

DSC 2

Information Technology Applications in Libraries: Theory

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre- Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 2: Information Technology Applications in Libraries: Theory	4	3	1	0	BLISc	-

Course Objectives

This course explores the integration of emerging technologies like AI, Blockchain, and IoT within library environments. Students will learn to manage digital resources, implement user-centric services through automation and virtual reality, and address the ethical and practical frameworks required for modern technological adoption.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Understand key emerging technologies and their role in libraries.
- ☞ Apply modern technologies for efficient resource management.
- ☞ Develop user-centric library services using advanced digital tools.
- ☞ Evaluate implementation, ethics, and future trends in library technologies.

UNIT I: Emerging Technologies in Libraries

11 Hours

- ☞ Artificial Intelligence (AI) and Machine Learning
- ☞ Blockchain Technology, Cloud Computing and Big Data Analytics

- ☞ Internet of Things (IoT), Drones and Robots
- ☞ Augmented Reality (AR) and Virtual Reality (VR)

UNIT II: Resource Management Technologies **12 Hours**

- ☞ Electronic Resource Management Systems (ERMS)
- ☞ Radio Frequency Identification (RFID)
- ☞ IoT-based Tracking and Smart Shelves
- ☞ Cloud-based Library Platforms
- ☞ Digital Library Software and Institutional Repositories
- ☞ Blockchain Applications in Digital Rights Management and Secure Transactions

UNIT III: User-Centric Technologies and Services **12 Hours**

- ☞ AI-Powered Search and Discovery Tools
- ☞ Chatbots and Virtual Assistants for Reference Services
- ☞ Recommender Systems for Personalised Information Delivery
- ☞ Augmented Reality and Virtual Reality Application in Information Literacy and Exhibitions
- ☞ Mobile Library Applications and Responsive Interfaces

UNIT IV: Implementation, Ethics, and Future Trends

10 Hours

- ☞ Technology Planning and Adoption frameworks in libraries
- ☞ Data privacy, security, and ethical concerns
- ☞ Staff training and capacity building for emerging technology integration
- ☞ Policy guidelines and standards for technology-enabled library services.
- ☞ Criteria for Selection and Implementation of Emerging Technologies

Essential Readings

- ☞ AKEROYD (John). Information and communication technology in libraries: Trends and issues. 2019.
- ☞ AMERICAN LIBRARY ASSOCIATION. Library Technology Reports (various issues). Chicago: American Library Association. 2021.

- ☞ BERTOT (JC) and CHOI (H). Emerging technologies in libraries: Concepts, applications, and impact. 2020.
- ☞ IFLA. Guidelines for emerging technologies in libraries. 2022.
- ☞ UNESCO. Policy guidelines for the adoption of emerging technologies in knowledge institutions. 2023.

Suggested Readings

- ☞ CHOI (Y) and YI (H). Artificial intelligence and libraries. *Journal of Academic Librarianship*. 2021.
- ☞ KAVITHA (K). Emerging trends and technologies in libraries. New Delhi: Ess Ess Publications. 2021.