



UNIVERSITY OF CALICUT

(Re-accredited by NAAC with A grade)

Scheme and Syllabus of

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

(Choice Based Credit Semester System PG - 2019)

**DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE
2019**

Scheme and Syllabus of Master of Library and Information Science Choice Based Credit Semester System (2019 admission onwards)

Course Code	Course Title	Type	Credits	Marks		
				Internal Evaluation	External Evaluation	Total
First Semester						
LIS1 C01	Library, Information and Society	Core	4	20	80	100
LIS1 C02	Library Management	Core	4	20	80	100
LIS1 C03	Knowledge Organisation Theory	Core	4	20	80	100
LIS1 C04	Knowledge Organisation Practice – Dewey Decimal Classification	Core	4	20	80	100
	Total		16	80	320	400
Ability Enhancement Course (AEC)						
LIS1 A01	Soft Skills	Audit	2	(Credits are not counted)		
Second Semester						
LIS2 C05	Information and Communication	Core	4	20	80	100
LIS2 C06	Information Sources	Core	4	20	80	100
LIS2 C07	Information Technology -Theory	Core	4	20	80	100
LIS2 C08	Knowledge Organisation Practice - Cataloguing	Core	4	20	80	100
LIS2 E--	Elective - 1	Elective	4	20	80	100
	Total		20	100	400	500
Professional Competency Course (PCC)						
LIS2 A02	Information Technology Competency - Practice	Audit	2	(Credits are not counted)		
One month internship in a library approved by the department council during the summer holidays between second and third semesters.						

Third Semester						
LIS3 C09	Research Methodology	Core	4	20	80	100
LIS3 C10	Information Technology Applications in Libraries-Theory	Core	4	20	80	100
LIS3 C11	Knowledge Organisation Practice – Universal Decimal Classification	Core	4	20	80	100
LIS3 E--	Elective - 2	Elective	4	20	80	100
LIS3 E--	Elective - 3	Elective	4	20	80	100
	Total		20	100	400	500
Fourth Semester						
LIS4 C12	Information Processing and Retrieval	Core	4	20	80	100
LIS4 C13	Information Systems and Services	Core	4	20	80	100
LIS4 C14	Information Technology Applications in Libraries - Practice	Core	4	20	80	100
LIS4 C15	Dissertation	Core	8		120	120
	Viva Voce				40	40
	Internship			40		40
LIS4 E--	Elective - 4	Elective	4	20	80	100
	Total		24	120	480	600
	TOTAL CREDITS		80	400	1600	2000

ELECTIVE COURSES

Course Code	Course Title	Credits	Marks		
			Internal Evaluation	External Evaluation	Total
CLUSTER I					
LIS2 E01	Digital Resources	4	20	80	100
LIS2 E02	Information Literacy	4	20	80	100
CLUSTER II					
LIS3 E03	Statistics and Informetrics	4	20	80	100
LIS3 E04	Knowledge Management	4	20	80	100
LIS3 E05	Digital Libraries	4	20	80	100
LIS3 E06	Organizing Information Resources - Practice	4	20	80	100
CLUSTER III					
LIS4 E07	Technical Communication	4	20	80	100
LIS4 E08	Personality Development & Communication Skills	4	20	80	100

First Semester**LIS1 C01 - LIBRARY, INFORMATION AND SOCIETY****4 Credits**

- Unit 1 Library in the Social Context**
Library: Conceptual change
Role of libraries in modern society and education
Development of libraries in India
Five Laws of Library Science
Implications of Five Laws
- Unit 2 Types of Libraries**
Types of libraries: their distinguishing features and functions
Public libraries, special libraries
Academic libraries: School, college and university libraries
National libraries: India, UK, USA, USSR
- Unit 3 Resource Sharing and Extension Services**
Resource sharing
Library consortia: ShodhSindhu, FORSA, CeRA
Library extension services, library publicity
Library Networks: OCLC, NICNET, CALIBNET, DELNET, ERNET, INFLIBNET
Library public relations
- Unit 4 Library Legislation**
Need for library legislation
Essential features of library legislation
Library legislation in India- Model Public Library Bill of Dr. S. R. Ranganathan
Public library legislation in Kerala; Kerala Public Libraries Act, 1989
Indian Copy Right Act, Delivery of Book and Newspapers Act and the Press and Registration of Books Act
- Unit 5 Library and Information Science Profession**
Librarianship as a profession
Professional skills and competencies
Professional ethics
Professional associations and their role: IFLA, ILA, IASLIC, IATLIS, CILIP, SLA, ALA, ASLIB
Promotion of library and information services by UNESCO, UGC and RRRLF
Library and Information Science education in India

Reading list

1. Ajaykumar Raval. Handbook of public library system. New Delhi: Discovery Publishing, 2013.
2. Anil K Dhiman and Suresh C Sinha. Academic Libraries. New Delhi: Ess Ess Publication, 2002.
3. Anil K Dhiman. Handbook of special libraries and librarianship. New Delhi: Ess Ess Publication, 2008
4. Choudhury, G. G. et al. Librarianship: An introduction. London: Facet, 2004.
5. Khanna, J. K. Library and society. New Delhi: Ess Ess Publications, 1994.
6. Kumar, P. S. G. Library in India Series. New Delhi: B. R. Publishing Corporation, 2008.
7. Kumar, P. S. G. Student's manual of Library and Information Science. New Delhi: B R Publishing Corporation, 2002.
8. Macdougall, Alan F. and Prytherch, Ray, ed. Handbook of library cooperation. Mumbai: Jaico Publishing, 1997.
9. Ranganathan, S. R. The five laws of Library Science. Bangalore: Sarada Ranganathan Endowment for Library Science, 1988.
10. Sharma, S K. Libraries and Society. New Delhi: Ess Ess Publication, 1987

LIS1 C02 - LIBRARY MANAGEMENT**4 Credits****Unit 1 Management in General**

Concept, definition scope and functions
Management schools of thought
Principles of scientific management
Fayol's principles, POSDCORB, MBO
Quality management: TQM, Six Sigma

Unit 2 Management of Library Operations

Collection development : policies and procedures
Acquisition procedures: selection, ordering and accessioning
Technical processing: classification, cataloguing, and physical processing
Circulation control: charging systems
Serials control: selection, ordering, receipt and display
Maintenance of documents: stock verification and shelf rectification, withdrawals, preservation and conservation of library resources
Project management: SWOT, PEST, PERT/CPM
MIS, Decision Tables, DFD (Data flow Diagram)

