2054
B.Sc. (Hons.) Bio-Informatics
Fourth Semester
BIN-4004: Introduction to Database Management System

Time allowed: 3 Hours

Max. Marks: 60

NOTE: *Attempt __five__ questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

Q1) Attempt all the questions given below:
   a) What are the components of a Database Management System? (2)
   b) What do you understand about data independence? (2)
   c) What is a View in SQL? Give its uses. (2)
   d) Give the difference between ER and EER diagrams. (2)
   e) What do you understand by nested queries? Give an example. (2)
   f) Define Join in SQL? Give its uses. (2)

UNIT-I

Q2) a) Differentiate between Database Management System and File processing system. (6)
   b) What is an Object Relational Model? How is it different from the Entity Relationship Model? (6)

Q3) a) Discuss entities, attributes and constraints with the help of suitable examples. (6)
   b) What are the components of an ER diagram? Explain with the help of examples and diagrams. (6)

Q4) What do you understand by data modeling? What are various components of an EER model? How to convert EER diagrams into tables? (12)

UNIT-II

Q5) a) How to create, alter and delete a table? How to insert data into a table? How to update and delete the contents of a table? Explain with the help of queries in SQL. (6)
   b) Discuss about aggregate functions and nested queries with the help of suitable examples. (6)

Q6) a) What are indexes? What is the use of indexes? How to use indexes in SQL? (6)
   b) Discuss about centralized and client server architecture of databases. (6)

Q7) Discuss the following with the help of queries: (12)
   a) Ordering of tuples
   b) Sub-queries
   c) Equivalence of queries
   d) DDL
   e) Tuple variables
   f) Distributed Database Systems

x-x-x