ITE3008	Information Retrieval	L	T	P	J	C
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Pre-requisite	**ITE2006**	**Syllabus version**				
		1.0				

Course Objectives:

- To learn the classical techniques of Information Retrieval and extract meaningful patterns from it.
- To get an insight into practical algorithms of textual document indexing, relevant ranking, web mining, text analytics and their performance evaluations.
- To acquire the necessary experience to design, and implement applications using Information Retrieval systems

Expected Course Outcome:

1) Apply information retrieval principles to locate relevant information in large collections of data
2) Implement features of retrieval systems for web-based search tasks.
3) Apply the common algorithms and techniques for information retrieval related to document indexing and query processing
4) Demonstrate a thorough understanding and solid knowledge of the principles and techniques of human-computer interaction
5) Implement graphical user interfaces with modern software tools
6) Develop and design interactive software systems applications for real time applications
7) Design and develop web applications for the effective informational retrieval

Student Learning Outcomes (SLO):	**2, 14**

[2] Having a clear understanding of the subject related concepts and of contemporary issues

[14] An ability to design and conduct experiments, as well as to analyze and interpret data

Module:1	**Introduction**	**6 hours**

Basic Concepts – Retrieval Process – Modeling – Classic Information Retrieval – Set Theoretic, Algebraic and Probabilistic Models.

Module:2	**Retrieval Techniques**	**6 hours**

Structured Text Retrieval Models –Retrieval Evaluation –Word Sense Disambiguation.

Module:3	**Querying**	**6 hours**

Languages – Key Word based Querying – Pattern Matching – Structural Queries – Query Operations – User Relevance Feedback – Local and Global Analysis.

Module:4	**Text Operations**	**6 hours**
Document Pre-processing – Clustering – Text Compression - Indexing and Searching – Inverted files – Boolean Queries – Sequential searching – Pattern matching.		
Module:5	**User Interface**	**6 hours**
User Interface and Visualization – Human Computer Interaction – Access Process – Starting Points – Query Specification - Context – User relevance Judgment – Interface for Search.		
Module:6	**Applications**	**6 hours**
Searching the Web – Challenges – Characterizing the Web – Search Engines – Browsing – Meta-searchers – Online IR systems – Online Public Access Catalogs.		
Module:7	**Digital Libraries**	**6 hours**
Introduction – Architectural Issues – Document Models, Representations and Access – Prototypes and Standards.		
Module:8	**Contemporary issues:**	**3 hours**
	Total Lecture hours:	**45 hours**

Text Book(s)

1.	Ricardo Baeza-Yate, Berthier Ribeiro-Neto, Modern Information Retrieval, Pearson Education Asia, 2012.

Reference Books

1.	G.G. Chowdhury, Introduction to Modern Information Retrieval, Second Edition, Neal- Schuman Publishers, 2010.

Recommended by Board of Studies	05-03-2016		
Approved by Academic Council	No. 40	Date	18-03-2016