Unit 3 Library Building and Space Management

Library building, furniture and equipments
Space requirements and space management
Green library building, Information Commons, Makers Spaces, security and safety
E-resources management, technology and change management
Disaster management and crisis management

Unit 4 Human Resource Management

Planning, job analysis, job description & job evaluation
Recruitment, selection, induction
Continuous professional development
Motivation, training and development
Performance appraisal
Stress management and time management

Unit 5 Financial and Record Management

Sources of finance
Methods of financial estimation
Budgeting techniques-Line, PPBS, Zero based budgeting
Cost effective and cost benefit analysis
Library authority and committee
Annual report, staff manual, library rules and regulations

Reading list

1. Bryson, Jo. Effective library and information centre management. Hampshire, U. K.: Gower, 1990
2. Bryson, Jo. Managing information services: A transformational approach. 2nd ed. Aldershot, UK: Ashgate Publishing, 2006.
3. Evans, G. Edward and Aire, Camila A. Management basics for information professionals. 3rd ed. London: Facet, 2013
4. Evans, G. Edward G. Management techniques for librarians. 2nd ed. New York: Academic Press, 1983.
5. Iyer, V. K. Management of library information services. New Delhi, Rajat Publications, 1998.
6. Khanna, J. K. Handbook of library administration. New Delhi: Crest Publishing House, 2001.
7. Koontz, Harold and Weirich, Heinz Essentials of management: An international and leadership perspective. 9th ed. New Delhi: Tata McGraw-Hill, 2013.
8. Krishan Kumar. Library administration and management. Noida, Vikas Publishing House, 2008.
9. Krishnamurthy, R. Library management. New Delhi, Commonwealth Publishers, 1997.
10. Kumar, P. S. G. Management of library and information centres. New Delhi, B R Publishing Corporation, 2003
11. Lancaster, F.W. & Sandore, Beth. Technology and management in library and information science. London :Library Association Publishing, 1997
12. Mittal, R. L. Library administration: Theory and Practice. 5th ed. New Delhi: Ess Ess Publications, 2007.
13. Mittal, R.L. Library administration: Theory and Practice. Metropolitan Book Co. , 1969
14. Narayana, G. J. Library and information management. New Delhi, Prentice-Hall of India, 1991.
15. Panda, B. D. (1993). Library administration and management. New Delhi, Anmol Publications, 1993.
16. Panwar, B.S. & Vyas, S. D. (1986). Library management. New Delhi, B R Publishing Corporation, 1986.
17. Stueart, Robert D. and Moran, Barbara B. Library and Information Centre Management. Colorado: Libraries Unlimited, 2004.

LIS1 C03 – KNOWLEDGE ORGANISATION THEORY**4 Credits**

- Unit 1 Theory of Library Classification**
Universe of knowledge – nature and attributes
Modes of formation of subjects
Need and purpose of library classification.
Normative principles of classification and their usefulness
Canons for idea plane and verbal plane
Principles of helpful sequence.
Notation: types, qualities.
- Unit 2 Facet Analysis and Fundamental Categories**
Concept of facet analysis
Fundamental categories
Principles for facet sequence
Call No., Class No., Book No., Collection No.
- Unit 3 Classification Schemes**
Species of library classification schemes
Enumerative and faceted models
Salient features of CC, DDC and UDC
Trends in library classification
Automatic classification, classification in online system,
Web Dewey, Folksonomy
- Unit 4 Bibliographic Description**
Library catalogue : Its purpose and functions
Physical forms : book form, card form, OPAC/WebOPAC
Types of catalogue: author catalogue and title catalogue _
Dictionary catalogue and classified catalogue.
Models of catalogue codes - CCC and AACR-II
Bibliographic description & metadata standards - ISBD,
MARC 21, CCF, RDA, FRBR, Bibframe, Dublin Core,
METS, MODS, EAD
Standards of Bibliographic Information Interchange
ISO2709, OAI, Z39.50 and Z39.71
- Unit 5 Subject Cataloguing, Centralized Cataloguing and
Cooperative Cataloguing**
Tools for subject cataloguing - LCSH, Sears list of subject
headings, authority lists
Subject cataloguing: chain Procedure and list of subject
headings.
Centralised cataloguing :types, advantages and
disadvantages
Cooperative cataloguing : NPAC, union catalogues

Reading List

1. Aswal, R. S. MARC - 21: Cataloguing format for 21st century. New Delhi: Ess Ess Publications, 2004
2. Bavakutty, M. Canons of Library Classification. Trivandrum, Kerala Library Association, 1981.
3. Bowman J. H. Essential cataloguing. London: Facet Publishing, 2003
4. Foskett, A. C. Subject approach to information. 5th ed. London: Library Association, 1996.
5. Foulonneu, M. Metadata for Digital Resources. Oxford, UK: Chandos, 2008.
6. Gernert, Leigh. A textbook of Cataloguing. New Delhi: Dominant Publishers and Distributors, 2003.
7. Girija Kumar & Krishan Kumar. Theory of cataloguing. New Delhi, Vikas Publishing House, 1993.
8. Husain, Shababat. Library Classification: Facets and Analyses. Delhi: B.R. Publishing Corporation, 2004.
9. Kaula, P. N. A treatise on Colon Classification. New Delhi: Sterling Publishers, 1985.
10. Krishan, Kumar. Theory of Classification. 4th rev. ed. Delhi: Vikas Pub. House, 1998.
11. Rajendra Kumbhar. Library Classification: Trends in the 21st Century. UK: Chandos, 2009.
12. Ranganathan, S. R. Elements of Library Classification. 3rd ed. Bombay: Asia Publishing, 1962.
13. Ranganathan, S. R. Philosophy of Library Classification. Bangalore: Sarada Ranganathan Endowment, 1989.
14. Ranganathan, S. R. Prolegomena to Library Classification. 3rd ed. Bangalore: SRELS, 1989
15. Sangma S. K. Cataloguing rules in Library science. New Delhi: Centrum Press, 2013
16. Sangma, S. K. AACR 2 with MARC 21: Cataloguing Practice. New Delhi: Centrum Press, 2012
17. Satija, M. P & Comaromi, John P. Introduction to the practice of Dewey Decimal Classification. Sterling Publishers, 1987.
18. Satija, M. P. The theory and practice of the Dewey Decimal Classification System. Oxford: Chandos Publishing, 2007.
19. Sharma, Pandey S. K. Dewey Decimal Classification for indology. New Delhi, Uppal Publishing House, 1979.
20. Taylor, A. G. and Miller, David P. Wynar's introduction to cataloging and Classification. Ed.10. London: Libraries Unlimited, 2006.

