

<b>IV YEAR SEM-1 B.Tech CSE</b>	<b>ELECTIVE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
CODE: CS4504	Information Retrieval	2	2	0	4

## **OBJECTIVES**

1	To use different information retrieval techniques in various application areas
2	To apply IR principles to locate relevant information large collections of data
3	To analyze performance of retrieval systems when dealing with unmanaged data sources
4	To implement retrieval systems for web search tasks.

### **Unit I**

Boolean retrieval. The term vocabulary and postings lists. Dictionaries and tolerant retrieval. Index construction. Index compression

### **Unit II**

Scoring, term weighting and the vector space model. Computing scores in a complete search system. Evaluation in information retrieval. Relevance feedback and query expansion.

### **Unit III**

XML retrieval. Probabilistic information retrieval. Language models for information retrieval. Text classification. Vector space classification.

### **Unit IV**

Support vector machines and machine learning on documents, Flat clustering, Hierarchical clustering, Matrix decompositions and latent semantic indexing.

### **Unit V**

Web search basics. Web crawling and indexes, Link analysis

### **Unit VI**

Learning to Rank, Future of web search, Recommender Systems, Content Based Filtering, Collaborative Filtering.

**Text Books:**

1. Introduction to Information Retrieval, Christopher D. Manning and Prabhakar Raghavan and Hinrich Schütze, Cambridge University Press, 2008.

**Reference Books:**

1. Information Storage and Retrieval Systems: Theory and Implementation, Kowalski, Gerald, Mark T Maybury, Springer.

2. Modern Information Retrieval, Ricardo Baeza-Yates, Pearson Education, 2007.

3. Information Retrieval: Algorithms and Heuristics, David A Grossman and Ophir Frieder, 2nd Edition, Springer, 2004.

4. Information Retrieval Data Structures and Algorithms, William B Frakes, Ricardo BaezaYates, Pearson Education, 1992. 5. Information Storage & Retrieval, Robert Korfhage, John Wiley & Sons