

PANJAB UNIVERSITY, CHANDIGARH

(Estd. under the Panjab University Act VII of 1947- enacted by the Govt. of India)

FACULTY OF ARTS

SYLLABI

FOR

POSTGRADUATE DIPLOMA IN LIBRARY AUTOMATION AND NETWORKING EXAMINATIONS, 2017-18

SYLLABUS
POST GRADUATE DIPLOMA IN LIBRARY AUTOMATION AND NETWORKING
(PGDLAN)
(SEMESTER SYSTEM, THROUGH UNIVERSITY SCHOOL OF OPEN LEARNING)
FOR THE ACADEMIC SESSION 2017-2018

Paper Code	Title of the Paper	Marks			
		Internal Assessment*	EXT. EXAM	TOTAL	EXAM HOURS
1st Semester					
LAN- 01	Basics of Computers and Network Technology	20	80	100	3
LAN- 02	Library Automation	20	80	100	3
LAN- 03	Computer Practical-1	20	80	100	3
2nd Semester					
LAN- 04	Information Systems	20	80	100	3
LAN- 05	Digital Library and Content Management	20	80	100	3
LAN- 06	Computer Practical-2	20	80	100	3

* For the purpose of Internal Assessment in all papers two assignments will be given (10 marks each), which will be compulsory.

1st Semester

Paper Code: LAN-01

Paper Title: Basics of Computers and Network Technology

Instructions for the Paper-Setters / Examiners:

The Paper carries 80 marks. Duration of the paper is 3 hours. There should be 9 questions in all, out of which the candidate be asked to attempt 5 questions, selecting one question from each unit. The first question shall be short answer type, containing 15 short questions spread over the whole syllabus, to be answered in about 25-30 words each. The candidate is required to attempt any 10 short answer type questions. It shall carry 20 marks @ 2 marks for each short question and shall be compulsory question. Rest of the paper shall contain 4 units. Each unit shall have 2 questions and the candidates shall be given internal choice i.e. the candidate shall attempt one question from each unit. The questions should be evenly distributed within the units. In no case a question should be asked from outside the syllabus. The question paper should be strictly according to the instructions mentioned above.

Objectives:

To provide overall basic knowledge of Computers and networking.

Unit-1

Computer Fundamentals

Computers and their Components: Definition, characteristics, generations, functional units, input devices, output devices, secondary storage devices, central processing unit.
Storage Media: RAM, ROM, Flash Memory, Blu-Ray Disk.

Unit-II

Software:

Software: Types of software.

Operating System: Functions, types- DOS, Windows, Linux. and Ubuntu

Application Software: Using Windows, MS- Office (Word, Access, Excel, and PowerPoint)

Unit-III

Introduction to Networks:

Types of Networks: Uses and advantages of networking, types of networks, network topologies, Network components. Hardware: Network Adaptors, Modems, Switch, Hub etc., Transmission Media.

Network Technology: OSI model, Virtual Private Network (VPN), Internet TCP/IP Models.

Data Networks: Data transmission and signaling, ISDN, DSL, ATM.

Network Software: Network architecture and role of network software, Client Server architecture, Network operating systems, Network management system and protocols.

Unit-IV

Internet Technology

Internet: Definitions, History, Organizations associated with Internet. Internet Architecture Web 2.0 technologies and services : RSS, Podcasts and Vodcasts, Blogs, Wikis, Social Networks. Semantic Web.

Essential Readings

Alkhatib, G. I. (Ed.). (2012). *Network and Communication Technology Innovations for Web and IT Advancement*. IGI Global.

Balasubramanian, P. (2011). *Library information and communication technology*. New Delhi: Deep & Deep.

Gaboitsiwe, T. (2013). *Information and communication technology: introduction to the internet components-World Wide Web and Email*. Thato Gaboitsiwe.

Hardeep Singh, Kakkar, S. K., & Sharma, A. (2011). *A book of fundamental of information technology*. Amritsar: Lakhanpal Pub.