Codes / Standards

1. Anglo-American Cataloging Rules (most recent edition to be used)
2. Dublin Core and other relevant metadata standards for different kinds of objects / resources Library of Congress Subject Headings
3. MARC 21 and related standards for bibliographic records
4. Ranganathan, S. R. Classified Catalogue Code, etc. 5th ed. Bangalore: SRELS, 1964 MARC 21 and related standards for bibliographic records
5. Sears List of Subject Headings, 21st ed.

**LIS1 C04 – KNOWLEDGE ORGANISATION PRACTICE – DEWEY
DECIMAL CLASSIFICATION****4 Credits**

Classification of simple, compound and complex subject books and periodicals according to 23rd edition of DDC.

LIS1 A01 – SOFT SKILLS**2 Credits****Unit 1 Soft Skills – An Introduction**

Definition and significance of soft skills
Importance and measurement of soft skill development
Categories of soft skills - corporate skills, employability skills and life skills
Personality development

Unit 2 Communication Skills

Types of communication – verbal and non-verbal communication
Interpersonal communication, team communication
Types of oral communication; structure of an oral presentation; body language; use of visual aids
Telephonic communication skills
Listening skills; types of listening -- passive listening, active listening, reflective listening
Group discussion and interview skills

Unit 3 Stress Management

Understanding stress; types of stress
Symptoms of work stress
Personality and stress
Stress management techniques

Unit 4 Other Management Skills

Time management, techniques of time management
Teamwork and leadership skills
Negotiation skills: types of negotiation, stages of negotiation
Decision making and problem solving skills
Emotional Intelligence skills

Second Semester**LIS2 C05 - INFORMATION AND COMMUNICATION****4 Credits**

- Unit 1 Information and Communication**
Information: characteristics, nature, value and uses
Conceptual difference between data, information, knowledge and wisdom
Information Life Cycle – generation, collection, storage and dissemination
Role of information in planning, management, socio-economic, cultural, educational and technological development
Communication: channels – formal and informal
Communication models; communication barriers
Trends in scholarly communication
- Unit 2 Information Science**
Genesis, development, definitions and scope
Information Science as a discipline and its relationship with other subjects
National Knowledge Commission
National Mission on Libraries
- Unit 3 Information Society**
Information Society: genesis and characteristics;
Intellectual Property Rights: IPR legislations in India
Fair use provision in copyright; censorship, data security
Right to Information Act (RTI), Information Technology Act
National policy of information
Open access movement.
- Unit 4 Economics of Information**
Information industry-Categories, conventions, treaties, laws
Cost effective analysis; cost benefit analysis
Information audit; Marketing of information services and products
Knowledge management: types of knowledge;
Knowledge management procedures.
Role of library professionals in knowledge management
- Unit 5 Sociology of Information**
User studies and user behaviour
Methods of data collection
Patterns of user behaviour
Information behaviour models

Reading list

1. Andal, N. Communication theories and models. Mumbai: Himalaya Publishing House, 2005.
2. Bawden, David and Robinson, Lyn. Introduction to Information Science. London: Facet Publishing, 2012.
3. Case, Donald O. Looking for information: a survey of research on information seeking, needs and behaviour. 2nd ed. Amsterdam: Academic Press, 2007.
4. Feather, John. The information society: a study of continuity and change. 5th ed. London: Facet Publishing, 2008.
5. McGarry, K. J. Changing context of information: an introductory analysis. 2nd ed. London: Library Association, 1993.
6. McGarry, K. J. Communication, knowledge and librarian. London: Clive Bingley, 1975..
7. McQuail, Denis and Windahl, Sven. Communication models for the study of mass communications. London: Longman, 1981.
8. Meadows, A. J., ed. Knowledge and communication: essays on the information chain. London: Library Association, 1991.
9. Norton, Melanie J. Introductory concepts in Information Science. New Jersey: Information Today, 2008.
10. Vickery, Brian C. and Vickery, Alina. Information Science in theory and practice. 3rd ed. Munchen: K. G. Saur, 2004.

LIS2 C06 - INFORMATION SOURCES**4 Credits**

- Unit 1 Introduction to Information Sources**
Nature, evolution, characteristics and importance of information sources
Sources of information-primary, secondary and tertiary sources
Documentary and non-documentary sources
Print and non-print sources
- Unit 2 Primary Sources (Print and Electronic)**
Periodicals and e-journals
Patents, technical reports, specification, standards
Research reports, theses and dissertations
Conference proceedings, trade literature
- Unit 3 Secondary and Tertiary Sources**
Indexing, abstracting and reviewing periodicals
Dictionaries and encyclopaedias
Bibliographical, Biographical and Geographical sources
Statistical sources, handbooks and manuals
Directories, yearbooks and almanacs
Union Catalogues
Bibliography of Bibliographies
Guides to literature
- Unit 4 Electronic Sources**
Databases and multimedia sources
Bibliographic, numeric, full text, open access databases
Search tools and techniques
Institutional and human resources
BIOSIS, PubMed
EBSCO, ProQuest, Elsevier, Ingenta, J-Gate
- Unit 5 Project**
Evaluation of reference sources and web sources
Evaluation of not less than 25 print reference sources and 25 electronic sources of different kinds

Reading list

1. Bopp, Richard E. and Smith, Linda C. Reference and information services: An introduction, 4th ed. Libraries Unlimited, 2011.
2. Cassel, Kay Ann and Hiremath, Uma. Reference and information services: An introduction, 3rd ed. London: Facet Publishing, 2013.
3. evaluate information sources. Santa Barbara: Libraries Unlimited, 2005
4. Gurdev Singh. Information Sources, Services and Systems. New Delhi: PHI Learning, 2013
5. Hurt, C. D. Information Sources in Science and Technology. 3rd ed. Westport, Conn.: Libraries Unlimited, 1998.
6. Katz, William A. Introduction to reference work, 7th ed. New York: McGraw Hill, 1997.
7. Krishan Kumar. Reference service, 5th ed. New Delhi: Vikas Publishing House, 2004.
8. Ranganathan, S. R. Reference Service. 2nd ed. Bombay: Asia Pub. House, 1961.
9. Sewa Singh. Manual of reference and information sources. New Delhi: B R. Publishing, 2004.
10. Stebbins, Leslie, F. Student guide to research in the digital age: how to locate and
11. Webb, William H. et al. Sources of information with social sciences. 3rd ed. Chicago: ALA, 1986.

