

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION SP/2023)**

**CLASS: B.TECH  
BRANCH: CP&P/MECH/PROD/EEE/ECE**

**SEMESTER : VI  
SESSION : SP/2023**

**SUBJECT: CS301 DATABASE MANAGEMENT SYSTEM**

**TIME: 02 HOURS**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a)	What is data Independence? Explain its type?	[2] C1	1
Q.1(b)	Discuss the main characteristics of database approach and how it differs from traditional file systems.	[3] C1	4
Q.2(a)	What are the different types of database end users? Discuss the main activities with examples.	[2] C1	2
Q.2(b)	Explain the role of various Query processor components of a database.	[3] C2	2
Q.3(a)	Explain the concepts of generalization with appropriate example.	[2] C2	3
Q.3(b)	With suitable example, explain the mapping of different types of relationship represented in an ER diagram into tables.	[3] C3	
Q.4(a)	What is cursor? Why and how it is used in database? Explain with example.	[2] C2	3
Q.4(b)	With suitable example, explain join operation and its type.	[3] C3	2
Q.5(a)	How rename operation is performed in SQL? Give an example for the same.	[2] C3	4
Q.5(b)	What is relational Algebra? Write queries in relational Algebra to show following operations: Union, Selection & Projection, Cartesian product.	[3] C3	3

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