Academic Librarianship, 26(6), 385-396, 2000.
4. Dillon, A. (2002) Technologies of information: HC and the digital library. In J.M. Carroll,ed. Human-Computer interaction in the New Millennium. Boston: ACM Press.
5. Open Archives Initiative Protocol for Metadata Harvesting. Available:
6. http://www.openarchives.org/pmh/. (Accessed 10th June 2018).
7. Gopal, Krishan (2000) Digital Libraries in Electronic Information Era:

Authorspress.

8. Hughes, Lorna.M (2004) Digitizing collections: strategic issues for the information manager: Facet publishing.
9. Witten, Ian Hetal (2010). How to build a digital library: Morgan Kaufmann publisher.
10. Jean-Marc Boucqueau (2006-2012). Digital Rights Management. IEEE Emerging Technology portal: http://www.ieee.org/about/technologies/ emerging/ digitalrights. pdf
11. UNESCO's Guidelines for the Preservation of Digital Heritage (2003).

DSC – 6 : Statistical Techniques and Report Writing

Course Objectives/Outcome (CO)

- To develop research skills in students and enable them to carry out research in Library & Information Science.
- To understand on both qualitative & quantitative techniques for data analysis and consolidation.
- To familiarize the art and style of writing a research report.

Course Contents (CC)

Unit 1: Data Processing and Presentation

- Sampling Techniques: Concept, Purpose, Principles and Key terms in sampling terms
- Types of Sampling
- Processing of Data: Editing, Coding and Classification
- Data Presentation Techniques: Tabulation and Graphical Presentation.

Unit 2: Statistics and its Applications

- Types of Scale
- Descriptive statistics: Measures of Central Tendency and Dispersion
- Inferential statistics: Statistical estimation & Testing of Hypothesis
- Chi Square Test, T- test, Z- test etc.

Unit 3: Statistical Packages

- SPSS
- MS- Excel
- Web-based Statistical Analysis Tools
- Online Reference Management Tools

Unit 4: Research Reporting

- Purpose, Structure, Style, Contents
- Guidelines for Research Reporting
- Style Manuals: APA, MLA and Chicago
- Plagiarism
- Current trends in LIS research.

Recommended Books:

1. Ahuj, A.: Research Methods, Rawat Publication: Jaypur and New Delhi, 2001.
2. Anglo American Cataloguing Rules (2002). 2nd Ed. Rev. available online at http://www.oclc.org/oclc/bib/toc.htm)
3. Anglo-American Cataloguing Rules. (Latest Edition). London: Library Association.
4. Carpenter Ray, &Vasu Ellen Story : Statistical Methods for Librarians, Chicago, and American Library Association, 1978
5. Das S.K. : Introduction to research Bombay A Mukherjee & Co. Pvt. Ltd. 1986.
6. Goods W. J. &Hatt P.K. : Methods in Social research New York, McGraw Hill Co., 1952
7. Gupta C.B. &Ratan: Statistical calculations Delhi Vikas pub House, 1973.
8. Gupta C.B. Introduction to Statistical methods Delhi chand 1974.
9. Kothari, C. R. Research Methodology: Methods & Techniques, New Age International: New Delhi, 2004
10. Kumbhar, R. M.: Library and Information Science Research : Methods and

Techniques, Universal Prakashan: Pune, 2014

11. Ravichandrao I.K. : Quantitative Methods for library and information science Calcutta Wiley Eastern, 1985
12. Sadhu A.N. &Amargitsingh: Research methodology in social sciences Bombay Homalayan 1980
13. Sardana J. L. &Sehgal R. L. : Statistical methods for Libraries, New Delhi ESS publication 1981
14. Savanur, S.K.(2008). Research methodology for information sciences.Pune:Universal.
15. Sehgal R.L.: Applied statistics for Library science research vol.1&2 New Delhi, ESS publication, 1998.

DSC – 7: Marketing of Library and Information Products & Services

Course Objectives/Outcome (CO)

- To introduce the students with the basic concepts of marketing.
- To make the students acquainted with the process of planning of information products and services, marketing segmentations and marketing of E- resources.