LIS2 C07 – INFORMATION TECHNOLOGY THEORY**4 Credits**

- Unit 1 Computer: Architecture and Technology**
Computer hardware, software and storage devices
Types of software: system software and application software
Operating system-Windows and Linux
Programming languages –object oriented, procedural, high level, scripting, web languages
- Unit 2 Data Processing**
File design, data files, records
File organization: serial, sequential, direct access, indexed sequential and random access file organization
Database: concepts, organization and types
Database Management System (DBMS) - Architecture
- Unit 3 Computer Networks and Networking**
Computer networks - definition and examples
Network media-UTP, Optical fiber, Ethernet, Network Interface Cards, Hubs, Routers, Gateway, ISDN, PSDN
Network types PAN, LAN, MAN, CAN, WAN, SAN
LAN topologies: bus, star, ring, tree, mesh and token ring networks
Wireless Network: WiFi, WiMAX, Bluetooth, LiFi
- Unit 4 Internet**
History and development of the Internet
Internet protocols and standards-HTTP, SHTTP, FTP, SMTP, TCP/IP, URI, URL
Internet applications/services/utilities
Search engines and metasearch engines
Web 2.0/3.0 technologies, semantic web, invisible web, Internet of Things (IoT), Ontology
Internet security, firewall, proxy server, cryptographic techniques
- Unit 5 Emerging Technologies**
Artificial Intelligence, Expert System
Cloud computing
Virtual Reality, Augmented Reality
Robotics, Machine Learning, Block Chain technology
Open Data, Linked Data, Big Data and Data Repositories

**LIS2 C08 – KNOWLEDGE ORGANISATION PRACTICE -
CATALOGUING****4 Credits**

Cataloguing of books and non-book materials according to AACR-2R

- Unit 1** Cataloguing of single authored and joint authored books
- Unit 2** Cataloguing of edited books, multi volume books, and pseudonymous authors
- Unit 3** Cataloguing of uniform titles and serial publications
- Unit 4** Cataloguing of works of corporate authors: Govt. publications, institutional publications, society publications, conference/ seminar proceedings, workshop materials
- Unit 5** Cataloguing of non book materials: cartographic materials, films, CDs/DVDs

**LIS2 A02 – INFORMATION TECHNOLOGY COMPETENCY -
PRACTICE****2 Credits**

- Unit 1** Operating system – Windows; Linux
- Unit 2** Word processing – MS Word; Open Office Writer
- Unit 3** DBMS – MS Access
- Unit 4** Spreadsheet – MS Excel; Presentation – MS Power Point
- Unit 5** Internet tools / services / utilities

Third Semester

LIS3 C09 - RESEARCH METHODOLOGY

4 Credits

Unit 1 **Research**

Concept, meaning, need and functions of research
Types of research-fundamental, applied including Inter-disciplinary and multi-disciplinary approach
Ethical aspects of research

Unit 2 **Research Design**

Types of research design
Identification and formulation of research problem
Hypothesis: formulation, types and testing
Literature search: print, non-print and electronic sources
Review of related literature

Unit 3 **Research Methods**

Scientific method
Historical method
Descriptive method
Survey method
Case study method
Experimental method
Delphi method; Brainstorming method

Unit 4 **Research Techniques and Tools**

Questionnaire
Interview
Observation
Scales and scaling techniques
Online research tools
Sample and sampling techniques

Unit 5 **Data Analysis, Interpretation and Report Writing**

Processing data: editing, coding and analyzing data
Descriptive and inferential data analysis
Presentation of data- tables and graphs
Techniques of interpretation
Structure, style and contents of research report
Style manuals- APA and MLA
E-citation and reference management tools – Zotero, EndNote
How to avoid plagiarism- Best practices and methods
Trends in Library and Information Science research

Reading list

1. Alvesson, M. and Skoldberg, K. Reflexive methodology: new vistas in qualitative research. Ed. 2. London: Sage Publication, 2009.
2. Busha, C. H., & Harter, S. P. Research methods in librarianship: Techniques and interpretation. Academic press, 1980.
3. Busha, Charles T. and Harter, Stephen. P. Research methods in librarianship. New York: Academic Press, 1980.
4. De Leeuw, E. D., Hox, J., & Dillman, D. International handbook of survey methodology. Routledge, 2012
5. Greenfield, T. Research methods: guidance for postgraduates. London: Hodder Arnold, 1996.
6. Kothari, C. R. Research methodology: Methods and techniques. New Age International, 2004.
7. Krishan Kumar. Research methods in Library and Information Science. Rev. Ed. 1999. New Delhi: Har-Anand Publications, 1999.
8. Kumar, P S G. Research methods and statistical techniques. New Delhi: B. R. Publications, 2004.
9. Lancaster, F. W. and Powell, R. R. Basic research methods for librarians. New Jersey: Ablex Publishing, 1995.
10. Line, M. B. Library Surveys: An Introduction to Their Use. Planning Procedure and Presentation. London: Clive Bingley, 1967.
11. Martyn, John and Lancaster, F. Wilfrid. Investigative methods in library and Information Science: an introduction. Arlington, Virginia: Information Resources Press, 1981.
12. Powell, R. R. and Silipigni, C. L. Basic research methods for librarians. Ed. 4. Westport: Libraries Unlimited, 2004.
13. Slater, M. Research methods in library and information studies. Library Assn Pub Limited, 1990.
14. Slater, M. Research methods in library and information studies. Library Assn Pub Limited, 1990.
15. Slater, M., ed. Research methods in Library and Information Studies. London: Library Association Publishing, 1990.
16. Trochim, William M. 2nd ed. Research Methods. New Delhi: Biztantra, 2003.
17. Williamson, K. Research methods for students, academics and professionals: Information management and systems. Elsevier, 2002.
18. Young, P.V. Scientific Social Surveys and Research. New Delhi: PrenticeHall of India Ltd., 1984.

