AJEENKYA
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End Term Examinations (April/ May 2019)

School: School of Engineering **Program: B.Tech. - CTIS**

Course: Database Security **Course Code: CSC 331**

Semester: VI **Max Marks: 30** **Duration (mins): 60**

Note- 1.Figures to the right indicates full marks.

2. Attempt any three questions.

Q1. a) Elaborate with example DDL, DML and DCL. (5)

b) Compare Hierarchical model and Network database model with example. (5)

Q2. a) Suppose you are given the following requirements for a simple database for the National Hockey League (NHL): · 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 April 24th, 2019) and a score (such as 4 to 2). Construct a clean and concise ER diagram for the NHL database. List your assumptions and clearly indicate the cardinality mappings in the ER diagram. (5)

b) Describe the following concepts: (5)

i. Symmetric key cryptography

ii. Asymmetric key cryptography

iii. Digital signature.

Q3. a) Explain ACID properties with example. (5)

b) Define the following terms with example: (5)

i. Super Key

ii. Candidate Key

iii. Primary Key

iv. Alternate Key

v. Foreign Key.

Q4. a) Find the number of candidate keys for following relation: (5)

R(ABCDEFGH)

CH→G

A→BC

B→CFH

E→A

F→EG

b) Check whether conflict serialzability exists or not using Precedence Graph: (5)

Schedule: $R_1(B)$, $R_3(C)$, $R_1(A)$, $W_2(A)$, $W_1(A)$, $W_2(B)$, $W_3(B)$, $W_1(B)$, $W_3(B)$, $W_3(C)$

Q5. a) Eliminate the redundant FD's where (5)

F= {X→YZ, ZW→P, P→Z, W→XPQ, XYQ→YW, WQ→YZ}

b) Differentiate between SQL and NoSQL. (5)

*******ALL THE BEST*******