CLASS: IMSc   SEMESTER :
BRANCH: IMH   SESSION : SP2023

SUBJECT: CS325 DATABASE MODELLING
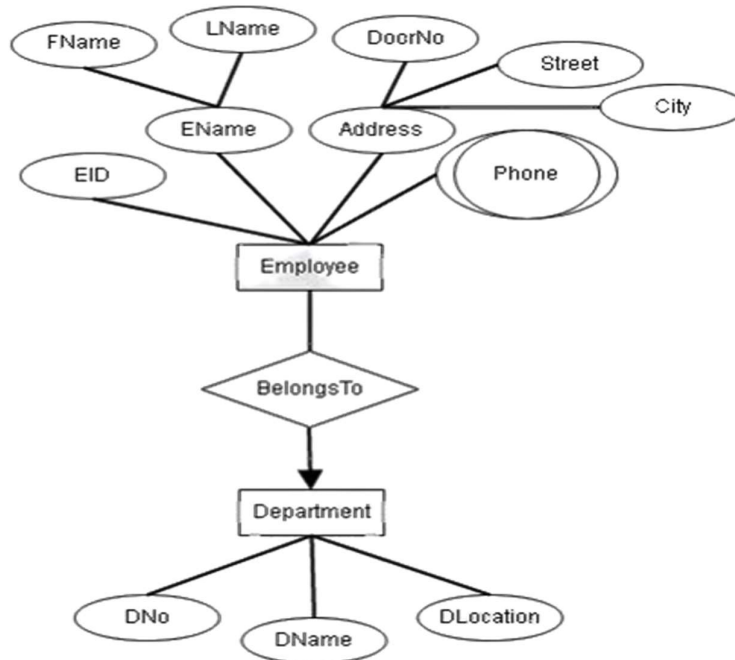
TIME: 02 Hours   FULL MARKS: 25

INSTRUCTIONS:
1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. **Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates**

			CO	BL
Q.1(a)	Explain Logical design of database life cycle with suitable example.	[3]	1	2
Q.1(b)	In a classroom, there are many students. Among them one student may be the class monitor. Draw an ER diagram for the given statements mentioning connectivity, existence and degree of the relationship.	[2]	1	4
Q.2(a)	The flight database stores details about an airline's fleet, flights, and seat bookings. Consider the following requirements list: i. The airline has one or more airplanes. ii. An airplane has a model number, a unique registration number, and the capacity to take one or more passengers. iii. An airplane flight has a unique flight number, a departure airport, a destination airport, a departure date and time, and an arrival date and time. iv. Each flight is carried out by a single airplane. v. A passenger has given names, a surname, and a unique email address. vi. A passenger can book a seat on a flight. Draw an ER diagram using crow's-foot approach for the above details.	[3]	1	4
Q.2(b)	Differentiate Generalization and Aggregation with suitable examples.	[2]	1	2
Q.3(a)	Convert the following schema into tables.	[3]	2	5

			CO	BL
Q.3(b)	Write the SQL commands for creating the tables of the above Figure.	[2]	2	3

Q.4(a)   Elaborate the steps for conceptual schema integration with proper examples.   [4]   3   3
Q.4(b)   Define entity integrity and Referential integrity.   [1]   2   1

Q.5(a)   Draw an activity diagram to resolve an issue in a software design.   [4]   3   6
         The issue may be resolved in the following way: After ticket is created by some
         authority and the issue is reproduced, issue is identified and then the resolution is
         determined. After that, issue is fixed and verified, and ticket is closed, if issue was
         resolved.

Q.5(b)   State the difference between join and merge in an activity diagram.   [1]   3   1

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