LIS3 C10 – INFORMATION TECHNOLOGY APPLICATIONS IN LIBRARIES- THEORY**4 Credits****Unit 1 Library Automation**

Need for library automation
Areas of library automation
Automation of library housekeeping operations
Selection of hardware and software for automation
Integrated library management systems: Koha
OPAC/WebOPAC, Webscale Discovery Services

Unit 2 Digital Libraries

Digital library: definition, scope and characteristics
Major digital library initiatives in the world and in India
Digital library technologies-digital representation and compression
Identification of, accessing, processing, storage, delivery and use of digital resources
Digital library creation - prerequisites; content development; Metadata development; and search options
Open source digital library software - GSDL

Unit 3 Institutional Repositories

Institutional repositories-concepts, characteristics, need and purpose
Institutional repositories in India
Design and architecture of institutional repositories
Contents and standards of institutional repositories
Institutional repository software – DSpace, EPrints, Fedora
ROAR, DOAR, SHARPA-ROMIO

Unit 4 RFID in Libraries

RFID-characteristics and features
RFID components; how does RFID works
Application of RFID in libraries
Barcode, QR Code, Biometric, Smartcards: Features and applications

Unit 5 Application of Emerging Technologies in Libraries

Library 2.0/3.0
Application of Artificial Intelligence, Expert Systems, Robotics, Machine Learning, Block Chain technology, Cloud computing, Virtual Reality and Augmented Reality in libraries
Role of libraries in Research Data Management

Reading list

1. Arms, William Y. Digital Libraries. The MIT Press: Cambridge, MA., 2000.
2. Avison, D., & Fitzgerald, G. (2003). Information systems development: methodologies, techniques and tools. McGraw Hill, 2003.
3. Ayo, C. K. Information technology: Trends and applications in science and business, 2001.
4. Cohn, John M. Planning for Integrated Systems and Technologies: A How to-do-it Manual for Librarians. London: Neal-Schuman, 2001.
5. Cooper, M. D. Design of library automation systems: file structures, data structures, and tools. John Wiley & Sons, Inc., 1996.
6. Date, C. and Darwen, H. A Guide to the SQL Standard. 3rd ed. Reading, MA: Addison- Wesley, 1994.
7. Dickson, G. W., & DeSanctis, G. Information technology and the future enterprise: new models for managers. Prentice Hall PTR., 2000.
8. Gallimore, A. Developing an IT strategy for your library. Library Assn Pub Limited, 1997.
9. Kimber, R. T., & Boyd, A. H. (1974). Automation in libraries. Oxford, New York: Pergamon Press, 1974.
10. Laloo, B. T. Information needs, information seeking behaviour and users. EssEss Publications, 2002.
11. Lesk, M. A. Practical digital libraries: Books, bytes, and bucks. Morgan Kaufmann., 1997.
12. Ramana, P. V. Information technology applications in libraries. EssEss Publications, 2004.
13. Ravichandra Rao. Library automation. New Delhi: Wiley Eastern, 1990.
14. Rowley, Jennifer. The electronic library. London: Library Association Publishing, 1998.
15. Williams, Brian K. and Sawyer, Stacey C. Using information technology: A practical introduction to computers & communications, 11th ed. McGraw-Hill, 2014.

LIS3 C11 – KNOWLEDGE ORGANISATION PRACTICE - UNIVERSAL DECIMAL CLASSIFICATION 4 Credits

Classification of simple, compound and complex subject books and periodicals according to standard edition of UDC.

Fourth Semester**LIS4 C12 -INFORMATION PROCESSING AND RETRIEVAL 4 Credits**

- Unit 1 Information Retrieval Systems**
Information Retrieval Systems - purpose, functions and components
Shannon & Weaver model
Online search strategy
Classification in digital age
- Unit 2 Subject Indexing**
Pre-coordinate and post-coordinate indexing systems
Thesaurus, Uniterm indexing, Keyword Indexing, Citation Indexing, Automatic Indexing
- Unit 3 Information Retrieval Models**
IR Models: Boolean, Probabilistic and Vector Processing Models; Bayesian network model; Structured Text Retrieval Models.
Evaluation of Information Retrieval Systems - ASLIB and Cranfield study, MEDLARS study, SMART and TREC
- Unit 4 Natural Language Processing (NLP)**
Concept of NLP
Application of NLP in IRS
- Unit 5 Web-based Information Retrieval Systems**
Web-based Information Retrieval
Web search through general search engines, search engines for scholarly literature, Metasearch engines, web indexes, advanced search techniques
Keyword search, Boolean operators, proximity search, phrase search, field searching, concept searching, Wild Card search, truncation, searching of databases, catalogues, etc

Reading list

1. Baeza –Yates, Ricardo. Modern information retrieval. Delhi: Pearson Education, 1999.
2. Balakrishnan S. and Paliwal P.K., Principles of information retrieval. Anmol publications, New Delhi, 2001.
3. Balasubramanian P. and Vasanthakumar N., Information processing and retrieval: in library and information science. Regal Publication, New Delhi, 2015.
4. Belkin, N. J., Anomalous States of Knowledge as a Basis for Information Retrieval, Canadian Journal of Information Science , 5 , 1980, 133–43.5.
5. Choudhury, G. G. and Choudhury, Sudatta. Organizing information from the shelf to the web. London: Facet Publishing, 2007.
6. Choudhury, G. G. Introduction to modern information retrieval. 3rd ed. London: Facet Publishing, 2010.
7. Chowdhury, G. G., Introduction to Modern Information Retrieval, 3rd ed. London, 2010.
8. Chowdhury. G.G., Information retrieval system .IASLIC, Calcutta, 1994.
9. Date, C.J. An Introduction to database systems. Reading, MA: Addison-Wesley, 2000
10. Dhawan. K.S. Principles of information retrieval. Commonwealth Publishers, New Delhi, 1997.
11. Funkmann, R., Subject analysis and indexing: theoretical foundation and practical advice by Robert Funkman, Frankfurt, IdeksVerlag, 1993.
12. Korfhage, Robert R. 1997. Information storage and retrieval. New York: Wiley, 1997.
13. Kumar, P S G. Knowledge organization, Information processing and retrieval theory. B. R. Publishing Corporation, 2003.
14. Kumar, P S G. Knowledge organization, Information processing and retrieval practice. B. R. Publishing Corporation, 2003.
15. Lancaster, F W. Information Retrieval Systems: Characteristics, testing and evaluation, 2nd edn, New York, John Wiley, 1979.
16. Lancaster, F. W., Information Retrieval Systems, New York, John Wiley, 1968.
17. Neelameghan, A. Online database searching and retrieval: Strategies, procedures, commands and problems – A brief guide. Bangalore: SRELS, 1995.
18. Satyanarayana. N.R., An introduction to information processing and retrieval: for library and information professionals. Ess Ess Publication, New Delhi, 2016.
19. Sharma, C. K. and Sharma, A. K. Information process and retrieval. Atlantic Publishers, 2007.

