

Roll No

Thapar Institute of Engineering and Technology (TIET), Patiala
Department of Computer Science & Engineering (CSED)
AUXILIARY EXAMINATION

B. E. (Second Year): Semester-IV	Course Code: UCS310 Course Name: Database Management System
August 24, 2022	Time: 5:30 pm to 7:30 pm
Duration: 2.00Hrs, Max. Marks: 50	Name of Instructor: Dr. Sumana Maiti

Note: Attempt all the questions in sequence. Assume any missing data. Please be precise and concise while writing.

Q1	(a)	Suppose the following requirements are given for IPL (Indian Premier League) a. There are many teams and each team has a name, captain, state, set of players, coach. Each player has name, id, age, skill, injury. b. Each player is associated with only one team. The captain of the team is also a player. c. The game is played between two teams (which are named as team 1 and team 2) in a particular city and with a score. Draw a clear ER Diagram of IPL to identify the entity sets, attributes and the relationships.	(7+3)
	(b)	Discuss the difference between Entity and Entity Set with proper examples.	
Q2	(a)	Write a SQL sub query using given Student schema to find those students who scores less than the average score and studies in a department with any student whose last_name does not contain a character 'n'. Student {Stu_id, First_name, Last_name, Join_date, Score, Department_id}	(6+4)
	(b)	(i) Write a SQL query using given Emp scheme to fetch Emp_id and Salary of the employees, where the address is Kolkata. (ii) Write a SQL query using given Emp scheme to find the Emp_name who earns more than the average salary Emp {Emp_id, Emp_name, Salary, Address}	

Q3	(a)	Find the highest normal form of a relation R(V, W, X, Y, Z) with functional dependency set as: { WX→Y, VX→WZ, W→Z }	(6+4)
	(b)	State the difference between 3NF and BCNF with proper examples.	
Q4	(a)	What is the requirement of concurrency control. Discuss with proper examples	(4+6)
	(b)	Check whether the given schedule is conflict serializable or not. <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <u>T1</u> R(A) R(B) W(A) </div> <div style="text-align: center;"> <u>T2</u> R(A) R(B) W(B) </div> </div>	
Q5	(a)	Create a local function to call a stored function which is used to display the score of a student from table Student (Stu_id, Score) whose Stu_id is passed as an argument. Also handle the exception when Stu_id does not found.	(6+4)
	(b)	What are the requirements of triggers in PL/SQL. Discuss briefly.	