Database and Systems and Web_Test 1

Test1 Examination-2020-21
B. Tech-IInd Year
Course Title: Database Systems and Web
Course Code: 15B11CI312
Maximum Marks: 20
Maximum Time: 01 Hr

Note:
1. This is a paper and pen examination. Answer have to be written on papers only in your own handwriting. No answer has to be given on Google form.
2. On the top of your answer sheet, write your Name, Eno, Batch and Date of exam, Course name and Course Code.
3. Answer should be uploaded collectively at the end of the Examination.
4. Save the T1 Answer script file with the name as "studentname_studentenroll_Batch".
5. Students can fill the google form and submit the answer scripts ones. Multiple Responses are prohibited.

*Required

Please enter the details

Student Information

1. Student Name *

2. Student Enrollment No. *

3. Student Batch *

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4. Student Email id *

5. Password *

Section 1: Objective Type questions (Marks 10)

Q1[CO4] [Marks 1] The _____ construct returns true if a given tuple is present in the subquery.

Q2[CO4] [Marks 1] The _____ comparison checker is used to check “each and every” condition.

Q3[CO4] [Marks 1] Consider three tables: Courses, Students & Enrolled table. Here Student(Sid, Sname); Course(Cid, Cname) and Enrolled(Sid, Cid) . Complete the given query to find all unique students who have enrolled for more than one course.
SELECT ----------_e1.sid FROM enrolled as e1, -------- WHERE--------- ;

Q4 [CO1] [Marks 1] Let R(a, b, c) and S(d, e, f) be two relations in which d is the foreign key of S that refers to the primary key of R. Consider the following four operations R and S. I. Insert into R II. Insert into S III. Delete from R IV. Delete from S Which of the following can cause violation of the referential integrity constraint above?

Q5 [CO4] Consider the following tables:
Executive(executive_id, name, town, service_fee)
Client(Client_id, Client_name, town, grade, executive_id)
Purchase(Bill_no, Bill_amt, Bill_date, Client_id, executive_id)

Note: In Client table there can be some tuples where executive_id attribute value is Null i.e. no executive has been assigned to the Client.

Write the SQL queries for the following statements:
a) [Marks1] Find the service charges of those executive who have client in the same city where they reside.
b) [Marks1] List all the executives who have the Client with the highest Purchase of a day.
c) [Marks1] Print all the Purchases which values are greater than the average Purchase value for 1st August 2020.

Q6[CO4] [Marks1] In JIIT, Faculty are recruited on regular basis what will be the SQL function used to find the faculty recruited in last n days.

Q7 [CO4] [Marks 1] Write a query to fetch values in table “A” that are and not in table “B” without using the NOT keyword. A (ID, name, salary) ; B (ID, Hname, address)

Q8 [CO1] [Marks 1] A universal set of values corresponding to an attribute is known as ----------

Section 2: Subjective Type Questions (Marks 10)

Q1: [CO2] BCCI announces to start his signature event named IPL. All the matches of IPL will be hosted in and only in UAE. There are 3 cricket stadiums in UAE named as Dubai, Abu Dhabi, and Sharjah cricket ground. There are 8 teams in the tournament where each team will play at most 2 matches with every other team. On any single day, there exists only a single match between two teams. Each team is divided into either playing staff or supporting staff. Playing staff can include 11 to 20 members while supporting staff can have 10 to 15 members. All the teams are residing in different hotels where each member will stay in a single room.
(a) [Marks 2]Design an EER diagram for the given problem:
(b) [Marks2]Transform the designed EER of part Q1(a), into a relational mapping with proper constraints, attributes, and mapping.
(c) [Marks1] Identify the constraint Total participation (TP), Weak Entity (WE), Disjoint (D), and Overlapping (O) for the designed EER. Specify the count of each constraint.

Q2:[CO4] [Marks 2] Suppose a New start-up “XYZ” has hired you. The first project which was assigned to you is to design a chat application named “HowzUP” which can share Text, Image, Audio, and Video between any peers. You have to design a proper layered architecture for this application. Discuss which layered architecture you follow for this application and show the working on each layer with a sample example.

Q3:[CO4] [Marks 3] Suppose a new world class international university is opened at NCR, where students from different nations took admission. The university stores the record in the following manner in their database:

Continent (Cid, Cname, Ccode)
State (Sid, Sname, Cid)
Student (Stu_id, first_name, last_name)
Exam (Ecode, Stu_id, Start time, finish time)
Suppose the system administrator executed the following Query:

“SELECT student.stu_id, student.first_name, student.last_name, SUM(DATEDIFF("SECOND", exam.start_time, exam.finish_time)) AS exam_duration_sum
FROM Exam
INNER JOIN student ON exam.stu_id = student.stu_id
GROUP BY student.stu_id, student.first_name, student.last_name ORDER BY student.stu_id ASC;”

Demonstrate the step wise execution of above query with proper example (Take Dummy data as an example).

Submit the Answersheet

Please name the file as studentname_Studentenrollno_batch. Submit the file in pdf format.

6. Add File *

Files submitted: