Exam.Code:0042 Sub. Code: 1009

1058

B.Sc. (Hons.) Bio-Informatics Fourth Semester

BIN-4004: Introduction to Database Management System

Time allowed: 3 Hours

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Max. Marks: 60

NOTE: Attempt <u>five</u> questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:
 - a) List two major advantages of DBMS approach over traditional file based system approach.
 - b) What is the purpose of foreign key?
 - c) How ER model is different from EER model? Discuss in brief.
 - d) What do you understand by a NULL value? What purpose does it serve?
 - e) What is a JOIN in SQL? What is its utility? Discuss in brief.
 - f) What do you understand by a distributed database? (6x2)

<u>UNIT – I</u>

II. a) Briefly discuss different types of database languages and their utility.

- b) Compare the characteristics of Hierarchical Model with Network Model. (6,6)
- III. a) Explain three-schema architecture with the help of a diagram and relate it to the concept of data independence.
 - b) Discuss the concept of aggregation in ER Modelling with the help of a suitable example. (6,6)
- IV. a) Draw and explain ED Diagrams for a Hotel Management System. Appropriately assume any required information yourself.
 - b) Write a short note on the characteristics of Object Relational Model. (8,4)

<u>UNIT – II</u>

V. Give the syntax and then demonstrate the use of following SQL statements with the help of suitable examples: CREATE TABLE. INSERT, UPDATE. DELETE. SELECT. CREATE VIEW.
 (12)

- VI. a) What is meant by nested queries? What purpose do they serve? Give one example.b) What is the use of MINUS operator? Explain with the help of an example.
 - c) What is an index? What is its utility? Briefly discuss the statement used to create an index. (3x4)
- VII. Write notes on the following:
 - a) Relational Algebra
 - b) 3-Tier Architecture

(6,6)

x - x - x

(a) How bill model is different from EER model? (Pactus in brook)
 (b) What do you understand by a NULL value? What purpose does it surve?
 (c) What is a JODR in SQL? What is its differ? Discuss in brack.
 (c) What do you understand by a dhat brack database?

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Give the syntra and then dominations the use of fullowing SQL statements with the help of suitable examples. CREATE TAILE, INSERT, UPDATE, DELF, a SELLET, CREATE VIEW. (12)