

Council for Technical Education and Vocational Training
Office of the Controller of Examinations
Sanothimi, Bhaktapur
Regular/Back Exam-2078, Kartik/Mangsir

Program: Diploma in Computer Engineering **Full Marks: 80**
Year/Part: II/I (2018 New Course) **Pass Marks: 32**
Subject: Database Management System **Time: 3 hrs**

*Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.*

Attempt Any Eight questions.

1. Define terms data, information, database and DBMS. [10]
2. What are the different types of data models? Explain any two of them in brief. [10]
3. Explain ER diagram. What are entity, attributes and keys? Describe different types of relationship. [4+2+4]
4. Draw ER diagram for Hotel Management System where customers check in and check out of the room. Hotel also contains pre-booking facility. [10]
5. Define SQL in brief. [10]

EMPLOYEE

Emp id	Name	Salary	Address
101	Ravi Regmi	2000	Butwal
102	Keshab Bashyal	8000	Kathmandu
103	Angeeta Rijal	20,000	Surkhet
104	Rajeev Khadka	10,000	Gulmi

Write the table given as above.

- a) Write a query to show the employee name list from table whose name starts with "R".
- b) Write a query to show the employee whose salary is greater than 8000.
6. Why normalization is needed in database. Explain 1NF, 2NF, 3NF. [10]
7. What is transaction? Explain ACID properties of transaction. [10]
8. Write short notes on : **(Any Two)** [2x5=10]
 - a) Advantages of DBMS approach
 - b) Relational Mapping
 - c) Data recovery
9. Explain two-Phase Locking and Time-stamp Ordering Techniques. [10]

Good Luck !