LIS4 C13 – INFORMATION SYSTEMS AND SERVICES**4 Credits****Unit 1 Information Services and Products**

Concept, definition, need and trends of information services
Concept, definition and types of reference services
Reference interview and search techniques
Need, techniques and evaluation of alerting services-CAS
Referral service

Unit 2 Information System

Concept, types, characteristics and components of Information Systems
Role of information system in technology transfer and national development
Global Information Systems and Networks - BIOSIS, AGRIS, ERIC, INIS, PIS, BIT, INSPEC, MEDLINE, OCLC, JANET, PubMed
National Information Systems and Networks-NISCAIR, NASSDOC, DESIDOC, SENDOC, INFLIBNET, DELNET, NICNET, ERNET, NKN

Unit 3 Personalized Information Services

Indexing and abstracting services
Document Delivery Services
Translation Services
Cloud based library services
Mobile based library services

Unit 4 Information Users and their Needs

Categories of information users
Information needs: definition and types
Information seeking behaviour
User studies-methods, techniques and evaluation

Unit 5 User Education

Goals and objectives
Techniques and methods
User education in electronic environment
Information literacy: areas, standards, types and models
Trends in information literacy

Reading list

1. Anil Kumar Dhiman and Yashoda Rani., Learn information and reference sources and services. Ess Ess Publications, New Delhi, 2005.
2. Bopp, Richard E. and Smith, Linda C. Reference and information services: An introduction, 4th ed. Libraries Unlimited, 2011.
3. Britain, J. M. Information and Its User. Bath: Bath University, 1970.3
4. Cassell,, Kay Ann and Uma Hiremath. Reference and Information Services: An introduction, 3rd ed, Chicago: ALA, 2013.
5. Devarajan, G. Library Information Users and Use Studies. New Delhi: Beacon books, 1995.
6. Guha, B. "The current papers in Physics and the state of current awareness service" Annals of Library and Information studies 13, no. 1 (1966), 34-37.
7. Guha, B: Documentation and Information: Services, Techniques and Systems. The world Press, Calcutta, 1983, 380pp
8. Gurdev Singh. Information Sources, Services and Systems. New Delhi: PHI Learning, 2013.
9. Hurt, C.D. Information Sources in Science and Technology. 3rd ed. Westport Conn.: Libraries Unlimited, 1998
10. Joshi, Meera G and Narayana, GJ. "Current awareness service -what it is?" Annals of Library and Information Studies 19, no. 4 (1972), 179-84.5.
11. Katz, William A. Reference and information services: A reader for the nineties. London: Scarecrow Press, 1986.
12. Kawatra, P. S. Library User Studies: A Manual for Librarians and Information Scientists. New Delhi: Jaico Publishing House, 1992.
13. Khanna J.K., Handbook of library and information systems and services: A study of networks in India U.K. & U.S.A. Beacon books, 1996.
14. Krishan Kumar. Reference Service, 5th ed. New Delhi: Vikas Publishing House, 2004.
15. Kumar, P. S.G. Library and Users: Theory and Practice. New Delhi: B.R. Publishing Corporation, 2004.
16. Rastogi, K.G. Reference services in Library Science. New Delhi: Alfa Publications, 2006.
17. Satyanarayana, N. R., ed. User Education in Academic Libraries. New Delhi: EssEss Publications, 1988.
18. Stebbins, Leslie F. Student guide to research in the digital age: how to locate and evaluate information sources. Santa Barbara: Libraries Unlimited, 2005.
19. Valecich, J. Information systems today: Managing the digital world. New Delhi: PHI, 2009.

LIS4 C14 – INFORMATION TECHNOLOGY APPLICATIONS IN LIBRARIES - PRACTICE

4 Credits

- Unit 1** Library automation package – Koha
- Unit 2** Digital Library/Institutional Repository software – Greenstone/DSpace
- Unit 3** Library website / portal design
- Unit 4** Statistical Package-SPSS
- Unit 5** Reference management software -- Zotero; EndNote

LIS4 C15 – DISSERTATION, INTERNSHIP AND VIVA VOCE**8 Credits**

Students have to carry out research on a topic approved by the department council, under the guidance of a faculty member and prepare a dissertation. They have to follow research methodology suitable to the area of interest with the approval of the supervisor. The dissertation shall be free from plagiarism. Research ethics shall be followed in every step of the work. The approved style for referencing is APA and appropriate size of the dissertation shall be 100 typed pages in A4 size paper. The students should also appear for a viva-voce. The valuation shall be jointly done by the supervisor of the project in the department and an External Expert from the approved panel, based on a well-defined scheme of valuation.

Students have to do one month internship in a library approved by the department council during the summer holidays between second and third semesters. The marks have to be awarded based on the performance appraisal report of the librarian of the library where the students have undergone internship and a viva conducted by the department council after the internship. If any student fails to fulfil this requirement, his/ her result will be withheld until the Internship requirement is met.

Apart from this, the students will have to undergo one study tour to visit the most important libraries and information centres across the country. A report of the tour has to be prepared by all students.

Elective Courses

Among the following courses, the Department Council can select the elective courses for different semesters

LIS2 E01 - DIGITAL RESOURCES

4 Credits

Unit 1 Introduction to Digital Resources

Digital resources: definition, characteristics, scope and challenges

Variety of digital resources: e-books, e-journals, e-zines, databases, geospatial e-resources

Electronic Theses and Dissertations (ETDs),

Subject gateways, digital libraries, institutional repositories

Unit 2 Electronic Resources: Collection Development

Selection tools

Licensing and negotiating

Digital Rights Management

Open digital resources

Incorporating free resources into library collections

Unit 3 Electronic Resources Management

Electronic resources life cycle

ERAMS – A 2 Z lists, Open URL, Link resolvers, Federated search services, Web discovery services

Managing multiple formats, preservation and archiving of e-resources

Marketing strategies for the digital resources in the library

Innovative library services using digital resources

Unit 4 Digital Resources Initiatives in India

Initiatives for the production, storage and dissemination of digital information:

