

<b>Branch Name:</b>	MCA
<b>Program Code:</b>	CS201
<b>Course Name:</b>	Information Retrieval
<b>Course Code:</b>	3CS2010209T
<b>Pre-Requisite Course:</b>	Basic knowledge of web designing, Data Structure.

### Course Objectives:

The objectives of the course are to:

1. Understand concepts of Information Retrieval.
2. Understand functions of an information retrieval system and analyse the components of an information retrieval system.
3. Understand concept of textual document indexing, indexing and searching, Human Computer Interaction, text analytics and retrieval evaluations.
4. Understand the concept of Web Retrieval and Digital Libraries.

### Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				Total (Marks)
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
4	-	-	4	60	40	-	-	100

### Course Contents:

Unit No	Topic	Total Hours	Weightage (%)
1	<b>Introduction, Modelling</b> Motivation, Basic Concepts, Retrieval Process, Taxonomy of Information Retrieval Models, Classic Information Retrieval, Structured Text Retrieval Model	06	15
2	<b>Retrieval Evaluation, Query Languages, Query Operations</b> Introduction, Performance Evaluation, Reference Collections, Keyword Based Querying, Pattern Matching, Structural Queries, Query Protocols.	10	25
3	<b>Text and Multimedia Language and Properties, Text Operations, Indexing and Searching</b> Meta-data, Text, Markup Languages, Multimedia, Document Pre processing, Document Clustering, Text Compression, Comparing Text Compression Techniques, Inverted Files, Other Indices for Text, Boolean Queries	10	25
4	<b>User Interface and Visualization, Searching the Web</b> Human Computer Interaction, Information Access Process, Query Specification, Challenges, Characterizing the Web, Search Engines, Browsing, Meta-searches, Searching using Hyper-links	08	20
5	<b>Libraries and Bibliographical Systems, Digital Libraries</b> Online IR Systems and Document Databases, Online Public Access Catalogs (OPACs), Digital Libraries: Architectural Issues, Document Models, Representations and Access.	08	15

**Text Books:**

1. Ricardo Baeza-Yates, Berthier Ribeiro-Neto “Modern Information Retrieval”, PearsonIndiaEducation,Inc.,2007.CopyrightbytheACMPress.513pp.,ISBN: 978-81-317-0977-1

**Reference Books:**

1. C.Manning,P.Raghavan,andH.Schütze,“IntroductiontoInformationRetrieval”, CambridgeUniversityPress,2008
2. Pang-Ning Tan,MichaelSteinbachandVipinKumar,“IntroductiontoDataMining”, Addison-Wesley, 200s6
3. RobertR.Korfhage,“InformationStorageandRetrieval”,JohnWiley&Sons,1997, 349 pp.,ISBN: 0-471-14338-3

**Course Learning Outcomes (CLO): On completion of this course, the students will be able to:**

<b>CLO</b>	<b>Description</b>	<b>Bloom’s Taxonomy Level</b>
CLO1	Learn fundamental concepts of Information Retrieval (IR), basic algorithms and techniques for information retrieval (document index in gland retrieval, query processing).	1 Remembering 2 Understanding
CLO2	Learn various types of query languages, text operations and apply quantitative evaluation methods for the IR systems	1 Remembering 2 Understanding
CLO3	Explain different retrieval models and basic algorithms involved in processing and retrieval of information.	2 Understanding 3 Applying
CLO4	Evaluate existing information retrieval systems and suggest how the systems can be proved.	1 Remembering 3 Applying 2 Understanding
CLO5	Understand the Index Compression.	5 Evaluate 3Applying 4 Analyze
CLO6	Understand the Term Vocabulary And Postings Lists.	6 Creating 3 Applying

**Mapping of CLOs with Pos & PSOs**

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes( PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PSO1	PSO 2
CLO1	H	M	L		M		H				L		H	M
CLO2		L		M		L		M		M				H
CLO3	M	H			M	M		M	M			M	M	M
CLO4	H	M		M			M		H		M	L	H	
CLO5	M	M		H		M		H		M			M	
CLO6		M			M		H		M		L		M	

**H: High, M:Medium, L:Low**