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Program: MIM – I Sem. (2019-22 Batch)
Subject: Database Application
(Semester Exam)

Date: 19 Nov 19

Time: 3 Hrs.

Note: Question 1 is compulsory
Attempt any 4 out of remaining 7

Marks: 50

- Q. 1 Suppose you are given the following requirements for a simple database for the National Hockey League (NHL): 10 M
- the NHL has many teams,
 - each team has a name, a city, a coach, a captain, and a set of players,
 - each player belongs to only one team,
 - each player has a name, a position (such as left wing or goalie), a skill level, and a set of injury records,
 - a team captain is also a player,
 - a game is played between two teams (referred to as host_team and guest_team) and has a date (such as May 11th, 1999) and a score (such as 4 to 2). Construct a clean and concise ER diagram for the NHL database.
 - Construct a clean and concise ER diagram for the NHL database.
 - State any assumptions you need to make in order to develop a complete diagram.
 - List out entities, relationships separately and the draw suitable ER diagram.
- Q. 2 **Explain Various database models with suitable diagram and list down their characteristics.** 10 M
- Q. 3 **Explain different database architectures with suitable diagram and real world examples** 10 M

- Q. 4 Explain Data independence and types in detail with suitable example. Explain why it is very difficult to achieve logical data independence with example. 10 M**
- Q. 5 Explain Database Normalization and its importance in database design with suitable diagram and examples. 10 M**
- Q. 6 Explain 13 Codd's rules for Relational Databases with suitable example. 10 M**
- Q. 7 Explain and differentiate between OLTP and OLAP with suitable diagram and real world examples. 10 M**
- Q. 8 What is transaction Isolation Levels in database management system, explain with suitable example and necessary concepts to clear the Isolation levels. 10 M**