K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov-Dec 2025-26
(B. Tech) Program:Computer Engineering Scheme: IIB
Regular Examination: LY Semester: VII
Course Code:CEDLC7044 and Course Name: Information Retrieval
Date of Exam: 27/11/25 Duration: 02.5 Hours Max. Marks: 60

Instructions:
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any **two** questions out of three: (05 marks each)	10		
a)	Discuss the three main types of structures to form queries.		CO3	U
b)	Explain the 'Structure Text Retrieval Model' in detail.		CO2	U
c)	Depict in detail 'Signature File' using one example		CO5	U
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Explain in detail about all types of markup languages.		CO4	U
b)	Build a Suffix Tree for a given below text : {bear, bell, bid, bull, buy, sell, stock, stop}. Search & examine the pattern **'ll'** in the built Suffix Tree w.r.t. to following Properties :- 'Height of Tree', 'Time to Build' , 'Pattern Search Time' & 'Space Complexity'.		CO5	An
c)	Compare Automatic local analysis and Automatic global analysis with examples.		CO3	U
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	List the types of Information System and discuss them in detail.		CO1	U
b)	Describe types of classic models in detail.		CO2	U
c)	Explain the topic 'User interface and visualization' in detail.		CO6	U
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	What are the strategies in Information Retrieval (IR) for building local clusters? Apply the 'Association Clustering' strategy on following data to find the correlations between stems. Also find		CO3	Ap

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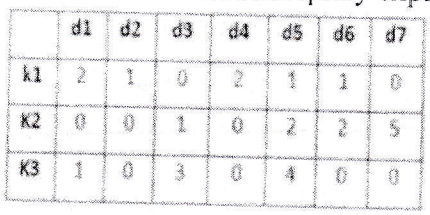
	which stem combination can be used for query expansion.  Where, D= Top retrieved local documents, k= stems		
b)	Create and analyze the 'Elias Delta' and 'Elias Gamma' coding and decoding forms separately on the following given numbers a)16 b) 15 c) 9 d)10	CO4	An
c)	Discuss on Generic Multimedia Indexing (GEMINI) approach for One-dimensional data . Apply GEMINI approach on a following image feature space where each image represent as a 3D feature vector: I1(0.90,0.40,0.70),I2(0.85,0.35,0.65),I3(0.80,0.45,0.68),I4 (0.20,0.70,0.40),I5(0.88,0.42,0.72) with Q=(0.87,0.38,0.69) calculate effective retrieval. use Euclidean Distance for similarity computation. Analyse this approach w.r.t. given image data.	CO5	An

	d1	d2	d3	d4	d5	d6	d7
k1	2	1	0	2	1	1	0
K2	0	0	1	0	2	2	5
K3	1	0	3	0	4	0	0

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