



**JU – 1020**

**V Semester B.E. (CSE/ISE) Degree Examination, Jan./Feb. 2014  
(2K11 Scheme)**

**CI 51 : DATABASE MANAGEMENT SYSTEMS**

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer **five** questions selecting at least **two** from **each** Part.

**PART – A**

1. a) Discuss the characteristics of database approach as compared to traditional file processing approach. **10**  
b) Explain the following : **6**
  - i) DML
  - ii) DDL
  - iii) SDL.
- c) Write the classification of DBMS. **4**
2. a) Define the following terms with an example for each  
i) Entity  
ii) Derived attribute  
iii) Weak entity  
iv) Cardinality ratio  
v) Complex attribute. **10**  
b) Write an E-R diagram for a company database which includes employees, departments and projects. List out all assumptions made. **10**
3. a) List the aggregate functions commonly used in relational algebra. Give examples for any three of them. **10**  
b) A database consists of the following relations :  
TR (tname, designation)  
S (sname, address)  
TS (tname, subject)  
R (sname, subject)  
Write the relational expressions for the following queries.  
i) List the name and designation of teachers who teach the student 'Ram'.  
ii) List the names of students taught by the teacher 'Shyam'. **10**

**P.T.O.**



4. a) Write the ER-to-Relational mapping algorithm showing each step with an example. 10
- b) Consider the 'Hotel' schema shown below
- Hotel (Hotel No., Hotel Name , City)
- Room (Room No., Hotel No., Type, Price)
- Booking (Hotel No., Guest No., Date, Room No.)
- Guest (Guest No., Guest Name, Guest Address)

Answer the following queries in SQL,

- i) Create the booking table.
- ii) Insert a row in the guest table.
- iii) Update the price of all rooms by 5%
- iv) How many hotels are there ?
- v) What is the average price of a room ? 10

#### PART – B

5. a) What are the anomalies if proper design of a database is not carried out ? Illustrate each with an example. 10
- b) What is normalization ? Explain 3NF with an example. 10
6. a) Explain the RAID technology in secondary storage. 10
- b) Differentiate between single-level and multi-level indexes. 10
7. a) Explain the storage organization is ORACLE. 10
- b) Write in detail the architecture of MSACCESS. 10
8. a) What are the different ways of describing knowledge during determining ? 10
- b) Write a note on mobile databases. 10
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