Library consortia: UGC ShodhSindhu, DAE, FORSA

Scholarly Journals: Indian Academy of Sciences, INSA,

MedIND, IndianJournals.com

ETDs: ETDs of IITs, IISc. Vidyanidhi, ShodhGanga,

Digital Library of India, EPrints@iisc, Librarian's Digital

Library

Unit 5 Open Educational Resources

Learning Management System

Open Educational Resources

MIT OpenCourseWare

Online Courseware: NPTEL, e-PG-Pathshala, Swayam

Reading List

1. Anil K. Dhiman & Yasoda Rani, Manual of digital libraries, ESS publication, volume 1.
2. Anil K. Dhiman & Yasoda Rani, Manual of digital libraries, ESS publication, volume 2
3. Anna Kaushik, Massive open online course (MOOC) in Library Science Domain, B.R. publishing, 2017.
4. Bhojaraju Gunjal, Dibya Kishore Pradhan & others, Electronic resource management in libraries, ESS publication, 2016.
5. Dale, Penny., Jill, Beard & Matt, Holland, University Libraries and digital learning
6. Jones, Richard, Andrew, Theo & MacColl, John, The institutional repository, Oxford Cambridge, 2006.
7. Kumar, P.S.G., Fundamentals of information science: fourth revised and enlarged edition, B.R Publishing, 2016 Volume 1
8. Kumar, P.S.G., Fundamentals of information science: fourth revised and enlarged edition, B.R publishing, 2016 Volume 2
9. Kumar, P.S.G., Fundamentals of information science: fourth revised and enlarged edition, B.R publishing, 2016 Volume 3
10. Kumar, P.S.G., Fundamentals of information science: fourth revised and enlarged edition, B.R publishing, 2016 Volume 4

LIS2 E02 - INFORMATION LITERACY**4 Credits**

- Unit 1 Introduction to Information Literacy**
Meaning, definition and need for information literacy
Types of information literacy: technology literacy, media literacy, computer and digital literacy
Levels of information literacy: entry level, mid level, high level, and advance level.
Lifelong learning and its components.
Information literacy models; Information Literacy Standards
- Unit 2 Sources of Information**
Documentary and non-documentary sources
Variety of documentary sources – primary, secondary and tertiary with examples of each category
Taxonomy of bibliographies- national, trade, and subject
Indexing and abstracting periodicals and databases in Science, Social Sciences and Humanities, Citation indexes; Open Access.
- Unit 3 Ready Reference Sources**
Dictionaries, encyclopaedias, yearbooks, directories, handbooks, manuals, geographical sources, statistical sources, current sources.
Electronic sources-E-journals, e-books, databases, e-zines, digital libraries, institutional repositories, ETDs and other web based resources
- Unit 4 Retrieval of Information**
Library catalogues, indexes, OPAC/WebOPAC, Webscale Discovery,
Search strategy, techniques and methods
Use of Boolean logic
Search engines, metasearch engines and web directories
Techniques of retrieving relevant information from the Internet; Evaluation of information from the Internet.
Information Literacy Assessment Tools
- Unit 5 Role of Libraries in Information literacy**
Information literacy instructions in different types of library and information centers
Study of information literacy programs in the world
Information literacy competencies
Challenges facing information literacy

Reading List

1. Bruce, C. (1997). *The seven faces of information literacy* (p. 110). Adelaide: Auslib Press.
2. Buckingham, D. (2003). *Media education: Literacy, learning and contemporary culture*. Cambridge, MA: Polity Press.
3. Cordell, R. M. (Ed.). (2013). *Library Reference Services and Information Literacy: Models for Academic Institutions: Models for Academic Institutions*. IGI Global.
4. Horton, Forest Woody, Jr (2007). *Understanding Information Literacy: A Primer*, United Nations Educational, Scientific and Cultural Organization.
5. McQuial, Denis (2000). *Mass Communication Theory*, Sage Publishers.
6. Media and Information Literacy; Policy and Strategy Guidelines; UNESCO; 2013.
7. Oakleaf, M. J. (2006). *Assessing information literacy skills*, University of North Carolina at Chapel Hill).
8. Potter, W J (2004). *Theory of media literacy: A cognitive approach*; Thousand Oaks, CA:Sage.
9. Radcliff, C. J. (2007). *A practical guide to information literacy assessment for academic librarians*. Greenwood Publishing Group.
10. Silverstone, R (2007). *Media and Morality: On the Rise of the Mediapolis*. Polity Press, Cambridge 2007
11. Yadav, Anubhuti(2015) *Information and Communication Technologies (ICT) Literacy for Sustainable Development*

LIS3 E03 - STATISTICS AND INFORMETRICS**4 Credits****Unit 1 Introduction to Statistics**

Origin and meaning of Statistics
Scope and general uses
Limitations of Statistics
Use of Statistics in libraries and information centres

Unit 2 Measures of Central Tendency

Arithmetic Mean and Weighted Arithmetic Mean
Median and Mode
Geometric Mean
Harmonic Mean

Unit 3 Measures of Dispersion

Definition and characteristics of good dispersion
Range, Quartile Deviation, Mean Deviation, Standard Deviation, Percentiles and Deciles
Relative measure of dispersion – coefficient of variation
Definition of measures of Skewness and measures of Kurtosis.

Unit 4 Correlation and Regression

Karl Pearson's coefficient of correlation
Concept of rank correlation, Spearman's rank correlation coefficient
Simple regression- properties and uses
Testing of hypothesis: significance level, one tailed test, two tailed tests, Type I error and Type II error, T test, Chi square test, F test, ANOVA

Unit 5 Metric Studies in LIS

Definition, scope and genesis of Bibliometrics, Scientometrics, Webometrics and Altmetrics
Bibliometrics laws-Bradford's law, Zipf's law and Lotka's law
Citation analysis & citation study, Bibliographic coupling, Co-citation analysis
Growth and obsolescence of literature
Software tools for informetric analysis
Impact factors-Journals, Authors and Institutions; h-index, g-index, i-10 index

Reading List

1. Sternstein, M. (2017). *Barron's AP Statistics*. Simon and Schuster.
2. Egghe, L., & Rousseau, R. (1990). *Introduction to informetrics: Quantitative methods in library, documentation and information science*. Elsevier Science Publishers.
3. Gupta, S.C., and Kapoor, V.K., *Fundamentals of Mathematical Statistics*, SultanChand & Sons, New Delhi.
4. Egghe, L., & Rousseau, R. (2003). *Elementary statistics for effective library and information service management*. Routledge.
5. Avison, D., & Fitzgerald, G. (2003). *Information systems development: methodologies, techniques and tools*. McGraw Hill.
6. Gupta, S.P., 1999, *Statistical Methods*, Sultan Chand & Sons, New Delhi.
7. Gupta, C.B., and Vijay Gupta, 1998, *An Introduction to Statistical Methods*, VikasPublishing House Pvt. Ltd., New Delhi.
8. Spiegel, M R, 1992. *Statistics*, Schaum's Outline Series, Mc Graw Hill, Singapore.
9. Croxton, F E, D J Cowden and S Klein, 1979. *Applied General Statistics*, Prentice Hall of India, New Delhi.
10. Mentgomery, D.C. and L.A. Johnson, 1996, '*Forecasting and Time Series Analysis*' McGraw Hill : New York.
11. B.N. Agarwal. *Basic Statistics*, Wiley Eastern Ltd.
12. Spiegel, M R, 1992. *Statistics*, Schaum's Outline Series, McGraw Hill, Singapore.

