B.A./B.Sc. (General) 5th Semester
1128

COMPUTER SCIENCE

Paper–A05–Business Data Processing and Database Management Software (In all Mediums) (OLD)

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :– Attempt **five** questions in all, selecting **one** question each from Units I, II, III and IV. Question **I** is compulsory.

UNIT–I

I. . What is E-R model ? Why is it required ? Create entity relationship diagram for the sample database for a Hockey tournament given below :

(i) Many teams are participating.

(ii) Each team has a name, city, a coach, a captain, and number of players.

(iii) Each player belongs to only one team.

(iv) Each player has a name, a playing position and skill level.

(v) Game is played between two teams (host_team and guest_team), has a date and a score.   13

II. (a) Explain three tier architecture of DBMS.

(b) Compare and contrast various data models for database management systems. 6,7

UNIT–II

III. (a) Differentiate between Relational algebra and Relational calculus.

(b) What is database integrity ? Explain different types of database integrity. 6,7

IV. (a) Explain the concept of database security. Why is it required ? How will you ensure that the database is secure ?

(b) Explain following relational algebraic operators with examples :

(i) Cartesian Product.

(ii) Intersection. 7,6

UNIT–III

V. (a) Explain following SQL statements with syntax and examples :

(i) rename

(ii) alter table

(iii) truncate.

(b) What are date functions ? Where are these used ? Explain any two date functions. 9,4

VI. (a) What are nested queries ? What is their significance ? Give one example of nested queries.

(b) What are joins ? Where do we use them ? Explain self join with the help of an example. 6,7

UNIT–IV

VII. (a) What are views ? Give rules of DML statements on join views.

(b) Explain application Privileges management techniques with the help of an example. 4,4,5

VIII. (a) What is database recovery ? What are the methods used for database recovery ?

(b) Differentiate between indexes and sequences. Give syntax to create both and also use an example to explain them. 7,6

(Compulsory Question)

IX. (a) What is data independence ?

(b) Explain any two features of relational data model.

(c) Explain referential integrity.

(d) What is Tuple Relational calculus ?

(e) Explain any two arithmetic functions in SQL.

(f) What does commit statement do ? 13