AIT 313 (ELECTIVE-I)   **INFORMATION RETRIEVAL**   **3(2+1)**

Objective(s)

To provide the basis knowledge in information retrieval. To prepare students with sound skills to solve computational search problems. To escalate how to evaluate search engines. To appreciate the different applications of information retrieval techniques in the Internet or Web environment. To provide experience in building search engines and evaluating search engines.

UNIT I

Basic Concepts, Retrieval Process, Classic Information Retrieval, Set Theoretic, Algebraic and Probabilistic Models – Structured Text Retrieval Models

UNIT II

Query Languages, Key Word based Querying, Pattern Matching, Structural Queries, Query Operations, Text and Multimedia languages, Markup Languages

UNIT III

User Interface and Visualization, Human Computer Interaction, Access Process, Interface for Search

UNIT IV

Searching the Web, Challenges, Characterizing the Web, Search Engines, Browsing, Meta searchers, Web crawlers, robot exclusion, Web data mining,

UNIT IV

Meta crawler, Collaborative filtering, Web agents (web shopping, bargain finder,..), Economic, ethical, legal and political issues.

Reference Book(s):

1. G.G. Chowdhury, "Introduction to Modern Information Retrieval", Neal-Schuman Publishers
2. Ricardo Baeza-Yate, Berthier Ribeiro-Neto, "Modern Information Retrieval", Pearson Education Asia
3. An Introduction to Information Retrieval, By Christopher D. Manning, Prabhakar Raghavan, Hinrich Schütze, Cambridge University Press, Cambridge, England
4. Daniel Jurafsky and James H. Martin, "Speech and Language Processing", Pearson Education
5. David A. Grossman, Ophir Frieder, " Information Retrieval: Algorithms, and Heuristics", Academic Press
6. Charles T. Meadow, Bert R. Boyce, Donald H. Kraft, "Text Information Retrieval Systems", Academic Press

Practical(s)

Searching the Web (crawling, indexing etc..) , web data mining , Practical exposure to tools like Zettair, mg, smart, trec_eval etc.

w.e.f. 2022-23