National Institute of Technology Calicut
Department of Computer Science and Engineering
CS3095D DBMS Lab
Mid Term Test- 1

Time: 60 Minutes   **Date: 14.09.2021**   **Marks : 11**

Consider a production database for a company. The company consists of DIVISIONs, PERSONNEL, MACHINEs and different PARTS. The company has multiple divisions situated at different locations in India. These divisions are handled by a divisional manager. Each divisional manager has a group of persons working under him. A personnel working in the company can use a particular machine to produce a part. After a part is produced, its weight, color, and price is checked and noted down. Thus, the production of the company is a group effort by PERSONNEL, MACHINE, and the PART produced (i.e. a personnel uses a machine to produce a part). The database stores the quantity of parts produced on a daily basis. There is at least one personnel in each division. One personnel is always part of only one division and can be manager of only one division. One machine can only be used by one division (it can also be inoperative). There are no more restrictions concerning the relationships. The relational schema of the database is given below:

DIVISION

div_id	div_name	div_place	div_mgr_id

PERSONNEL

pid	pname	pdesignation	div_id	pmgr_id

MACHINE

mid	mmake	mtype	mname	mperformance	div_id	eid

PARTS

eid	ename	eweight	ecolor	eprice

PRODUCTION

pid	mid	eid	qty	price

Answer the following questions:

1. All aggregate functions except _____ ignore null values in their input collection.   (0.5 marks)

2. Get the part number of all parts produced by more than one personnel.   (0.5 marks)

3. Write an SQL query to find the machine details which produces the least weight part.   (1.5 marks)

4. Write an SQL query to find out which parts id produced, attains maximum price. (1.5 marks)

5. Give the correct interpretation of the following query: (1.5 marks)
   SELECT pname
   FROM personnel
   WHERE pid IN (SELECT pid
                 FROM production
                   WHERE eid IN (SELECT eid
                                  FROM parts
                                    WHERE ecolor='red'))

6. Identify all the details of persons who is having the same name as his manager. (1.5 marks)

7. Give the correct interpretation of the following query: (2 marks)
    SELECT pname
     FROM personnel
     WHERE NOT EXISTS (SELECT *
                       FROM parts
                         WHERE NOT EXISTS (SELECT *
                                           FROM production
                                             WHERE pid = personnel.pid
                                                 AND eid = parts.eid))

8. Write an SQL query to find the names of the personnels who have produced more than 1000 (2 marks)
   quantity of parts at a time.