

JNTUH UNIVERSITY COLLEGE OF ENGINEERING, SCIENCE AND TECHNOLOGY HYDERABAD
MCA II Semester Regular Examinations, September - 2024
DATABASE MANAGEMENT SYSTEMS

Time: 3 Hours

Max. Marks: 60

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 10 marks.

Part B carries 50 marks. Answer one question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part-A (5 × 2M = 10 Marks)

		Marks	BT	CO
1.	a) Define data model.	2	1	1
	b) What is a candidate key?	2	1	2
	c) What is loss less join property?	2	1	2
	d) Define recoverable schedule.	2	1	3
	e) What is clustered index?	2	1	4

Part-B (50 Marks)

	Unit-I	Marks	BT	CO
2. ✓	Explain the disadvantages of file system and how DBMS overcomes these disadvantages.	10	5	1
	OR			
3.	Construct an entity relationship diagram to design database for hostel management system. Incorporate basic and additional features of ER model.	10	3	1
	Unit-II			
4.	Demonstrate enforcement of key constraints in database management system.	10	2	2
	OR			
5.	Consider the following database schema to write query expressions in relational algebra. Employee (ID, name, City) Worksfor (ID, Cno, Salary) Company (Cno, Cname, Ccity) a) Find the names of the employees having salary more than 50000. b) Find the names of the companies situated in Warangal. c) Find the employees working in their city.	10	3	2
	Unit-III			
6. ✓	Explain the ECA model of triggers and their role in active databases.	10	5	2
	OR			
7.	Discuss the need of schema refinement in database design process with relevant examples.	10	6	2
	Unit-IV			
8.	What is conflict serializability? How to achieve it in a schedule? Explain with examples.	10	5	3
	OR			
9. ✓	Discuss different types of failures in database application and suggest any one mechanism to recover from a system crash.	10	6	3
	Unit-V			
10.	Make a comparison of sorted file organization with hash file organization.	10	4	4
	OR			
11. ✓	Explain B+ tree indexing structure as a multilevel indexing with suitable data records.	10	5	4