

R18

Code No: 155BV

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, September - 2021

INFORMATION RETRIEVAL SYSTEMS

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Answer any five questions

All questions carry equal marks

- 1.a) List and explain the Data Warehouses.
- b) Discuss the relationship between information retrieval systems and database management systems. [7+8]
- 2.a) Difference between the concept of a "Digital Library" and an Information Retrieval System.
- b) Give a brief note on Browse Capabilities. [8+7]
3. List and explain the various search algorithms on the PAT tree. [15]
- 4.a) With the help of a neat diagram, explain the Hidden Markov Models.
- b) Explain the similarities between term stemming algorithms and n-grams. Describe how they affect precision and recall. [7+8]
5. What is automatic indexing? List and explain the various types of automatic indexing. [15]
6. Discuss the hypertext linkages and natural languages. [15]
7. Explain the Selective Dissemination of Information Search. [15]
- 8.a) Illustrate the Software Text Search Algorithms.
- b) Give a brief note on Hardware Text Search Systems. [7+8]

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B. Tech III Year I Semester Examinations, March - 2021

INFORMATION RETRIEVAL SYSTEMS

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Define Information retrieval systems and write about importance of IRS.
- b) What are the capabilities of Information retrieval systems? Describe. [7+8]
- 2.a) What are digital libraries and data warehouses? Write their significance.
- b) Explain the history and objectives of indexing. [8+7]
3. What is stemming? Explain porter stemming algorithm. [15]
- 4.a) Explain about Inverted file structure with example.
- b) Discuss in detail about XML and Hypertext data structures. [7+8]
5. Differentiate between the process of information extraction and document indexing. [15]
6. Discuss about hierarchy of clustering. Compare and contrast term clustering and item clustering. [15]
7. How cognition and perception are significant in information visualization? What are the technologies used in information visualization? Discuss. [15]
- 8.a) What are hardware text search algorithms? Explain them in detail.
- b) Explain audio, video and graph retrieval methods of MIR. [7+8]

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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]

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, August - 2022

INFORMATION RETRIEVAL SYSTEMS

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

1. Write a detailed note on Browse Capabilities of Information Retrieval Systems. [15]
2. Define Information Retrieval Systems. Explain its Miscellaneous Capabilities. [15]
- 3.a) Explain in detail about Inverted File Structure.
b) Discuss in detail about Indexing Process. [10+5]
- 4.a) Explain in detail about PAT Data Structure.
b) Write a detailed note on Information Extraction. [9+6]
5. What is Automatic Indexing? Explain in detail Classes of Automatic Indexing. [15]
- 6.a) Write a detailed note on role of Natural Language in Automatic Indexing.
b) Discuss about Hierarchy of Clusters. [8+7]
- 7.a) Explain about Search Statements and Binding.
b) Write a detailed note on Cognition and Perception. [7+8]
8. What are Text Search Algorithms? Explain in detail about Software Text Search Algorithms. [15]

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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]

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