Reg. No.																

Question Paper Code	14622

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2026

Second Semester

M.E. - Computer Science and Engineering

24PCSEL203 / 20PCSEL203 - INFORMATION RETRIEVAL TECHNIQUES

Regulations - 2024 / 2020

Duration: 3 Hours | Max. Marks: 100

PART – A (i) (MCQ)

(16 × 1 = 16 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Which of the following is a basic concept of Information Retrieval (IR)? a) Data Compilation b) Document Retrieval c) Program Execution d) Network Routing	1	K1	CO1
2.	The process of obtaining relevant documents from a collection is called a)Indexing b) Retrieval c) Classification d) Clustering	1	K2	CO1
3.	The process of converting documents into searchable terms is called a) Crawling b) Parsing c) Indexing d) Ranking	1	K3	CO1
4.	What does TF-IDF stands for ? a) Term Frequency–Inverse Document Frequency. b) Total Frequency–Index Document Factor. c) Term Factor–Inverse Data File. d) Text Frequency–Indexed Data Field.	1	K1	CO2
5.	In the Boolean model, documents are retrieved based on: a) Ranking b) Exact match c) Similarity score d) Probability	1	K2	CO2
6.	Boolean model is an example of: a) Algebraic model b) Set theoretic model c) Probabilistic model d) Language model	1	K3	CO2
7.	What does Global analysis consider ? a) Single document b) Entire document collection c) Only queries d) File format	1	K1	CO3
8.	Choose the algorithm used for pattern matching a) BFS b) DFS c) KMP d) Dijkstra	1	K2	CO3
9.	An inverted index mainly contains: a) Documents and queries b) Terms and posting lists c) Files and folders d) Keys and values	1	K3	CO3
10.	What does the K-means clustering require? a) Number of clusters (k) b) Number of documents c) Query size d) Index size	1	K1	CO4

11.	Naïve Bayes classifier is based on:		*1*	*K2*	*CO4*
	a) Set theory	b) Probability			
	c) Graph theory	d) Algebra			
12.	Choose one that helps Machine learning in IR.		*1*	*K3*	*CO4*
	a) Store data	b) Automatically classify documents			
	c) Delete files	d) Compress data			
13.	How is the Web structured?		*1*	*K1*	*CO5*
	a) Tree	b) Graph			
	c) Table	d) Array			
14.	Page Rank is an example of:		*1*	*K2*	*CO5*
	a) Dynamic ranking	b) Static ranking			
	c) Sequential search	d) Clustering			
15.	Select the example of a digital library:		*1*	*K3*	*CO6*
	a) Google Scholar	b) Compiler			
	c) OS	d) Browser			
16.	Choose on the parameter for Dynamic ranking.		*1*	*K3*	*CO6*
	a) Query relevance	b) Disk size			
	c) Processor speed	d) File format			

PART – A (ii) (Short Answer Questions)

(6 × 3 = 18 Marks)

Answer ALL Questions

17.	Build a simple block diagram of an IR system architecture.	*3*	*K3*	*CO1*
18.	Identify the role of structured text retrieval models.	*3*	*K3*	*CO2*
19.	Organize the steps in query evaluation and execution.	*3*	*K3*	*CO3*
20.	Analyze with a simple example the hierarchical clustering.	*3*	*K4*	*CO4*
21.	Discover suitable features for multimedia retrieval.	*3*	*K4*	*CO5*
22.	Inspect on the structure of web.	*3*	*K4*	*CO6*

PART - B (Descriptive Answer Questions)

(6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Experiment with the various components of an Information Retrieval System and illustrate them with a neat diagram.	*11*	*K3*	*CO1*
		OR			
	b)	Identify the key stages in the history of Information Retrieval in detail.	*11*	*K3*	*CO1*
24.	a)	Apply the taxonomy of IR models to classify Boolean, vector and probabilistic models with suitable examples.	*11*	*K3*	*CO2*
		OR			
	b)	Solve a retrieval problem using vector space model and similarity measures.	*11*	*K3*	*CO2*
25.	a)	Explain the index construction process including tokenization, stop word removal and stemming with examples.	*11*	*K5*	*CO3*
		OR			

	b)	Evaluate the significance of relevance feedback and query expansion in improving search quality.	*11*	*K5*	*CO3*
26.	a)	Examine Support Vector Machines for text classification.	*11*	*K4*	*CO4*
		OR			
	b)	Analyze Naïve Bayes classifier with example.	*11*	*K4*	*CO4*
27.	a)	Develop on hierarchical clustering with a diagram.	*11*	*K3*	*CO5*
		OR			
	b)	Construct Latent Semantic Indexing using matrix decomposition in detail.	*11*	*K3*	*CO5*
28	a)	Explain web crawling architecture in detail.	*11*	*K5*	*CO6*
		OR			
	b)	Estimate Link analysis algorithms (PageRank/HITS) in detail.	*11*	*K5*	*CO6*