Kwatra, P. S. (2013). *Fundamentals of information & communication technology (ICT)*. Delhi: Balaji.

Sharma, A., & Gupta, A. (2007). *Fundamentals of internet applications*. Amritsar: Lakhanpal Pub.

Sinha, K. (2005). *Access to information technology in modern libraries*. Delhi: Vista.

Sinha, P. K., & Sinha, P. (2011). *Computer fundamentals* (6th ed.). New Delhi: BPB.

Singh, U. N. (2004). *Information technology in libraries*. Delhi: Shree.

Williams R K (2013) *Stacey C Sawyer: Using information technology: a practical introduction to computers & communications*. New Delhi: McGrawHill.

Further Readings

Balasubramanian, P. (2011). *Advanced computer application in library & information science*. New Delhi: Deep & Deep.

Ericson, G. (2001). *Microsoft Office 2000 resources kit*. New Delhi: Prentice Hall of India.

Gordon, R. S. (2001). *Teaching the internet in libraries*. American Library Association.

Venkata, P. R. (2004). *Information technology applications in libraries*. Delhi: Ess Ess.

Sharma, S. K. (2007). *Information technology and library services*. New Delhi: Shree Publishers and Distributors.

Singh, S. P. (2009). *Information technology in library*. New Delhi, India: Omega Publications.

Tanenbaum, A. S., & Woodhull, A. S. (2000). *Operating systems: design and implementation*. New Delhi: Prentice-Hall of India.

Paper Code: LAN-02

Paper Title: Library Automation

Instructions for the Paper-Setters / Examiners:

The Paper carries 80 marks. Duration of the paper is 3 hours. There should be 9 questions in all, out of which the candidate be asked to attempt 5 questions, selecting one question from each unit. The first question shall be short answer type, containing 15 short questions spread over the whole syllabus, to be answered in about 25-30 words each. The candidate is required to attempt any 10 short answer type questions. It shall carry 20 marks @ 2 marks for each short question and shall be compulsory question. Rest of the paper shall contain 4 units. Each unit shall have 2 questions and the candidates shall be given internal choice i.e. the candidate shall attempt one question from each unit. The questions should be evenly distributed within the units. In no case a question should be asked from outside the syllabus. The question paper should be strictly according to the instructions mentioned above.

Objectives:

To provide information about latest concepts of Library Automation especially different Library Software.

Unit -1

Library automation:

Need, purpose, objectives and areas where Library Automation is desirable.

History of Library Automation in India.

Planning, implementation and evaluation of Library Automation.

Approaches to Library Automation.

Advantages and barriers of Library Automation.

Unit-II

Retrospective Conversion:

Need, Standards and various options in retrospective conversion

Formats and Standards: Historical perspective, MARC, UNIMARC, CCF, Bibliographic standards.

Unit-III

Library Software

SOUL: Introduction, features, standards, modules and pricing policy KOHA: Introduction,

features, modules and installation of KOHA on LINUX & WINDOWS platform. NewGenLib:

Introduction, features, modules and installation of NewGenLib on LINUX & WINDOWS platform.

Unit-IV

Library and Information Networks

Resource Sharing Technology: Need, objectives, areas and operational ties of resource sharing, IFLA guidelines for resource sharing and document delivery.

Need and objectives of library networks, OCLC, INFLIBNET, DELNET

Network-based Information Services.

Management of Library and Information Networks.

Essential Readings:

- Aswal, R. S. (2006). *Library automation for 21st Century*. Delhi: Ess Ess.
- Balasubramanian, P. (2011). *Library automation & networking*. New Delhi: Deep & Deep.
- Devarajan, G. (2008). *Library computerization in India*. New Delhi: Ess Ess.
- Duval, B. K., & Main, L. (1992). *Automated library systems: a librarian's guide and teaching manual*. Meckler Corporation.
- Kumar, P. S. G. (2003). *Computerization of Indian libraries*. Delhi: B.R. Publishing House.
- Nagia, R. (2012). *Making of software packages for library automation*. New Delhi: Cyber Tech. Pub.
- Riaz, M. (1995). *Library automation*. New Delhi: Atlantic.
- Sharma Pandey, S. K. (1995). *Fundamentals of library automation*. New Delhi: Ess Ess Publications.