Course Contents (CC)

Unit 1: Marketing of Information Products and Services

- Marketing: Concept, Definitions , Need, Functions, Elements and Benefits
- Need and purpose of Marketing of library products and services
- Marketing Mix: Seven P's, Kotler's Four C's, Marketing Plan & Strategy Information as a Resource
- Branding and Advertising
- Pricing – Pricing of information products and services

Unit 2: Information Products and Services as marketable commodity

- Planning and development of information products and services
- Information as a commodity
- Information as a resource
- Information Society: Concept and Features
- Knowledge Society: Concept and Features

Unit 3: Information Marketing Segmentations

- Methods of Segmentation: Geographical segmentation, Psychographic segmentation, Behavioral segmentation, Demographic Segmentations, Marketing niche

- Barriers in Information Marketing; Access barriers, linguistic barriers, legal barriers, economic barriers and cultural barriers;

Unit 4: Marketing of e-resources

- Library website
- Internal marketing to staff
- Promoting the use by traditional methods
- Face to face interaction
- Promoting through the web / Intranet

Recommended Books:

1. Cawkell, A.E., Ed. (1987). Evolution of an Information society. London: ASLIB.
2. Cronin, B.(1981). Marketing of Library and Information services. London: ASLIB.
3. Eileen, E. D.S. (2002). Marketing concepts for Libraries and Information services. 2nd Ed.
4. London: Facet Publishing.
5. Jain, A.K and others Ed. (1995). Marketing of Information products and services. Ahmedabad:IIM.
6. Kotler, P. (1975). Marketing for non-profit organization. Prentice-Hall.
7. Saez, E.E. (1993). Marketing concepts for Libraries and Information services.
8. George Yi, Zhixian. (2017). Marketing Services and Resources in Information Organizations / 1st ed., Chandos Publishing.
9. Helmic, Samantha C. (2015). Mobile Social Marketing in Libraries. Rowman & Littlefield Publishers.
10. Rea, Gavin. "Promoting the Library Services". In Chris Pinder and Maxine Melling (Eds): Providing Customer- Oriented Services in Academic Libraries. London: Library Association Publishing, 1996.

DSC – 8: Electronic Information Sources & Services

Course Objectives/Outcome (CO)

- To familiarize the students with electronic Information Sources and Services.
- To make the students acquainted with the open access movement and electronic publishing.

Course Contents (CC)

Unit 1: Electronic Information Sources

- Meaning, Definition, Advantages
- Growth and development of Electronic Information Sources
- Types and Examples of Electronic Information Sources.
- Evaluation criteria for Electronic Information Sources
- Citing Electronic Information Sources with Special Reference to APA Seventh Edition

Unit 2: Electronic Information Services

- Meaning, Definition and Need
- Types of electronic information services
- Emerging Trends and Technologies useful for Electronic Information Services

Unit 3: Open Access Information

- History of the Open Access Movement
- Meaning, Need, Purpose and Benefits of Open Access
- Copyright and Open Access
- Impact of Open Access on Scholarly Publishing
- Future of Open Access

Unit 4: Electronic Information Sources/Services Useful for Research

- Research Visibility: Meaning & Definitions, Tools for Enhancing Research Visibility - Academic Social Networking Sites, ORCID, Vidwan, Impact Story Preprint Servers etc.
- Measuring Research Productivity Using Open Source Software/Tools – VosViewer, Publish or Perish Software, Biblioshiny etc.
- Research Data Repositories –Concept and Examples - Mendeley Data, Figshare, Dryad, Zenoda etc.

Recommended Books:

1. Chowdhury, G.G. and Chowdhury, Sudatta (2000). *Searching CD-ROM and online Information sources*. London: Library Association.
2. Cooper, M. D. (1996). *Design of Library automation systems: File structures, data structures and tools*. New York: john Wiley.
3. Dickson, G.W. and Desanctis, G. *Information technology and the future enterprise: New models for managers*. New Jersey: Prentice Hall.
4. Ferris, Jeffrey A. (2000). *Windows 2000: Development and desktop managem*ent. Indiana: New Riders.
5. Gallimore, A. (1997). *Developing on IT strategy for your Library*. London: Library Association.
6. Sharma, Jitendra Kumar (2003). Print Media and Electronic Media: Implications for the future. Delhi, Authorspress.
7. http://www.infolibrarian.com
8. http://www.Libraryspot.com
9. http://www.refdesk.com

DSC-P4: Open Source Softwares and Services

Course Objectives/Outcome (CO)

- To make students acquainted with open access self archives
- To make students aware about ontology development
- To make students acquainted with different tools of measuring research productivity
- To make students acquainted with Scopus database

Course Content (CC)

- Open Access Self Archives -SHERPA/RoMEO, Preprint Servers.
- Ontology Development Using Protégé Software
- Tools for Measuring Research Productivity – VosViewer, Publish or Perish Software, Biblioshiny etc.
- Use of citation databases for Scientometric/ Bibliometric Study

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DSC-P5: Designing Database & Searching

Course Objectives/Outcome (CO)

- To provide practical hands on training in digital library software.
- To make students acquainted with skill of digitalization and its process
- To train the students in searching the different scholarly databases.

