

SEMESTER IV

LIS- 401 INFORMATION TECHNOLOGY-APPLICATION (Theory) (4 Credits)

Objectives:

- Develop an understanding of current applications of computer and communications technology in library and information services.
- To acquaint about emerging technologies useful for information access like Digital Libraries and allied concepts

Method of Instruction: A combination of lectures, group discussions, guest lectures (where possible) and special presentations will form methods of instruction. The module will follow with an *examination* at the end of the semester carrying 80 marks covering all units having three types of questions (long, short and very short) to be solved within 2 1/2hrs. Besides, *internal assessment* of 20 marks will be assessed on attendance, performance in presentations, assignments and symposiums.

UNIT I: Library Automation

- 1.1 Library Automation: Origin and Development
- 1.2 Library Automation: Need and Purpose
- 1.3 Planning and Implementation of Library Automation
- 1.4 Library Automation: Operations
- 1.5 Library Automation Packages: Salient Features and Usage
- 1.6 Impact of Library Automation on the Library Staff and Users

UNIT II: Communication Technology

- 2.1 Telecommunication: Origin and Development
- 2.2 Telecommunication: Fundamentals
- 2.3 Communication Channels: An Overview
- 2.4 Switching Mechanism: An overview with special reference to ISDN
- 2.5 Networks: Concept and Components
 - 2.5.1: Classification and Topology
 - 2.5.2: Need of LIS Networks
 - 2.5.3: Characteristics of LIS Networks
 - 2.5.4: Resource Sharing and LIS Networks at National Level and International Level
- 2.6 Classification of LIS Networks based on Services offered

UNIT III: Internet and Information Access

- 3.1 Internet: Origin and Development; Features; Working and Capabilities
- 3.2 Internet Services
 - 3.2.1: E-Mail
 - 3.2.2: WWW
 - 3.2.3: FTP

- 3.3.4: Telnet, etc
- 3.3 World Wide Web: Origin and Development
 - 3.3.1: Features; Working and Use
 - 3.3.2: Information Search Tools
 - 3.3.2.1: Concept and evaluation of prominent Search Engines.
 - 3.3.3.2: Concept and evaluation of prominent Meta Search Engines
 - 3.3.3.4: Concept and evaluation of prominent Subject Gateways
 - 3.3.3.5: Concept and evaluation of prominent Directories
 - 3.3.3.6: Concept and evaluation of prominent Portals/Vortals; etc.
- 3.4 **Invisible Web: Brief Concept and Tools**
- 3.5 World Wide Web and Information Resources
 - 3.5.1: Online Journals
 - 3.5.2: Online Books
 - 3.5.3: Electronic Theses and Dissertation (ETDs)
 - 3.5.4: Online Newspapers; etc
 - 3.5.5 Open access Movement and Scholarly Communication: origin, development and impact
- 3.6 Semantic Web: Features, Technologies and Applications

UNIT IV: Digital Libraries

- 4.1 Digital Libraries: Origin and Development and Features
- 4.2 Digital Libraries: Issues and Challenges
- 4.3 Digital library design, Content Creation and Management
- 4.4 Evaluation of prominent Digital Initiatives at National and International Level
- 4.5 Data Mining; Data Migration and Data Conversion
- 4.6 Digital Preservation: Brief concept and importance
- 4.7 Metadata
 - 4.7.1: Metadata: Historical Development and Concept
 - 4.7.2: Types of Metadata (Three and Five Category Taxonomy)
 - 4.7.3: **Metadata Element Sets: Dublin Core, METS, MODS, EAD, MPEG Standards etc**
- 4.8 **Metadata Harvesting and Interoperability: Achieving Interoperability at Schema, Record and Repository Level**

Suggested Readings:

Antleman, K. (2004). Do open access articles have a greater research impact? *College and research libraries*, 65(5), 372-82.

Available at:

<http://eprints.rclis.org/archive/00002309/>

Arms, Williams. Y. (2005). *Digital Libraries*. New Delhi: Ane.

Bush, Vannevar. (1945). As we may think. *Atlantic Monthly*, 176, pp.101-108.

Available at

- <http://www.theatlantic.com/unbound/flashbks/computer/bushf.htm>
Also available at
<http://www.ps.uni-sb.de/~duchier/pub/vbush.shtml>
- Deaenley, James and Feather, John. (2001). *The wired world: An introduction to the theory and practice of the information society*. London: Library Association.
- D-Lib Magazine.(2007). Available at
<http://www.dlib.org>
- Duval, B.K. & Main, L. (1992). *Automated library systems*. Westport, Connecticut: Meckler
Description of Dublin Core.(2007). Available at:
<http://dublincore.org/>
- Earnshaw, Rae, E., & Vince, John.A. (2001). *Digital content creation*. U.S.A:Springer.
Available at:
<http://www.google.co.in/books?id=R6-ieD9U9HsC&dq=content+creation>
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<http://www.google.co.in/books?id=7dV-7uIzp2QC&dq=WORLD+WIDE+WEB>
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- Hockx-Yu, Helen. (2006). Digital preservation in the context of institutional repositories. *Programelectronic library and information systems*, 40(3),232-243. Available at:
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- Maggie, Jones. (2004). The digital preservation coalition. *VINE: The Journal of Information and Knowledge Management Systems*, 34,(2),84-86. Available at:
<http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/2870340206.html>
- Jones, Richard., Andrew, Theo.,& MacColl, John. (2006). *The institutional repository*. England: Chandos.
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- Kochtanek, T. R. & Matthews, J. R. (2002). *Library information systems*. Westport, Connecticut: Libraries Unlimited.
- Lancaster, Frederick. Wilfrid. (1993). *Libraries and the Future: Essays on the Library in the Twenty-first Century*. U.S.A:Haworth. Available at:
<http://books.google.co.in/books?id=oFujrgIRr4EC&dq=artificial+intelligence+in+libraries&psp=1>
- Lazinger, Susan. S. (2001). *Digital preservation and metadata*. Englewood: Greenwood.
- Malavya, V. (1999). *Library Automation*. New Delhi:Comman Wealth Pub.
- Minoli, Daniel. (2001). *Internet and intranet engineering: Technologies, protocols and applications*. New Delhi: Tata McGraw-Hill.
- Norton, Peter. (2006). *Introduction to computers*. New Delhi: Tata McGraw-Hill
- Taylor, Arlene. G. (2003).*The organization of information*. London: Libraries Unlimited
- Seadle, Micheal. (2004). Selection for digital preservation . *Library Hi Tech*, 22(2),119-121. Available at :
<http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/2380220201.html>
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- Strauss, Howard. (2007). The future of the web, intelligent devices, and education. *Educause Review*, 42(1), 32-47. Available at:
<http://www.educause.edu/apps/er/erm07/erm0711.asp>
- Vishwanathan, T. (1992). *Telecommunications switching systems and networks*. New Delhi:Prentice Hall.
- Williams, B. K. & Sawyer, S. C. (2003). *Using information technology* (5th ed.). New York: McGraw-Hill/Irwin.