DSC 5

Information Storage and Retrieval System

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 5: Information Storage and Retrieval System	4	3	1	0	BLISc	-

Course Objectives

This course explores the fundamental principles of Information Storage and Retrieval (ISAR) systems. Students will master indexing techniques, vocabulary control, and retrieval models, while learning to design advanced search strategies and evaluate system performance using modern tools like data mining and the semantic web.

Learning Outcomes

After completing this course, students will be able to:

- Understand and evaluate the fundamental concepts, components, and models of Information Storage and Retrieval (ISAR) systems.
- Apply indexing systems, classification tools, thesauri, and vocabulary control for effective information retrieval.
- Design and implement search strategies using Boolean logic, proximity operators, and web-based tools for diverse information needs.
- Analyze the role of metadata, file organization, and knowledge management techniques in modern retrieval systems.

UNIT I: Basics of Information Retrieval System 10 Hours

- Information Retrieval System: Concept, Components, Typesand Compatibility
- Information Retrieval Models
- Evaluation of Information Retrieval System

UNIT II: Information Storage and Organization 11 Hours

- Controlled Vocabulary
- Thesaurus: Need, Purpose and Construction
- Classification Schedules, Subject Heading Lists
- Bibliographic Description Standards and Tools

UNIT III: Indexing and Indexing Systems 12 Hours

- Index, Indexing and Indexing Systems
- Types of Indexing Systems: Pre-Coordinate, Post-Coordinate, Assigned, Derived andAutomatic
- Landmarks in Indexing Systems

UNIT IV: Information Retrieval and Searching Techniques 12 Hours

- Information Retrieval: Types and Techniques
- Information Searching: Types and Techniques
- Data Mining, Data Harvesting and Semantic Web
- Trends in Information Storage and Retrieval

Essential Readings

- BAEZA-YATES (R) and RIBEIRO-NETO (B). Modern information retrieval: the concepts and technology behind search. 2nd ed. Boston, Addison-Wesley. 2011.
- CHOWDHURY (GG). Introduction to modern information retrieval. London, Library Association. 1999.
- CLEVELAND (DB) and CLEVELAND (AD). Introduction to indexing and abstracting. Colorado, Libraries Unlimited. 2001.
- CROFT (WB) and others. Search engines: information retrieval in practice. Boston, Addison Wesley. 2010.
- LANCASTER (FW). Vocabulary control for information retrieval. 2nd ed. Arlington, Information Resources Press. 1985.

- LANCASTER (FW). Indexing and abstracting in theory and practice. 3rd ed. Urbana, University of Illinois. 2003.
- MANNING (CD) and others. Introduction to information retrieval. Cambridge, Cambridge University Press. 2008.
- ROWLEY (J). The basics of information systems. 2nd ed. London, Library Association. 1996.
- SARACEVIC (T). Evaluating information retrieval systems. Cham, Springer. 2016.

Suggested Readings

- FOSKETT (AC). Subject approach to information. 5th ed. London: Library Association. 1996.
- GHOSH (SN) and SATPATHI (JN). Subject indexing system: concepts, methods and techniques. Calcutta, IASLIC. 1998.
- KORFHAGE (RR). Information storage and retrieval. New York, John Wiley. 1997.
- SOERGEL (D). Indexing languages and thesauri: construction and maintenance. New York, John Wiley and Sons. 1974.
- WALKER (G) and JANES (J). Online retrieval: a dialogue of theory and practice. Englewood, Libraries Unlimited. 1993.