**18CSI02**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **December, 2021** | **Institutional Elective** | | |
| **Seventh Semester** | **Database Management Systems** | | |
| **Time:** Three Hours | | **Maximum:** 50 Marks | |
| *Answer Question No.1 compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer ONE question from each unit.* | | | (4X10=40 Marks) |
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| 1. | a) | Define Database. | CO1 |  |
|  | b) | Define data independence. | CO1 |  |
|  | c) | What is composite attribute? | CO1 |  |
|  | d) | Differentiate procedural and non-procedural languages. | CO2 |  |
|  | e) | What are unary operators in relational algebra? | CO2 |  |
|  | f) | Write the syntax of INSERT statement in SQL. | CO2 |  |
|  | g) | Define Multi valued dependency. | CO3 |  |
|  | h) | Define prime attribute. | CO3 |  |
|  | i) | Define transaction. | CO4 |  |
|  | j) | Mention any two variations of Two phase locking technique. | CO4 |  |
| **Unit -I** | | | | |
| 2. | a) | What are the advantages of DBMS? Explain. | CO1 | 5M |
|  | b) | Explain the client-server architecture of DBMS. | CO1 | 5M |
| **(OR)** | | | | |
| 3. | a) | Explain the different types of database end users? Discuss the main activities of each. | CO1 | 5M |
|  | b) | Explain the following with suitable example for each:   1. Entity type, Entity set 2. Different types of attributes | CO1 | 5M |
| **Unit -II** | | | | |
| 4. | a) | Explain Schema change statements in SQL. | CO2 | 5M |
|  | b) | Write a brief notes on Binary operators in Relational algebra. | CO2 | 5M |
| **(OR)** | | | | |
| 5. | a) | Write a short notes on Tuple Relational Calculus and Domain Relational Calculus | CO2 | 5M |
|  | b) | Explain the specification of constraints in SQL. | CO2 | 5M |
| **Unit -III** | | | | |
| 6. | a) | What is BCNF? Explain it with suitable example. | CO3 | 5M |
|  | b) | Explain about different kinds of anomalies. | CO3 | 5M |
| **(OR)** | | | | |
| 7. | a) | Explain the following:   1. Normalization 2. Partial Dependency 3. Transitive Dependency | CO3 | 5M |
|  | b) | Explain First, Second, Third Normal Forms. | CO3 | 5M |
| **Unit -IV** | | | | |
| 8. | a) | Discuss Time stamp based concurrency control technique. | CO4 | 5M |
|  | b) | Explain log based recovery technique. | CO4 | 5M |
| **(OR)** | | | | |
| 9. | a) | What is a transaction? Explain different stages of transaction. | CO4 | 5M |
|  | b) | Explain conflict serializability and view serializability. | CO4 | 5M |

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