June-2024 PG Examinations

USN | | | | | | | | | | |

MCE202T

RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU, Belagavi)

I Semester Master of Technology (Computer Science and Engineering)

ADVANCES IN DATABASE MANAGEMENT & MINING

Time: 03 Hours *Maximum Marks: 100*

Instructions to candidates:

1. Each unit consists of two questions of 20 marks each.
2. Answer FIVE full questions selecting one from each unit.

UNIT-1

			M	BT	CO
1	a	Briefly discuss the fundamental idea of well-designed databases. (Features of database design)	10	1	1
	b	Identify the distinctions between *HTML* and *XML*?	10	1	1
		OR			
2	a	What is normalization, and why is it important in database design?	10	1	1
	b	With the help of an example, explain what are *XML* namespaces, and why are they important?	10	1	1

UNIT-2

3	a	In what ways does an object database vary from a relational database?	10	2	2
	b	What tools and techniques can be used to facilitate $C++$ language binding with other languages?	10	2	2
		OR			
4	a	What are the essential components of an Object-relational database system (*ORDBMS*)?	10	2	2
	b	What challenges might arise when binding $C++$ with other languages, and how can they be addressed?	10	2	2

UNIT-3

5	a	Identify the challenges associated with parallel databases? Explain.	10	2	2
	b	Discuss the benefits of using a parallel database? What are some common architectures used in parallel databases?	10	1	3
		OR			
6	a	What is a data warehouse, and how does it differ from a traditional database? Discuss.	10	2	2
	b	What is a mediator in the context of data integration, and what role does it play? What are the benefits of using mediators in data integration?	10	1	3

UNIT-4

7	a	List and explain the techniques that can be used to optimize query performance for quick answers in a decision support system.	10	2	3

	b	Identify the main evaluation matrices of association rule mining? Explain with the help of examples. What are tree-structured rules, and in what contexts are they used?	10	3	3
		OR			
8	a	List common implementation techniques for *OLAP* systems? Explain the role of *ETL* in the implementation of a data warehouse for *OLAP*?	10	2	3
	b	Explain *ROC* curve with an example, and what information does it provide?	10	3	3

UNIT-5

9	a	What are Geographical Information Systems (*GIS*), and how do they utilize spatial databases?	10	1	4
	b	Distinguish between an active database and standard database? Regarding an active database, what is a trigger?	10	2	4
		OR			
10	a	What is genome data management, and identify the challenges does it address?	10	1	4
	b	List and explain the functions of deductive database. With an example explain unique features in temporal data base.	10	2	4