

**R18**

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. [8+7]
- 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. [7+8]
- 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. [7+8]
- b) Explain about cognition and perception in information visualization. [7+8]
- 8.a) Discuss the Non-Speech Audio Retrieval. [7+8]
- b) Explain the software text search algorithms in detail. [7+8]

---oo0oo---

Q.P Code: CS3115PE      Hall Ticket No.:

**NARSIMHA REDDY ENGINEERING COLLEGE**  
(UGC AUTONOMOUS)  
**III B.Tech I Semester (NR20) Regular Examination, January 2023**  
**INFORMATION RETRIEVAL SYSTEM**  
(Computer Science and Engineering)

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 any one full question from each unit. Each question carries 10 Marks and may have a, b sub questions

**Part-A**  
**Answer all questions**  
**(25 Marks)**

Q.No	Question	M	CO	BL
1) a.	What are the two measures with an information retrieval system?	2	CO1	L1
b.	Define high lighting?	2	CO1	L1
c.	Define automatic indexing?	2	CO2	L2
d.	Write about masking?	2	CO1	L1
e.	Discuss about information extraction?	2	CO1	L1
f.	Write short notes on statistical indexing?	2	CO3	L1
g.	What is manual Clustering?	2	CO3	L1
h.	Write short note on Ranking algorithms.	2	CO3	L1
i.	Write short notes on hardware text search algorithm?	2	CO4	L1
j.	Explain video Retrieval?	2	CO4	L2

**Part-B**  
**Answer all the Units**  
**All Questions carry equal Marks**  
**(50 Marks)**

Q.No	Question	M	CO	BL
2) a.	Discuss about search capabilities in information retrieval systems	5	CO1	L1
b.	Write brief note on digital libraries and data warehouses.	5	CO2	L1
3) a.	What are browse capabilities in information retrieval systems explain in detail?	5	CO2	L2
b.	Difference between database and information Retrieval systems?	5	CO1	L1

UNIT-II				
4) a.	Explain in detail precision and recall?	5	CO1	L1
b.	What is signature file structure and explain how it is useful in IRS.	5	CO2	L4
OR				
5) a.	Explain in detail hypertext data structures?	5	CO1	L1
b.	Explain in detail inverted file structure?	5	CO1	L1
UNIT-III				
6) a.	What do you mean by natural language processing explain in detail	5	CO3	L1
b.	Explain in detail thesaurus generation?	5	CO3	L1
OR				
7) a.	Explain in detail about concept indexing?	5	CO3	L1
b.	Explain about automatic term clustering?	5	CO1	L1
UNIT-IV				
8) a.	What is Relevance feedback and explain the positive and negative feedback on retrieval strategy?	5	CO4	L1
b.	Explain in detail weighted searches of Boolean systems?	5	CO4	L1
OR				
9) a.	Explain in detail similarity measures?	5	CO4	L1
b.	Give a brief account on cognition and perception?	5	CO3	L1
UNIT-V				
10) a.	Explain in detail hardware text search algorithm?	5	CO4	L1
b.	Explain in detail graph retrieval?	5	CO4	L2
OR				
11) a.	Draw and explain the streaming architecture?	5	CO4	L3
b.	Describe in detail multimedia information retrieval?	5	CO3	L1

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 not 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---

JNTU Hyderabad  
Used papers 2023



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

**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
	<b>OR</b>			
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

<b>UNIT-II</b>				
4)	a. Explain in detail successor steamers?	5	CO2	L1
	b. Explain the porter stemming algorithm?	5	CO2	L2
	<b>OR</b>			
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
	<b>UNIT-III</b>			
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
	<b>OR</b>			
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
	<b>UNIT-IV</b>			
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
	<b>OR</b>			
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
	<b>UNIT-V</b>			
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
	<b>OR</b>			
11)	a. Explain in detail about software text search algorithms?	5	CO4	L1
	b. Explain in detail spoken language audio retrieval?	5	CO3	L2