LIS3 E04 - KNOWLEDGE MANAGEMENT**4 Credits**

- Unit 1 Knowledge Management Basics**
Knowledge Management -Concepts and definition
Need for Knowledge Management
Knowledge Management systems
Issues in Knowledge Management
- Unit 2 Types of Knowledge**
Characteristics of Knowledge,
Subjective and Objective View of knowledge
Procedural vs. Declarative Knowledge,
Tacit vs. Explicit Knowledge,
General vs. Specific Knowledge
Technically vs. Contextually Specific Knowledge
- Unit 3 Knowledge Creation & Knowledge Architecture**
Knowledge creation, Nonaka's Model of Knowledge
Creation & Transformation,
Knowledge Architecture , Acquiring the KM System
Capturing tacit knowledge – methods
Knowledge codification – tools and procedures
Knowledge testing; Knowledge transfer
- Unit 4 Knowledge Base**
Knowledge mapping
Decision trees, decision tables, frames
Knowledge works
Knowledge markets
- Unit 5 Knowledge Management System Tools and Portals**
Data visualization
Tools and techniques of knowledge management
Knowledge based systems vs expert systems,
Neural networks, data mining; managing knowledge
workers
Knowledge management in Library and Information Centres

LIS3 E05 - DIGITAL LIBRARIES**4 Credits****Unit 1 Introduction to Digital Libraries**

Digital library: definition, scope and characteristics
Major digital library initiatives in the world and in India
Design and organization of digital libraries - Architecture, Interoperability, Compatibility
User interfaces, protocols and standards

Unit 2 Digital Library - Resources

Digital collection - nature and scope
Digital objects, files and file formats
Identification of, accessing, processing, storage, delivery and use of digital resources
Digital library user - assessment of user behaviour and needs

Unit 3 Digital Library-Creation and Use

Digital library creation - prerequisites; content development
Digitization - scanning, OCRing and conversion to PDF
Information Access, User Behaviour and Interaction;
Metadata development
Digital preservation and conservation - archiving

Unit 4 Digital Library Technologies

Digital representation and compression
Access Control and DRM
Network platforms and server management
Digital information - Intellectual property issues; rights management

Unit 5 Digital Library Software

Open source software – GSDL
Design and architecture of GSDL
Digital Library Case Studies

LIS3 E06 - ORGANIZING INFORMATION RESOURCES - PRACTICE**4 Credits**

Creating metadata records according Dublin Core and other specialized metadata, standards for a variety of electronic resources. Use of online ontologies for subject indexing.

4 Credits

LIS4 E07 - TECHNICAL COMMUNICATION**Unit 1 Communication Process**

Types: verbal, non-verbal, formal, informal
Types of writing
Technical writing: Principles, characteristics
Language as a medium for communication, readability;
Audience Research

Unit 2 Organization, Lay out and Presentation of Information

Learned papers
Popular articles
Technical reports
Project proposals
Book design and page layout
Forms of electronic communication

Unit 3 Repackaging and Consolidation

Trend reports
Reviews
State-of- the art report
Digests
Abstracts – types, preparation, guidelines

Unit 4 Mechanics of Writing

Common problems in spelling, grammar, usage and punctuation
Writing process, paragraph organization, writing style.
Technical, creative and scientific writing
Copy editing and proof reading
Scholarly publishing platforms

Unit 5 Oral Presentation

Analysis of speakers and speaking styles
The parts of a presentation: introduction, body and conclusion
Practice with common presentation types
Tips for the use of effective visual aids

Reading List

1. G Devarajan, Technical communication for information managers. Ess Ess publication, New Delhi, 2012.
2. Gerson, Sharon J. and Gerson, Steven M., Technical writing, Pearson Education , 2000.
3. Basu, B.N. Technical writing, Prentice hall of india, New Delhi, 2007.
4. Mc Murray, Hand book of technical writing, Cengage Learning, New Delhi, 2009.
5. Prajna Paramita. Technical Writing: Professional tools & insights, Omega publication, New Delhi,2017.
6. S. Seetharama, Guidelines for technical writing for librarians & information professionals. Ess Ess Publication, New Delhi.
7. Steven E. Pauley and Daniel G. Riordan., Technical report writing today. AITBS publishers, 2001.
8. Peeiffer William. S, Technical writing a practical approach, Prentice Hall, 1997.
9. Sharma, S.D., A text book of scientific and technical communication writing for engineers and professionals, Sarup and sons, 2007.
10. John Mitchell, Handbook of technical communications, Wadsworth,1962.

LIS4 E08 - PERSONALITY DEVELOPMENT & COMMUNICATION SKILLS**4 Credits**

- Unit 1 Understanding self**
Personality-Definition, elements and determinants
Understanding personal strengths and weakness
Personal grooming-Personal hygiene and social effectiveness
Emotional intelligence and competence
- Unit 2 Communication Skills**
Effective speaking
Improving vocabulary and grammar
Elements of effective speaking
Types of speaking - briefings, teaching lectures, speeches and others
Understanding the audience, audience analysis, subject, gathering materials, evaluating materials, presenting a talk, and other process
- Unit 3 Writing skills**
Principles of presentation of ideas
Techniques, skills and tools for effective writing
Writing process, paragraph organization, writing style.
Types of writing – Technical, creative and scientific writing
- Unit 4 Non verbal communication**
Body language
Leadership and working in teams
Working collaboratively
Working and sharing knowledge and experience
Team development
- Unit 5 Meetings and Negotiation Skills**
Different types of meetings
Conducting a meeting
Getting the best out of negotiation
Negotiation strategies