CMR TECHNICAL CAMPUS
UGC AUTONOMOUS
B.Tech.VII Semester Regular End Examinations, November-2023
Information Retrieval Systems
Department of CSM

Time: 3 Hours   Max. Marks: 70

Note

i. This Question paper contains Part- A and Part- B.
ii. All the Questions in Part A are to be answered compulsorily.
iii. All Questions from Part B are to be answered with internal choice among them.

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PART-A

10 X 02 = 20 Marks

			Marks	CO	BL
1.	a	Define Information Retrieval Process.	2	CO1	L1
	b	What are the functions of information retrieval systems.	2	CO1	L2
	c	List the text processing phases in information retrieval system	2	CO2	L1
	d	What is the purpose of data structure in IRS?	2	CO2	L3
	e	List the 2 processes associated with information extraction.	2	CO3	L1
	f	Define automatic term clustering.	2	CO3	L1
	g	Define selective dissemination of information search.	2	CO4	L2
	h	Define cognition and perception.	2	CO4	L2
	i	Define the measures precision, recall and fallout.	2	CO5	L2
	j	What are the 2 parallel operations performed by query processor of GESCAN unit.	2	CO5	L2

PART- B

5 X 10 = 50 Marks

			Marks	CO	BL
2.	a	Explain the functional processes Item Normalization and Selective Dissemination of Information.	5	CO1	L2
	b	Evaluate different browse capabilities of information retrieval systems.	5	CO1	L4
		OR			
3	a	Explain the Boolean logic, fuzzy searches, proximity, masking capabilities of IRS.	5	CO1	L2
	b	Sumamrize the Vocabulary browse, Search History log and Canned Query capabilities of IRS.	5	CO1	L2
4	a	Explain about Inverted File Structure with example.	5	CO2	L2
	b	Write short notes N-Gram Data Structures.	5	CO2	L2
		OR			

5	a	Demonstrate Poster Stemming Algorithm with example.	5	CO2	L3
	b	Explain Dictionary Look Up Stemmers and how they improve the efficiency of IRS.	5	CO2	L2
6	a	Explain Simple term frequency algorithm with example and its usage.	7	CO3	L5
	b	Explain the problems with weighting schemes.	3	CO3	L4

OR

7	a	Explain the statistical indexing mechanism Inverse Document Frequency.	5	CO3	L3
	b	Outline the mechanism of Clustering using exiting clusters.	5	CO3	L2
8	a	Define text search algorithm and list the techniques.	3	CO4	L2
	b	Demonstrate Boyer Moore algorithm for the following pattern(P) and original string(T) T- abacaabadcabacabacabaabb P-abacab	7	CO4	L3

OR

9	a	Explain about weighted searches of Boolean systems.	6	CO4	L2
	b	Illustrate about text streaming architecture.	4	CO4	L2
10	a	Discuss about the non-speech audio retrieval and its applications.	5	CO5	L3
	b	Briefly describe the aspects of visualization process.	5	CO5	L2

OR

11	a	Discuss the imagery retrieval features that can be used in content based indexing.	5	CO5	L4
	b	Explain about multimedia information retrieval systems and their applications.	5	CO5	L3

CO   : Course Outcomes

BL	: Bloom's Taxonomy Levels	L 1 : Remembering	L 2 : Understanding
		L 3 : Applying	L 4 : Analysing
		L 5 : Evaluating	L 6 : Creating

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B.Tech.VII Semester Supply End Examinations, April-2024
Information Retrieval Systems
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Time: 3 Hours   **Max. Marks: 70**

Note
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ii. All the Questions in Part A are to be answered compulsorily.
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PART-A

10 X 02 = 20 Marks

			Marks	CO	BL
1.	a	Differentiate between Digital Library and Data Warehouse	2	CO1	
	b	Define Precision	2	CO1	
	c	What are objectives of Indexing?	2	CO2	
	d	What is Stemming	2	CO2	
	e	What are Hypertext linkages?	2	CO3	
	f	Define clustering	2	CO3	
	g	What is Ranking?	2	CO4	
	h	Define Relevance Feedback	2	CO4	
	i	Write short notes on Image Retrieval	2	CO5	
	j	List the software text search algorithms	2	CO5	

PART- B

5 X 10 = 50 Marks

			Marks	CO	BL
2.	a	Define Information Retrieval System. Explain the objectives of the Information Retrieval System.	5	CO1	
	b	Clearly discuss the relevance of Information Retrieval Systems in the context of Digital libraries and Data Warehouses.	5	CO1	

OR

3	a	Discuss the various Information Retrieval System search capabilities in detail	5	CO1	
	b	Explain Browse and miscellaneous capabilities	5	CO1	

4	a	Explain the terms Exhaustivity ,specificity, Precoordination and Postcoordination with suitable example	4	CO2
	b	Explain cutoff method, entropy method, peak and plateau method.	6	CO2

OR

5	a	Discuss Porter Stemming algorithm	6	CO2
	b	What is automatic indexing? What are the various types of automatic indexing?	4	CO2

6	a	Explain data flow in Information Processing System.	5	CO3
	b	Write about Inverse Document Frequency	5	CO3

OR

7		Consider the following Term – Term matrix	10	CO3

	T1	T2	T3	T4	T5	T6	T7	T8	T9
T1	-	14	9	0	3	0	12	0	16
T2	14	-	0	6	4	0	14	0	11
T3	9	0	-	12	7	4	1	0	14
T4	0	6	12	-	3	0	14	9	8
T5	3	4	7	3	-	12	6	16	0
T6	0	0	4	0	12	-	9	2	9
T7	12	14	1	14	6	9	-	0	12
T8	0	0	0	9	16	2	0	-	8
T9	16	11	14	8	0	9	12	8	-

i) Determine the term clustering relationship matrix using a threshold of 10 or higher.

ii) Determine the clusters using Single Link technique

iii) Determine the clusters using Clique technique

8	a	Explain different similarity measures in detail	6	CO4
	b	Discuss about selective dissemination information search techniques with examples.	4	CO4

OR

9	a	Discuss the search on internet with Hyperlinks	3	CO4
	b	What are the ways of organizing the information?	7	CO4

10		Briefly Explain about Multimedia Information Retrieval System and advantages.	10	CO5

<div align="center">OR</div>

11	a	Explain Boyer-Moore text search algorithm with an example	5	CO5
	b	Explain Brute-Force text search algorithm with an example	5	CO5

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