Course Contents (CC)

Unit 1: Digital Library Creation by using any Open Source Software

- Digital Library Softwares (Dspace or Greenstone)
- Creation & Maintenance of Databases using Library Software Package.

Unit 2: Digitization Techniques

- Selection of Material for Digitization, Steps in the Process of Digitization
- Optical Character Recognition (OCR), Compression Protocols, File Formats and Media Types

Unit 3: Searching the Different Scholarly Databases

Scopus, Web of Science, MathSciNET, PubMed, J – Gate, DOAJ, DOAR, Library Networks, ETD, LIS Gateways, Information Systems, Digital Libraries, NDL, SWAYAM , E-PG Pathashala' OCLC Database, etc.

DSC-P6: Project Report

- The Project report shall be on an approved topic pertaining to Library and Information Science. Each student shall work under the supervision and guidance of a teacher for his/her Project report.

- The Project report (4 copies) duly approved by the Guide must be submitted through the Head of the Department. One week before the commencement of the final practical Examination, failing which the candidates will not be allowed to appear for the examination.

- The student has to prepare a synopsis on chosen topic and present before the departmental committee. Two presentations on Project report is compulsory i. e. One for Synopsis and One after the completion of Work but before final printing.

- The Department through the Head of the Department shall send necessary details of internal work of the students to the Examination section.

DSE- 3: Agricultural Information System

Unit I: Agricultural Education and Research

- Growth and development of Agricultural Education in India
- Growth and development of Agricultural Research in India
- Role of Libraries in Agricultural Education, Research and Extension
- Development of Agricultural Libraries in India

Unit II: Information Needs

- Information requirement of Agricultural faculty
- Information requirement of Agricultural Research Workers, Farmers Extension Workers
- Study of Local Agricultural Libraries and Preparation of Report
- User Education

Unit III: Information Resource Development, Organization of Sources

- Collection Development
- Sources of Information:

- Documentary
- Non-Documentary
- Electronic Resources
- Agricultural Databases

- Internet as a source of information
- Organization and Documentary Sources
- Classification
- Cataloguing
- Indexing
- Storage of document

Unit IV: Management Aspects

- Management of Agricultural Libraries and Information centres
- Planning of Library and Information Centres
- Human Resource Development-Staffing, Training and Development
- Professional Skills
- Financial Management- Budgetary Provisions, Resource Generation

- **Recommended Books**

1. Alan Chard, J.R. and Farrel, Lois. Guide to Agricultural and Biological Research. Berlveley:University of California, 1981.

2. Banerjee, S.R. and Moitra, S. Agricultural Documentation Services in India. New Delhi: ICARLibrary (Unpublished).

3. Deshmukh, P.P. Indian Council of Agricultural Research (Delhi). Agricultural UniversityLibraries on Committee, Find Report, New Delhi: ICAR, 1969.

4. Gupta, S.R. Stock Verification in Libraries; Problems and Solutions. Delhi: Ken Pub, 1990.

5. Kumar, P.S.G. Agricultural Librarianship MLISc Elective paper; K umar's curriculum series in Library & information science 12, 2008 x, 380 B.R. Publication, New Delhi.

6. Lihitkar, Shalini.R. Information Systems & Networks in India. Today& Tomorrow's printer &publishers, New Delhi, 2012

Lihitkar, Shalini, R. Libraries and Information centres in Maharashtra. PimplapurePublication.Nagpur, 2012.

8. Lilley, G.P. Information Sources in Agriculture and Food Science. London: Butter Worths, 1981.

9. Maharashtra Government of: Report of the Advisory Committee for Establishment of Agricultural University, Maharashtra, November, 1965, Bombay: Govt. of Maharashtra.

10. Ramtirth, Agris. Information System for Agriculture Science and Technology Inperspective in Library and Information Science. 1, 1982. Pp211-214.

