



R20 Regulation

Subject code: 3E6EA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Supplementary Examinations, February 2024

ADVANCED DATABASES

(CSE)

Maximum Marks: 70

Date: 22.02.2024 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks Marks)		(10x2M=20	CO	Bloom Tx
1	What are the main components of a typical database system architecture		CO1	L1
2	List any two benefits of using a parallel database for data processing and analysis?		CO1	L1
3	How does an object-based database differ from a traditional relational database?		CO2	L1
4	How does indexing work in an XML database?		CO2	L1
5	What is information retrieval in the context of advanced databases?		CO3	L1
6	How does the vector space model work in information retrieval?		CO3	L1
7	What is advanced application development in the context of advanced databases?		CO4	L1
8	What is the role of transaction processing in supporting online banking and financial systems		CO4	L1
9	What are the main objectives of database security?		CO5	L1
10	What is the difference between authentication and authorization?		CO5	L1

Part-B

Answer All the following questions.
(5X10M=50Marks)

11	a) Explain the factors to consider when choosing a parallel database system for a specific application? [5] b) Explain the real-world applications or use cases where parallel databases are commonly used? [5]		CO1	L2 L2
OR				
12	a) What is the purpose of the database system architecture? And explain how does the database system architecture handle backup and recovery processes? [5] b) Discuss the influence of the underlying computer system on the data base systems [5]		CO1	L2 L2
13	How does structure types and inheritance integrates with the SQL in Advance database [10]		CO2	L2
OR				

14	a) Describe the process of data manipulation in an object-based database system. [5] b) Discuss the advantages and disadvantages of using an object-based database. [5]	CO2	L2 L2
15	a) What are some advanced techniques for measuring retrieval effectiveness in information retrieval? [5] b) Explain relevance ranking using terms and hyperlinks in information retrieval [5]	CO3	L2 L2
	OR		
16	How does information retrieval support crawling and indexing the web [10]	CO3	L2
17	a) How does advanced application development support data visualization and interactive dashboards? [5] b) What are some emerging trends and technologies in advanced application development for databases? [5]	CO4	L2 L2
	OR		
18	a) Discuss the role of transaction processing in supporting online banking and financial systems. [5] b) How do advanced transaction processing systems handle high-volume and high-throughput transactions? [5]	CO4	L2 L2
19	a) Explain the difference between authentication and authorization in the context of database security. [5] b) What are the advantages and limitations of discretionary access control in database security? [5]	CO5	L2 L2
	OR		
20	Explain the concept of access control lists (ACLs) and their role in enforcing database security policies. [10]	CO5	L2