

Code No: 155BV**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, February - 2022****INFORMATION RETRIEVAL SYSTEMS****(Computer Science and Engineering)****Time: 3 hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

- 1.a) With the help of a neat diagram, explain the text normalization process. [7+8]
b) Discuss the Search Capabilities in detail. [7+8]
- 2.a) What new areas of information retrieval research may be important to support a Digital Library? Explain.
b) Write the difference between data retrieval and information retrieval. [8+7]
3. Differentiate human indexing and automatic indexing and list the advantages and disadvantages of automatic indexing. [15]
- 4.a) Explain the History and Objectives of Indexing.
b) Describe the Hypertext and XML Data Structures. [7+8]
5. Prove that a term could not be found in multiple clusters when using the single link technique. [15]
6. What are the tradeoffs in the use of zoning as part of the indexing process? Explain. [15]
- 7.a) Explain about weighted searches of Boolean systems.
b) Explain about cognition and perception in information visualization. [7+8]
- 8.a) Discuss the Non-Speech Audio Retrieval.
b) Explain the software text search algorithms in detail. [7+8]

---oo0oo---

R18

Code No: 155BV

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, January/February - 2023

INFORMATION RETRIEVAL SYSTEMS

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) Define recall. [2]
- b) What are the search capabilities of an IDS? [3]
- c) What is meant by public index? [2]
- d) What is the basis for concept indexing? [3]
- e) What is logarithmic term frequency? [2]
- f) List the steps in the clustering process. [3]
- g) What is the impact of relevance feedback on search? [2]
- h) What is statistical system binding? [3]
- i) List the functions supported by Fast Data Finder. [2]
- j) What are the five elements of finite state automata used in text searching algorithms? [3]

PART – B

(50 Marks)

2. Describe the item normalization process of information retrieval system in detail. [10]
- OR**
- 3.a) Discuss the limitations of term masking.
 - b) Compare natural language queries with multimedia queries. [5+5]
- 4.a) Illustrate the two processes associated with information extraction.
 - b) Demonstrate multimedia indexing. [5+5]
- OR**
- 5.a) Make a comparison of dictionary look-up stemmers and successor stemmers.
 - b) How to create a PAT tree? Explain with example data. [5+5]
6. Explain the need and importance of weighting scheme for automatic indexing and the problems associated with the weighting scheme. [10]

OR

7. Consider the following term-term matrix:

	T1	T2	T3	T4	T5	T6
T1		15	6	8	12	14
T2	15		12	10	6	8
T3	6	12		16	4	10
T4	8	10	16		9	4
T5	12	6	4	9		13
T6	14	8	10	4	13	

- a) Determine the Term Relationship matrix using a threshold of 10 or higher
b) Determine the clusters using the clique technique
c) Determine the clusters using the star technique where the term selected for the new seed for the next star is the smallest number term nor already part of a class. [2+4+4]
- 8.a) Compare and contrast Jaccard measure with Dice measure for similarity.
b) Discuss the significance of negative feedback in ranking the documents. [5+5]
- OR**
- 9.a) Explain the potential ambiguities in use of relevance feedback on hypertext documents.
b) Briefly describe the aspects of the visualization process. [5+5]
10. Demonstrate Boyre-Moore Algorithm for the following scenario, explain each step.
String to be searched: abcac
Input String: ababdcabcdacabcac [10]
- OR**
- 11.a) Discuss the predominant features of still imagery that can be used in content based indexing.
b) Describe the features of Sagebook for graph retrieval. [5+5]

---ooOoo---

--	--	--	--	--	--	--	--

NARSIMHA REDDY ENGINEERING COLLEGE
(UGC AUTONOMOUS)

III B.Tech I Semester (NR20) Supplementary Examination, June 2023

INFORMATION RETRIEVAL SYSTEM
(Computer Science and Engineering (Data Science))

Time : 3 hours

Maximum marks: 75

- Note:**
- This question paper contains two parts, A and B
 - Part A is compulsory which carries 20 marks (10 sub questions are two from each unit carry 2 Marks). Answer all questions in Part A
 - Part B Consists of 5 Units. Answer one question from each unit. Each question carries 10 Marks and may have a, b sub questions

Part-A
(25 Marks)

Answer all questions

Q.No	Question	M	CO	BL
1)	a. Write short notes on types of index files?	2	CO1	L1
	b. Define automatic indexing?	2	CO2	L1
	c. Define I) over generation II) Fallout?	2	CO1	L1
	d. Define inverter file structure?	2	CO1	L1
	e. Discuss about information extraction?	2	CO1	L1
	f. Explain about item clustering?	3	CO3	L2
	g. Write short notes on search statement. List three levels of binding?	3	CO3	L1
	h. Explain jaccard similarity measure with formula?	3	CO3	L1
	i. Write brief note on spoken language audio retrieval?	3	CO4	L1
	j. Explain about topic detection and tracking (TDT)?	3	CO3	L1

Part-B
(50 Marks)

Answer all the Units
All Questions carry equal Marks

Q.No	Question	M	CO	BL
2)	a. Explain in detail about the four major functional processes in information retrieval systems?	5	CO1	L1
	b. Write brief note on digital libraries and data warehouses	5	CO2	L1
	OR			
3)	a. Discuss about search capabilities in information retrieval systems?	5	CO1	L1
	b. Explain in detail about I) Document database search II) Index database search III) Multimedia database search?	5	CO1	L2

UNIT-II				
4)	a. Explain in detail successor steamers?	5	CO2	L1
	b. Explain the porter stemming algorithm?	5	CO2	L2
	OR			
5)	a. Explain in detail the indexing process for information retrieval systems with neat diagram?	5	CO1	L1
	b. Discuss the different classes of automatic indexing?	5	CO1	L2
	UNIT-III			
6)	a. Discuss statistical type of indexing method in detail?	5	CO3	L2
	b. What is mean by automatic indexing? Discuss about statistical indexing and concept indexing?	5	CO3	L1
	OR			
7)	a. Explain in detail different classes of automatic indexing?	5	CO3	L1
	b. What do you mean by natural language processing explain in detail?	5	CO3	L1
	UNIT-IV			
8)	a. What are search statements and why there are three levels of binding in the creation of search?	5	CO4	L1
	b. Explain in detail about the various ranking algorithms?	5	CO4	L1
	OR			
9)	a. Discuss various information visualization technologies?	5	CO3	L1
	b. List and explain the six key characteristics of intelligent agents in internet and hypertext?	5	CO4	L1
	UNIT-V			
10)	a. Explain in detail video retrieval ?	5	CO3	L1
	b. Discuss in brief about non-speech audio retrieval and graph retrieval?	5	CO4	L1
	OR			
11)	a. Explain in detail about software text search algorithms?	5	CO4	L1
	b. Explain in detail spoken language audio retrieval?	5	CO3	L2