Course Type	Course Code	Name of Course	L	T	P	Credit
DE	CSD510	Information Retrieval	3	0	0	9

Course Objective
This Subject provides students with an in-depth knowledge about the Information Retrieval. The students will be able to understand the various Retrieval Models, Link Analysis, Social Search techniques and related applications.

Learning Outcomes
● Knowledge and understanding: Outline the potential benefits Information Retrieval

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction: Basic IR system structure	2	Gives Basic understand the need of IR and its Structure
2	Retrieval techniques: Boolean retrieval, termvocabulary, postings-lists, Dictionaries and tolerant retrieval: Wildcard queries, Spelling correction, Phonetic correction;	4	Describe various retrieval techniques and understanding Dictionaries
3	Inverted indices: Preprocessing steps, tokenization, stemming, stopword removal, term weighting;	4	Understanding how inverted indices are done.
4	Models: vector space model, probabilistic model, language models;	5	Understanding different models to analyze data.
5	Evaluation: standard test collection, concept of relevance, precision-recall based metrics, reciprocal rank;	4	Understanding Evaluation methods
6	Relevance feedback and query expansion: Rocchio algorithm;	4	Understanding Different expansion methods
7	Text classification: Naïve Bayes; Text clustering: Flat Clustering, Hierarchical Clustering;	8	Understanding Text classification
8	XML Retrieval: Basic concepts, Challenges, Evaluation; Web search: Structure of Web, web graph, Hidden Web, User intent, Web crawl.	4	Understanding XML Retrieval, Web search
9	Link Analysis: Web as a graph, PageRank, Hubs and Authorities; Social search: Community-based search activities, Question Answering, Collaborative Searching.	4	

Text Books:

1. An Introduction to Information Retrieval, By Christopher D. Manning, Prabhakar Raghavan, Hinrich Schü tze, Cambridge University Press. **Reference Books:**

1. Information Retrieval: Algorithms and Heuristics, By David A. Grossman, Ophir Frieder