Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2021

Subject Code:3170718 Date:15/12/2021

Subject Name:Information Retrieval

Time:10:30 AM TO 01:00 PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Define information retrieval. What are the applications of IR?	**03**
	(b)	Write a short note on index optimization.	**04**
	(c)	What is text encoding? Explain tokenization and stemming with example.	**07**
Q.2	**(a)**	Differentiate between semi structure text and unstructured text.	**03**
	(b)	What is Boolean Queries and inverted index in IR?	**04**
	(c)	Discuss the Boolean retrieval in detail with diagram.	**07**
		OR	
	(c)	Explain Naive Bayes models with suitable example.	**07**
Q.3	**(a)**	Write a short note on Zipf's Law.	**03**
	(b)	Differentiate between dynamic indexing and static indexing.	**04**
	(c)	Explain the retrieval performance evaluation.	**07**
		OR	
Q.3	**(a)**	What is the need of Filtering against spamming?	**03**
	(b)	Explain following terms: TFIDF and Okapi.	**04**
	(c)	Describe how to performed Document length normalization.	**07**
Q.4	**(a)**	Define the terms: precision, recall, and F-measure.	**03**
	(b)	Write Short notes on: kappa measure and interjudge agreement.	**04**
	(c)	Give brief notes about user Relevance feedback method and how it is used in query expansion.	**07**
		OR	
Q.4	**(a)**	What is classification and clustering?	**03**
	(b)	How agglomerative hierarchical clustering works? Explain with an example.	**04**
	(c)	Illustrate the Vector space retrieval model with example.	**07**
Q.5	**(a)**	Compare HITS with page rank.	**03**
	(b)	Which is the fastest search engine to retrieval of information? Justify.	**04**
	(c)	Describe Cross language information retrieval and its limitation in web search.	**07**
		OR	
Q.5	**(a)**	Define web crawling. How to characterize the web?	**03**
	(b)	Write notes on: Summarization and Question Answering.	**04**
	(c)	Explain XML retrieval? Also write down the major challenges in XML retrieval?	**07**

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Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – SUMMER 2022

Subject Code:3170718 Date:08/06/2022

Subject Name:Information Retrieval

Time:02:30 PM TO 05:00 PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	Mention various applications of IR.	**03**
	(b)	What is Information Retrieval? Explain.	**04**
	(c)	What is the basis for the boolean model? List the advantages and Disadvantages of it.	**07**
Q.2	**(a)**	Define indexing & document indexing.	**03**
	(b)	Describe and Explain Zipf's law in Detail.	**04**
	(c)	Explain Vector Space Model with advantages and disadvantages.	**07**
		OR	
	(c)	Define Relevance feedback model. What are the Advantages of the User Relevance Feedback method?	**07**
Q.3	**(a)**	Define Precision and Recall.	**03**
	(b)	What is Kappa Measure? Explain using an Example.	**04**
	(c)	What's the "kernel trick" and how is it useful? Explain Soft-Margin.	**07**
		OR	
Q.3	**(a)**	Mention Interjudge Agreement.	**03**
	(b)	What is F-Measure? Explain using an Example.	**04**
	(c)	Explain KNN algorithm with an example.	**07**
Q.4	**(a)**	What is boosting? List out different boosting algorithms.	**03**
	(b)	Briefly explain K-Means Algorithm.	**04**
	(c)	Explain Naive Bayes Classifiers in detail.	**07**
		OR	
Q.4	**(a)**	What is a dendrogram?	**03**
	(b)	Explain Structured and Unstructured Data.	**04**
	(c)	Explain SVM(Support Vector Machine).	**07**
Q.5	**(a)**	Mention Topic Detection.	**03**
	(b)	What is the use of Link analysis? Explain any one of the link analysis techniques.	**04**
	(c)	Explain CLIR(Cross Language Information Retrieval).	**07**
		OR	
Q.5	**(a)**	What is personalization? Mention types of personalization.	**03**
	(b)	How can we assign a page Rank score to each node of the graph?	**04**
	(c)	Explain XML retrieval.	**07**

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