Further Readings:

- Salemon, S. Library Automation. In *Encyclopedia of Library and Information Science* (Vol. 14). New York: Marcel Dekker.
- Singh, P. K. (2005). *Library automation*. New Delhi: Shree.
- Theresa T B Ratna K C & Rai B A (2011). *Information technology and library automation*. New Delhi: Commonwealth Publisher.

Paper Code: LAN-03**Paper Title: Computer Practical-1****Instructions for the Paper-Setters / Examiners**

The Paper carries 80 marks. Duration of the paper is 3 hours. There will be 2 parts, out of which Part- I is compulsory based on **viva-voce** of 20 marks. Part - II contains 4 units. Each unit shall have 2 questions and the candidates shall be given internal choice i.e. the candidate shall attempt one question from each unit. The questions should be evenly distributed within the units. In no case a question should be asked from outside the syllabus. The question paper should be strictly according to the instructions mentioned above.

Objectives:

To develop computer skills and professional competencies to solve problems of libraries and information centers through practical knowledge of computers.

Unit-1

MS- Windows & MS- Office:

MS WINDOWS: File management.

MS-OFFICE: MS WORD, MS EXCEL and MS POWERPOINT. MS ACCESS.

Unit-II

Search Strategies: Search Engines and Databases

Framing search strategies for basic and advanced search for general search engine Google. Metasearch Engine: PolyMeta and Dogpile Effective use of Academic Search Engines like Google Scholar & BASE. WEB OPACs: Basic and advanced search interface of OPACs and Union Catalogues (PU Web OPAC, IndCat, WorldCat).

Unit-III

Search Tools and Services:

Searching ETDs, Abstract and Citation Databases: Shodhganga, Scopus and LISTA. Searching Open Access literature: DOAJ, OpenDOAR.

Unit-IV

Library 2.0 Tools:

RSS feeds. Social Bookmarking and Tagging. Blogs, Wikis

Essential Readings

Gurvinder Singh, & Rachhpal Singh. (2007). *A text book of windows based computer courses*(9th ed.). Ludhiana: Kalyani Publishers.

Norton, P. (2005). *Introduction to computers* (6th ed.). New Delhi: Tata McGraw Hill.

Sinha, P. K., & Sinha, P. (2011). *Computer fundamentals* (6th ed.). New Delhi: BPB.

Tanenbaum, A. S. (2009). *Computer networks* (4th ed.). New Delhi: Pearson.

Further Readings

Bradley, P. (2007). *How to use web 2.0 in your library*. London: Facet.

Kinder, R. (Ed.). (1994). *Librarians on the internet: impact on reference services*. New York: Hawthorn Press.

Mehta, S. (1996). *Understanding and using internet*. New Delhi: Ess Ess Publications.

2nd Semester

Paper Code: LAN-04

Paper Title: Information Systems

Instructions for the Paper-Setters / Examiners:

The Paper carries 80 marks. Duration of the paper is 3 hours. There should be 9 questions in all, out of which the candidate be asked to attempt 5 questions, selecting one question from each unit. The first question shall be short answer type, containing 15 short questions spread over the whole syllabus, to be answered in about 25-30 words each. The candidate is required to attempt any 10 short answer type questions. It shall carry 20 marks @ 2 marks for each short question and shall be compulsory question. Rest of the paper shall contain 4 units. Each unit shall have 2 questions and the candidates shall be given internal choice i.e. the candidate shall attempt one question from each unit. The questions should be evenly distributed within the units. In no case a question should be asked from outside the syllabus. The question paper should be strictly according to the instructions mentioned above.

