

(4) TBC-302/TBI-301

4. (a) What do you mean by Constraints ?  
Discuss the entity integrity and referential integrity constraints. Why is each considered important ? (CO2)

OR

- (b) Define the following with an example : (CO2)

- (i) Weak entity type
- (ii) Participation constraint
- (iii) Cardinality ratio
- (iv) Recursive relationship
- (v) Specialization

5. (a) What are Relational Keys ? Why are they required in a table ? Explain Foreign Key and its properties using SQL examples. (CO2)

OR

- (b) Define RDBMS. Explain its distinctive features. Also list various properties of a relational table. (CO2)

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## TBC-302/TBI-301

B. C. A./B. SC. (IT)

(THIRD SEMESTER)

MID SEMESTER EXAMINATION, 2022

DATABASE MANAGEMENT SYSTEM

Time : 1½ Hours

Maximum Marks : 50

- Note : (i) Answer all the questions by choosing any *one* of the sub-questions.  
(ii) Each question carries 10 marks.

1. (a) Compare DBMS and early file systems bringing out the major advantages of the database approach. (CO1)

OR

- (b) Explain the overall architecture of a typical DBMS with a neat block diagram. (CO1)

2. (a) Describe the three levels of data abstraction. What is the role of Database Administrator ? (CO1)

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OR

- (b) Define data independence. What are the different database end users ? How do they interact with the system ? (CO1)
3. (a) Write SQL queries for the following : (CO2)

salesman_id	name	city	commission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5005	Pit Alex	London	0.11
5006	Mc Lyon	Paris	0.14
5003	Lauson Hense	Rome	0.12
5007	Paul Adam	Rome	0.13

- (i) Display name and commission for all the salesmen.
- (ii) Retrieve salesman id of all salesmen from orders table without any repeats.

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- (iii) Display names and city of salesman, who belongs to the city of Paris.
- (iv) Display all the information for those customers with a grade of 200.
- (v) Display the order number, order date and the purchase amount for order(s) which will be delivered by the salesman with ID 5001.

OR

- (b) Draw an E-R diagram for HOSPITAL Management system with the following :
- PATIENTS(Pssn, Lastname, Firstname, PhoneNo, Sex, DOB, Address)
- DOCTORS(Dssn, Lastname, Firstname, PhoneNo, Sex, DOB, Address)
- BEDS(RoomNo, BedNo, Type, Status, Price)
- ACCOUNTS(DateIn, DateOut, Amount)
- Show all the types of Entities and Attributes. Assume your own Relationships, Participation constraints and Cardinality ratios with explanation.

(CO2)

P. T. O.