**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular / Supplementary) DEGREE EXAMINATION** | | | |
| **Jan / Feb, 2021** | **Common to EEE & ECE** | | |
| **Seventh Semester** | **Database Management Systems** | | |
| **Time:** Three Hours | | **Maximum :** 60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X12 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| **Part - A** | | | |

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| 1 | Answer all questions | | (1X12=12 Marks) | |
|  | a) | When Not to Use a DBMS? | |  |
|  | b) | What are Entity Sets? | |  |
|  | c) | Define Data Independence | |  |
|  | d) | What is View? | |  |
|  | e) | Mention DML Commands | |  |
|  | f) | Define Database Schema. | |  |
|  | g) | What is Normal Form? | |  |
|  | h) | State Functional Dependency | |  |
|  | i) | Define 2NF | |  |
|  | j) | What is Schedule? | |  |
|  | k) | Recall Validation | |  |
|  | l) | Memorize Recoverability | |  |
| **Part - B** | | | | |
| 2 | a) | Explain about Client/Server Architectures for DBMS. | | 6M |
|  | b) | Refining the ER Design for the COMPANY Database | | 6M |
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| 3 | a) | Give an example of Database Application and explain. | | 6M |
|  | b) | Advantages of Using the DBMS Approach. | | 6M |
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| 4 | a) | Explain relational Model Constraints | | 6M |
|  | b) | Write about the DCL AND DDL. | | 6M |
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| 5 |  | Consider the following schema for a COMPANY database : Employee (EmployName, SSN, Address, Sex, MonthlySalary, Deptnumber), Department (Deptname, Deptnumber, MGRSSN, Deptlocation). Analyse and mention different key attributes and relationship among entities.   1. Retrieve all employees who either work in Deptnumber 4 and earn over Rs.2,50,000 per year (or) work in Deptnumber 5 and earn over Rs.3,00,000 per year. 2. Retrieve the Social Security numbers of all employees who either work in department(s) located in “Vijayawada” or directly supervise an employee who works in department 5 3. Retrieve the name and address of all employees who work for the “Research” department. 4. Retrieve the employee details who are working in the same department as Employee “Mr. Smith” is working. | | 12M |
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| 6 | a) | State the informal guidelines for relational schema design. Explain how these informal guidelines used as a measure to determine the quality of relational schema design | | 6M | | |
|  | b) | Explain types and properties of Functional Dependencies. | | 6M | | |
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| 7 |  | Explain in detail 3NF and BCNF with examples. | | 12M | | |
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| 8 | a) | Illustrate Desirable Properties of Transactions. | | 6M | | |
|  | b) | Discuss Concurrency Control Based on Timestamp Ordering | | 6M | | |
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| 9 | a) | Describe the concept of serializability by two-phase locking with example | | 6M | | |
|  | b) | What is Multiple Granularity Locking? | | 6M | | |

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