Objectives:

To provide basic knowledge of information storage, processing and retrieval.

Unit-1

System Analysis and Design:

History and developments in general systems theory.
 Information Systems: Components
 Information Systems in libraries
 Information System analysis, design and development methodology.
 Systems Development Life Cycle (SDLC).
 System implementation, evaluation and documentation.
 System description techniques.

Unit-II

Type of Information Systems:

Information Retrieval Systems: Architectures, categories, purpose, components, functions, models and evaluation of information retrieval systems.
 Expert system: Need, components, operation and construction of expert system.
 Management Information Systems: Concept and definition, need, structures, design and development, implementation, evaluation and maintenance. MIS and library and information centers;
 Decision Support System (DSS): Concept, definition and structure.
 Database Management Systems (DBMS): Definition, concept, languages, need, components, development, trends, advantages and disadvantages.

Unit-III

Data Models and Database Design:

Data Structures and File Organization: Concept, types, files organization techniques, models for logical data organization
 Data Models: Data modeling process, types of data models
 Database Systems and Architecture: Three-schema architecture

Unit-IV

Query Language and Query Processing:

Query Language: Structured query language, features of SQL, SQL commands.

Boolean Logic: Search strategy, developing effective search strategy, Boolean search.

Structured Query Formulation: Query optimization, cost based optimizers.

Essential Readings

Christopher, D. M., Prabhakar, R., & Hinrich, S. (2008). *Introduction to information retrieval*. Cambridge University Press.

Foskett, A. C. (1996). *The subject approach to information* (5th ed.). London: Library Association Publishing.

Hicks, O. J. (1993). *Management information systems: a user perspective*. Minneapolis: West.

Holsapple, C. W., & Winston, A. B. (1996). *Decision support systems: a knowledge-based approach*. St. Paul: West Publishing.

Further Readings

Davis, G. B., & Davis, G. B. (Eds.). (1999). *The Blackwell Encyclopedia of Management and Encyclopedic Dictionaries, The Blackwell Encyclopedic Dictionary of Management Information Systems* (Vol. 3). John Wiley & Sons.

McLeod, R., & George, S. (2000). *Management information systems* (8th ed.). New Jersey: Prentice Hall.

Patter, A. (1994). *LIS professional as knowledge engineers*. New Jersey: Learned.

Waterman, D. A. (1996). *A guide to expert systems*. Addison-Wesley Publishing Company.

Paper Code: LAN-05

Paper Title: Digital Library and Content Management

Instructions for the Paper-Setters / Examiners:

The Paper carries 80 marks. Duration of the paper is 3 hours. There should be 9 questions in all, out of which the candidate be asked to attempt 5 questions, selecting one question from each unit. The first question shall be short answer type, containing 15 short questions spread over the whole syllabus, to be answered in about 25-30 words each. The candidate is required to attempt any 10 short answer type questions. It shall carry 20 marks @ 2 marks for each short question and shall be compulsory question. Rest of the paper shall contain 4 units. Each unit shall have 2 questions and the candidates shall be given internal choice i.e. the candidate shall attempt one question from each unit. The questions should be evenly distributed within the units. In no case a question should be asked from outside the syllabus. The question paper

should be strictly according to the instructions mentioned above.

Objectives:

To make students conversant with the Digital Library and Content Management.

Unit-I

Digital Library:

Definition, Objectives, Advantages, Components and Technical Infrastructure. Digitization steps, use of Scanner and OCR in digitization.

Digital Preservation.

IPR issues in digital library.

Unit-II

Digital Library Software and Metadata:

Metadata: Concept, types, Dublin Core Metadata Element Sets (DCMES). Digital Library Architecture

Digital Library Software: Basic features of DSpace and Greenstone Digital Library (GSDL)
Features and significance of Traditional Knowledge Digital Library (TKDL)

Unit-III

Content Analysis and Organisation:

Concept, uses and process, Qualitative & Quantitative aspects of Content Analysis.

