LIS - 521: Information and Communication Technology (ICT) – (Theory & Practice)

(4 Credits/100 Marks)

Course Description:

The course offers the students to gain awareness of the social consequences of technology and how information and communication technology (ICT) can benefit them at home, at work, and in the wider world. Students tackle problems using a variety of standard software, such as word processors and interactive presentation software, through practical and theoretical research.

Learners will examine, create, implement, test and evaluate ICT systems to ensure that they are appropriate for their intended use. There is a strong emphasis on acquiring lifelong abilities that will be useful throughout their academic careers.

Learning Objectives:

1. To prepare the students to streamline the library processes using computer technology, and meet the information needs of the users by providing efficient services.
2. Providing hands on experience in use of application software, Integrated Library Management Software (ILMS)
3. Acquainting the learners with the different Internet search techniques.

Course Outline

Unit –I: Information Technology 10 hours

Information Technology - Concepts, Definition, Components and Applications

Characteristics, Applications, Generations and Types of Computers.

Components of a computer: Central Processing Unit, Input and Output devices, Internal and External storage devices.

Computer software: Types and Categories

Programming concepts: System Analysis, Algorithms and Flowcharts

Open source and Proprietary software

System software: Purpose, Operating Systems, Microsoft Windows, UBUNTU.

Application software: Office Applications and an overview of Integrated Library Management Systems (ILMS) Software like KOHA, NewGenlib, LibSys, e-Granthalaya etc.

Unit-II: Networking **10 hours**

Computer network: Types, and Topologies.

Internet: Evolution, Importance and Applications.

Network security. Internet browsers, Software suites, Anti-virus programs, Sharewares, Web design tools, HTML Editors. Search Engines, Interactive and Distributive Services.

Wireless and Mobile Networks. E-mail and E-Messaging, WWW, Web 2.0 tools and their application to libraries and information centres.

AI and Cloud Computing- Introduction

Unit -III: Practical **20 hours**

Microsoft Office (Word, Excel, PowerPoint, Publisher)

Open Office / LibreOffice / G-Suite

Unit -IV: Practical **20 hours**

Installation and hands on practice ILMS (Koha, e-Granthalaya, …)

Search Techniques, Markup Language, DBMS

Installation of OS (Microsoft Windows, UBUNTU)

Learning Outcomes:

After completing the course, the students will gain knowledge in the application of information technology in libraries, using networks, computer software and library management software used in library automation.

References / Readings:

1. Kumar, A. (Ed.) (2006). Information Technology for all (2 vols.). New Delhi: Anmol.

2. Croucher, P. (1996). Communications and Networks. 2nd ed. New Delhi: Affiliated East West.

3. Shrivastava, R. K. (2001). A: Textbook of Information technology, Delhi: Dominant publishers.

4. Shroff, R. (2000). Computer Systems and Applications, Mumbai: Himalaya

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6. Croft, W. B.; Metzler, D & Strohman, T. (2015). Search Engines: Information Retrieval in Practice. Pearson Education.

7. Gralla, P & Troller, M. (2006). How the Internet works. Que Publishers

8. Bachaalany, E & Koret, J. (2015).The Antivirus Hacker's Handbook. Wiley Publishers

9. Kentie, P. (2001). Web Design Tools and Techniques. Peachpit Press

10. Manvi, S. & Kakkasageri, M. (2016) Wireless and Mobile Networks: Concepts & Protocols. Wiley

11. Beighley, L. & Morrison, M. Head first : PHP & MySQL, OREILLY Publications.

12. Singh, V.P .(2016). Quintessential Course on MS Office 2016: Including Word, Excel, Power point, Access, Outlook and more. Delhi: Computer Publications Ltd.

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