

B

Pages: 2

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree 7th semester (S,FE) Exam April 2025 (2019 Scheme)

Course Code: ADT453**Course Name: INFORMATION EXTRACTION AND RETRIEVAL****Max.Marks:100****Duration:3 Hours****PART A***Answer all questions, each carries 3 marks.*

Marks

- | | | |
|----|---|-----|
| 1 | What is ad-hoc retrieval, and how does it differ from filtering in Information Retrieval? | (3) |
| 2 | Briefly explain how the user is interacted with the retrieval model | (3) |
| 3 | Differentiate Intra-cluster Similarity and Inter-cluster Dissimilarity | (3) |
| 4 | What is recall and precision in evaluation metrics of IR? | (3) |
| 5 | Briefly explain any three Query protocols. | (3) |
| 6 | Construct a Boolean query and tree that retrieves all the documents which contain the word 'translation' as well as either the word 'syntax' or the word 'syntactic'. | (3) |
| 7 | What do you mean by an Inverted File? | (3) |
| 8 | What are the properties of multimedia data formats? | (3) |
| 9 | What are the features that crawler provides? | (3) |
| 10 | What is informational query in web search? | (3) |

PART B*Answer any one full question from each module, each carries 14 marks.***Module I**

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|----|---|-----|
| 11 | a) Describe the retrieval process in information retrieval systems. | (9) |
| | b) Define Information Retrieval (IR) and its significance in today's digital landscape. | (5) |

OR

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|----|---|-----|
| 12 | a) Discuss the importance of a logical view of documents in the context of IR. | (9) |
| | b) Explain the evolution of information retrieval systems in libraries, highlighting the key features of each generation. | (5) |

Module II

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|----|--|-----|
| 13 | a) Explain different models of browsing in detail. | (9) |
| | b) Explain Structured Text Retrieval model based on Proximal node. | (5) |

OR

- 14 a) Explain boolean model in detail. (9)
 b) What are the advantages of vector Model over boolean model (5)

Module III

- 15 a) Explain in detail the structure and functioning of keyword-based queries, Boolean queries, context queries and natural language queries in Information Retrieval. (14)

OR

- 16 a) Explain TREC Collection in detail. (9)
 b) What are CACM and ISI datasets, and how are they used in Information Retrieval? (5)

Module IV

- 17 a) Describe the inverted index structure in detail. Explain how indexing and Searching is done using inverted index, and what are its advantages and disadvantages in Information Retrieval systems? (14)

OR

- 18 a) Explain different types of Patterns with examples. (7)
 b) Explain the document pre processing techniques with the help of following document: (7)

“I am studying in the final year of the Artificial Intelligence and Data Science B.Tech program. My vision is to become an AI engineer, equipped with the skills and enthusiasm needed to innovate in this rapidly evolving field. I am committed to continuous learning and collaboration, aiming to contribute to impactful AI solutions that address real-world challenges. With a strong foundation in both theory and practical applications, I aspire to drive advancements that enhance our everyday lives.”

Module V

- 19 a) Differentiate between Centralized and Distributed web architecture. (7)
 b) Explain Page Rank with example. (7)

OR

- 20 a) What is crawling? Explain different types of crawling techniques. (7)
 b) Write a note on web directories. How to combine searching with browsing. (7)
