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| **P.V.P Siddhartha Institute of Technology** | | | | | | | | | |
| **Department of Computer Science and Engineering** | | | | | | | | | |
| **Course: B.Tech** | | **Year: II** | **Semester: II** | **Descriptive: I** | **A.Y:2024-25** | | | | |
| **Subject Code: 23CS3402** | | **Subject Name: Database Management Systems** | | | **Regulation:PVP23** | | | | |
| **Duration:1 hr 30 min** | | **Maximum Marks:30 Marks** | | | **Date: 28-02-25** | | | **Session: F.N** | |
| **Answer ONE Question from each section. Each Question carries 10 Marks. 3×10M=30M** | | | | | | | | | |
| **Q. No** | **Question** | | | | | **Marks** | **CO** | | **Level** |
| **1 a)** | Discuss the key characteristics that differentiate the database approach from traditional file processing systems. | | | | | **5** | CO1 | | L2 |
| **1 b)** | Explain various categories of Data Models. | | | | | **5** | CO1 | | L2 |
|  | **OR** | | | | |  |  | |  |
| **2 a)** | Explain the three-schema architecture for database systems with a neat diagram. | | | | | **5** | CO1 | | L2 |
| **2 b)** | Discuss the role of data independence and how it is achieved in the database approach. | | | | | **5** | CO1 | | L2 |
|  | | | | | | | | | |
| **3 a)** | Draw an ER Diagram for the Company database. | | | | | **5** | CO4 | | L4 |
| **3 b)** | Discuss the design phases of ER diagrams? | | | | | **5** | CO1 | | L2 |
|  | **OR** | | | | |  |  | |  |
| **4 a)** | * Drawing of ER model of university database application considering the constraints − * A university has many departments. * Each department has multiple instructors (one person is HOD). Here the HOD refers to the head of department. * An instructor belongs to only one department. * Each department offers multiple courses, each subject is taught by a single instructor. * A student may enroll for many courses offered by different departments. | | | | | **5** | CO4 | | L4 |
| **4 b)** | Discuss the following terms :  i) Cardinality ii) Single valued attribute  iii) Multivalued attribute iv) Derived attribute | | | | | **5** | CO1 | | L2 |
|  | | | | | | | | | |
| **5 a)** | Explain Database system environment with a neat diagram. | | | | | **5** | CO1 | | L2 |
| **5 b)** | Compare centralized and client-server architectures in the context of Database Management Systems. | | | | | **5** | CO1 | | L2 |
|  | **OR** | | | | |  |  | |  |
| **6** | Explain how entities in an ER model are transformed into relational tables. Provide an example. | | | | | **10** | CO1 | | L2 |