

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: ALL**

**SEMESTER : Vth
SESSION : MO/2025**

SUBJECT: CS265 DATABASE SYSTEM CONCEPTS

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	What are the advantage of using a database system?	[5] 1	1
Q.1(b)	What is an E-R diagram? Explain by suitable example and their symbol.	[5] 2	2
Q.2(a)	Explain the fundamental operations of relational algebra?	[5] 3	2
Q.2(b)	Explain the following SQL command with examples. a. Create b. insert c. alter d update e. Like	[5] 3	2
Q.3(a)	Explain the types of functional dependency with example.	[5] 4	2
Q.3(b)	What is 3NF ? How it is achived and what are the advantages over 2NF?	[5] 4	2
Q.4(a)	What are the various states of transaction? Explain with a state diagram?	[5] 5	3
Q.4(b)	What are the basic properties of transaction? Explain these properties with an example.	[5] 5	3
Q.5(a)	What do you mean by concurrent execution? Discuss its advantages?	[5] 5	3
Q.5(b)	Explain locking. What are different modes of locking explain?	[5] 5	3

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