

**INFORMATION RETRIEVAL SYSTEMS**  
(Honors)

<b>Course Code</b>	20IT6701B	<b>Year</b>	IV	<b>Semester</b>	I
<b>Course Category</b>	Honors	<b>Branch</b>	IT	<b>Course Type</b>	Theory
<b>Credits</b>	4	<b>L-T-P</b>	4-0-0	<b>Prerequisites</b>	-
<b>Continuous Internal Evaluation :</b>	30	<b>Semester End Evaluation:</b>	70	<b>Total Marks:</b>	100

<b>Course Outcomes</b>		<b>Blooms Taxonomy Level</b>
<b>Upon successful completion of the course, the student will be able to</b>		
<b>CO1</b>	Introduction to Information Retrieval Systems.	<b>L2</b>
<b>CO2</b>	Gain knowledge on capabilities of IRS.	<b>L2</b>
<b>CO3</b>	Applying various indexing techniques for information search.	<b>L3</b>
<b>CO4</b>	Gain knowledge on applying various data structures.	<b>L3</b>

<b>Contribution of Course Outcomes towards the achievement of Program Outcomes &amp; Strength of correlations (H: High, M: Medium, L: Low)</b>														
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	3	3	3				3					3	3	3
<b>CO2</b>	3	3	3				3					3	3	3
<b>CO3</b>	3	3	3				2					3	3	3
<b>CO4</b>	3	3	3				2					3	3	3

Syllabus		
Unit No	Contents	Mapped COs
I	<b>Introduction:</b> Definition of Information Retrieval systems, Objectives of Information Retrieval systems, Functional Overview, Relationship to DBMS, Digital libraries and Data Warehouses.	CO1
II	<b>Information Retrieval System Capabilities:</b> Search Capabilities, Browse Capabilities, Miscellaneous Capabilities, Z39.50 and WAIS Standards	CO1
III	<b>Cataloging and Indexing:</b> History and Objectives of Indexing, Indexing Process, Automatic Indexing, Information Extraction.	CO1 CO2
IV	<b>Data Structures:</b> Introduction to Data Structures, Stemming Algorithms, and Inverted file structures, N-gram data structure, PAT data structure, Signature file structure, Hyper text data structure, Hidden Markov Model.	CO1 CO4
V	<b>Automatic Indexing:</b> Classes of Automatic Indexing, Statistical indexing: Probabilistic Weighting, Vector Weighting, Natural language, Concept indexing	CO1 CO3

#### Learning Resources :

##### Textbooks:

1. M.T.M. Gerald J Kowalski, Information Storage and Retrieval Systems: Springer International Edition, 2018

##### Reference Books

- [1]W.B. Frakes, Ricardo Baeza-Yates, Information Retrieval Data Structures and Algorithms: Prentice Hall PTR, 2015.  
 [2]R. Baeza-Yates, Modern Information Retrieval: Pearson Education, 2012.

##### e-Learning Resources

- [1][https://nlp.stanford.edu/IR- book/pdf/01bool.pdf](https://nlp.stanford.edu/IR-book/pdf/01bool.pdf)[2]  
 [2][http://shodhganga.inflibnet.ac.in/jspui/bitstream/10603/141878/10/10\\_chapter02.pdf](http://shodhganga.inflibnet.ac.in/jspui/bitstream/10603/141878/10/10_chapter02.pdf)