11. Rokde, S.M. Agriculture Education and Libraries in India. Masford Publication. New Delhi,2009.

DSE-4: Industrial Information System

Course Objectives/Outcome (CO)

- To be acquainted with the Industrial Information System.
- To train students about the Industrial Information Sources, products and services.
- To develop acquaintance with the national and International level industrial Institutions.

Course Contents (CC)

Unit -1: Industrial Information

- Nature, Characteristics, Role, generation and utilization
- Components of Industrial Information System: resources, Centers, Consultants, Suppliers, Financial Organisations, Industrial Promoters.
- Users of Industrial Information: Categories, Role, Functions, and needs
- Industrial Libraries and Information Centres: Characteristics and Roles

Unit- 2: Industrial Information Sources, products and services

- Information Sources, Management of Industrial Libraries and Information Centres Information Resource Development
- Information Sources: Internal and External Sources Directories, CAS/SDI; Technical enquiry service; Digests;
- Information Sources specific to Industries: Government Document, Technical Report, Market Research Reports; Trade Literature; technical Notes; Company Profile; Intellectual Property Rights (Copy-right, Patent, Design & trade marks); Literature, , Standards, Patents, Management Aspects
- Information Services: Computerized Services; Databases; CD-ROMs and Networks, Internet, E-commerce-concepts and scope.

Unit-3: Information Systems: National & International

- CSIR and its National Laboratories, NISCAIR, SENDOC, NIDCS, IIFT, ITPO, CII, FICCI, etc.
- Role of International Organizations in Industrial Information: UNIDO, UNCTAD, UNDP, OECD etc.
- Standards related to Industries: ISO etc.

Unit-4: Organizing Industrial information for end-user support:

- Database system: Industrial Management system; Industrial planning System.
- Text Management System: Text retrieval system: Office system
- Management Support System: Decision support systems; Information Centres.

Recommended Books:

1. Blakewell, K.Y. Industrial Libraries throughout the World. Oxford, Pergamon Press, 1969.

2. DRTC Annual Seminar-17 Industrial Information Systems and Services, Bangalore, Documentation Research and Training Centre, 1979.
3. Gopinath, M.A. and Seetarama, S. Industrial Information Systems and Services, DRTC, AnnualSeminar (17), 1979, Bangalore: DRTC, 1979.
4. Houghton, Berhard, Technical Information services. 2nd ed. London, Clive Bingley, 1972.
5. Jackson, E.B. and Jackson, R.L. Industrial Information Systems: A Manual for Higher Management and their information officers/ Librarian Associates.
6. Kumar, P.S.G. Business/Industrial Librarianship, New Delhi, B.R.Publishing Corporation, 2008.Library Association Industrial group: Industrial and commercial Library,An Introductory guide.London, Library Association, 1986.
7. Lihitkar, Shalini, R. Libraries and Information centres in Maharashtra. PimplapurePublication.Nagpur, 2012.
8. Neelameghan, A: Information for small enterprises. Bangalore, SardaRanganathan Endowment for Library Science, 1994.

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SEC- 2: Technical Writing

Course Objectives/Outcome (CO)

- To develop the technical writing skills & competencies among the students.
- To train the students to use Online Reference Management Tools.

Course Content (CC)

Unit 1: Basics of Technical Writing

- Technical Writing: Meaning, Concept and Definitions, Characteristics; Readability and text
- Style Manuals: APA, MLA, Chicago
- Online Reference Management Tools: Mendely, Zotero, Refwork, etc.
- Copy right and Fair Use
- Plagiarism: Concept, Definition, Types, Issues and Anti-plagiarism Softwares

Unit 2: Effective Technical Writings

- Writing Research Proposals
- Preparation of Articles
- Technical reports
- Review articles
- State- of –the Art Report

• Recommended Books:

2. Neelameghan A 1975 – Presentation of Ideas in Technical Writing ed. 1, Delhi, Vikas Pub. House

3. Billie A Williams (2007). Characters in Search of an Author, New York: Filbert Publishing

4. Carrie Hannigan, Carrie Wells, Tanya Peterson (2008). Technical Writing: A Resource for Technical Writers at All Levels

5. Henry Miller, Thomas H Moore (1964). Henry Miller on Writing, New Direction Publishing Corporation, London.

6. Thomas Smith, Dominic Thompson (2005). APA/MLA Guidelines for Students Laminate Reference Chart