

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

Nov – Dec 2024	<i>Information Technology</i>
Program: B. Tech Scheme IIB	
Regular Examination: TY Semester: V	
Course Code: ITDLC5051 and Course Name: Advanced Databases and Information Retrieval	
Date of Exam: 2/12/2024	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)	What do you understand by query optimization? What are query trees? Apply the query optimization process using an example.		1	U,A
b)	Apply the concept of temporal database by providing a real time example. justify the example with a temporal database concept.		2	A
c)	Give classification between of ROLAP, MOLAP and HOLAP, .		4,5	AN
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Identify the challenges faced in ETL process		4,5	AN
b)	Give clear difference between ad-hoc and filtering retrieval in IR model		3	U
c)	Explain and Apply the concept of brute-force algorithm pattern searching by providing examples.		6	A
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Identify the steps in query processing in detail.		1	A
b)	Compare discretionary access control and mandatory access control with a suitable example; Discuss the types of privileges at the account level and those at the relation level.		2	A
c)	Identify the following concept with a block diagram. 1. Federated data warehouse 2. Hub-and-Spoke data warehouse		4,5	AN

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	in a real time scenario.			
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	Analyze and show the behavior of immediate data extraction and deferred data extraction. Take the example of "DATA IN BANKING SECTOR" and name the processes/ documents on which immediate and deferred data extraction can be applied. Justify your answer.		4,5	AN
b)	Explain Structured Text mode: a) Non-Overlapping list b) Proximal Nodes. Explain Model for browsing a) Flat b) Guided c) Hypertext		3	U
c)	Identify the behavior of Generic Multimedia Indexing Approach (GEMINI) with example.		6	A