Techniques of Content Organisation: Classification and cataloguing of web documents, Subject Headings, Z39.50, SRU/SRW, Ontology, Folksonomy.

Unit-IV

Content Management Systems (CMS):

Concepts, features, types advantages. Features of Joomla, Drupal and Wordpress. Document Management System: Concepts and components.

Essential Readings

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

Balasubramanian, P. (2013). *E-learning for library professionals*. New Delhi: Regal.

Dahl, M., Banerjee, K., & Spalti, M. (2006). *Digital libraries: integrating content and systems*. Oxford: Chandos.

Hackos, J. (2002). *Content management for dynamic delivery*. New York: John Wiley.

Haynes, D. (2004). *Metadata for information management and retrieval*. London: Facet Pub.

Pathak, M. (2014). *An introduction to intellectual property rights*. New Delhi: New India Publishing Agency.

Verma, K. (2007). *Digital library preservation strategies*. New Delhi: Akansha.

Verma, K. (2004). *Metadata and digital library systems*. New Delhi: Akansha.

Further Readings

Marcum, D. B. (1997). Digital libraries: For whom? For what?. *The Journal of academic librarianship*, 23(2), 81-84.

Kenny, A. R., & Chapman, S. (1996). *Digital imaging for libraries and archives*. New York: Cornell.

Marchal, B. (2000). *XML by example*. New Delhi: Prentice Hall.

Noerr, P. (2000). *The digital library tool kit*. Palo Alto: Sun System.

Powell, T. A. (2000). *The complete reference HTML* (2nd ed.). New Delhi: McGraw Hill.

Smith, C. P. (Ed.). (1992). *Motivation and personality: handbook of thematic content analysis*. New York: Cambridge University Press.

Paper Code: LAN-06

Paper Title: Computer Practical-2

Instructions for the Paper-Setters / Examiners

The Paper carries 80 marks. Duration of the paper is 3 hours. There will be 2 parts, out of which Part- I is compulsory based on **viva-voce** of 20 marks. Part - II contains 4 units. Each unit shall have 2 questions and the candidates shall be given internal choice i.e. the candidate shall attempt one question from each unit. The questions should be evenly distributed within the units. In no case a question should be asked from outside the syllabus. The question paper should be strictly according to the instructions mentioned above.

Objectives:

To develop computer skills and professional competencies to solve problems of libraries and information centers through practical knowledge of computers.

Unit-I

Library Automation:

Installation & Working with KOHA and BiblioteQ. Dewey Cutter Program (OCLC).

Unit-II

E-Content Creation and Library Website:

Creating and publishing e-content using paper.li. Creating Library Website using Weebly.

Unit-III

Digital Library:

Building Digital Library using Greenstone Digital Library Software (GSDL): a step-by-step approach including Metadata creation.

Unit-IV

Networking and Resource Sharing:

Networking: File, folder, printer sharing. Networking tools and services.

Federated Searching: Tool, Techniques and Services.

Scientific Networking: Mendeley.

Essential Readings

Gurvinder Singh, & Rachhpal Singh. (2007). *A text book of windows based computer courses*(9th ed.). Ludhiana: Kalyani Publishers.

Norton, P. (2005). *Introduction to computers* (6th ed.). New Delhi: Tata McGraw Hill.

Sinha, P. K., & Sinha, P. (2011). *Computer fundamentals* (6th ed.). New Delhi: BPB.

Tanenbaum, A. S. (2009). *Computer networks* (4th ed.). New Delhi: Pearson.

<http://koha-community.org/>

<http://www.greenstone.org/>

Further Readings

Broadbent, B. (2002). *ABCs of e-learning: reaping the benefits and avoiding the pitfalls*. Jossey-Bass.

Frater, H., & Paulissen, D. (1994). *Multimedia mania*. Abacus: Grand Rapids.

Mehta, S. (1996). *Understanding and using internet*. New Delhi: Ess Ess Publications.
