**...COMPUTER SCIENCE PRATICAL...**

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**Ques 1.**

**mysql> create database du\_library;**

**mysql> create table LibraryBooks(**

**-> Accession\_Number decimal(10,5) primary key,**

**-> Title varchar(30) not null,**

**-> Author varchar(50) not null,**

**-> Department varchar(50) not null,**

**-> Purchase\_Date date not null,**

**-> Price decimal(7,2) not null);**

**mysql> Create table IssuedBooks(**

**-> Accession\_Number decimal(10,5) not null,**

**-> Borrower Varchar(30) not null**

**-> foreign key (Accession\_Number) references LibraryBooks(Accession\_Number));**

**(a)Primary Key- Accession\_Number in table LibraryBooks**

**Foreign Key- Accession\_Number in table IssuedBooks**

**mysql> insert into LibraryBooks values(51235.56,"Introduction to**

**Matrices","S.C. Gupta","Statistics",'1997-01-12',105.00);**

**mysql> insert into LibraryBooks values(21826.46,"Database System Concepts","Sumitra Arora","CS",'2003/05/30',620.00);**

**mysql> insert into LibraryBooks values(121.4345,"Fundamental of Statistics","V.K. Kapoor","Statistics",'2002/03/31',550.00);**

**mysql> insert into LibraryBooks values(76389.4647,"Play with Python","Navathe","CS",'2002/06/21',499.00);**

**mysql> insert into LibraryBooks values(6737.84,"Discrete Maths","M.L.Aggrawal","Mathematics",'1999/08/04',450.00);**

**mysql> insert into IssuedBooks values( 21826.46,"Vinay Kumar Singh");**

**mysql> insert into IssuedBooks values( 121.4345,"Vasav Choudhary");**

**mysql> insert into IssuedBooks values( 6737.84,"Utkarsh mathur");**

**mysql> insert into IssuedBooks values( 21826.46,"Aryan raghuvanshi");**

**mysql> insert into IssuedBooks values( 76389.4647,"Jatin Choubey");**

**(b) mysql> set foreign\_key\_checks=Off;**

**mysql> delete from librarybooks where accession\_number=21826.46;**

**mysql> delete from librarybooks where title="Database System Concepts";**

**mysql> set foreign\_key\_checks=on;**

**(c) mysql> update librarybooks set department="CS" where title="discrete maths";**

**(d) mysql> select Title from librarybooks where department="CS";**

**(e) mysql> select Title from librarybooks where department="CS" and author="navathe";**

**(f) mysql> select Title from librarybooks l, issuedbooks i where l.accession\_number=i.accession\_number and l.department="CS";**

**(g) mysql> select Title from librarybooks where price<500 and purchase\_date between '1999/01/01' and '2004/01/01';**

**Ques 2.**

**mysql> create database cs\_student;**

**mysql> create table personal\_informartion(**

**-> Roll\_no int(10) primary key,**

**-> Name char(30) not null,**

**-> DOB date not null,**

**-> Address varchar(70) not null,**

**-> Marks\_in\_12th int(2) not null,**

**-> Phone\_number Varchar(10) not null);**

**mysql> create table Paper\_Details(**

**-> Paper\_Code int(4) primary key,**

**-> NameofPaper char(30) unique);**

**mysql> create table Academic\_Details(**

**-> Roll\_no int(10) primary key,**

**-> Paper\_code int(4) not null,**

**-> Attendence int(3) not null,**

**-> Marks int(3) not null,**

**-> foreign key(roll\_no) references personal\_informartion(roll\_no),**

**-> foreign key(paper\_code) references Paper\_details(paper\_code));**

**(a) Primary key - Roll\_no in table personal\_informartion**

**Paper\_code in table Paper\_details**

**Foreign key - Roll\_no in table Academic\_Details**

**Paper\_code in table Academic\_Details**

**mysql> insert into personal\_informartion values(1240,"Vinay Kumar Singh",'2001-01-04',"UP",91,9102829875);**

**mysql> insert into personal\_informartion values(1233,"Rohit Tiwari",'2001-04-29',"Uttarakhand",89,9748483743);**

**mysql> insert into personal\_informartion values(1204,"Ankit",'2000-03-19',"Delhi",94,9837643368);**

**mysql> insert into personal\_informartion values(1225,"Mohammad Mujtaba",'2001-09-21',"Uttar Pradesh",97,9637453672);**

**mysql> insert into personal\_informartion values(1223,"Likhit Giri",'2001-11-09',"Delhi",92,9764563726);**

**mysql> insert into paper\_details value(1,"Descriptive Statistics");**

**mysql> insert into paper\_details value(2,"Environmental Studies");**

**mysql> insert into paper\_details value(3,"Algebra");**

**mysql> insert into paper\_details value(4,"Introduction to Matrices");**

**mysql> insert into paper\_details value(5,"Database management system");**

**mysql> insert into Academic\_details values(1240,2,80,70);**

**mysql> insert into Academic\_details values(1233,2,70,90);**

**mysql> insert into Academic\_details values(1204,2,65,91);**

**mysql> insert into Academic\_details values(1225,2,65,91);**

**mysql> insert into Academic\_details values(1223,1,75,65);**

**(b) mysql> select pd.paper\_code, pd.nameofpaper, pi.name from paper\_details as pd, personal\_informartion as pi where paper\_code=2 and pi.roll\_no in(select roll\_no from academic\_details where paper\_code=2 and attendence>75 and marks>60);**

**(c) mysql> select name from personal\_informartion as pi, academic\_details as ad where pi.roll\_no=ad.roll\_no and ad.marks>60 and ad.paper\_code=1;**

**(d) mysql> select pi.name, ad.attendence, ad.marks from personal\_informartion as pi, academic\_details as ad where pi.roll\_no=ad.roll\_no;**

**(e) mysql> select name from personal\_informartion as pi, academic\_details as ad where pi.roll\_no=ad.roll\_no and pi.roll\_no=(select roll\_no from academic\_details where marks=(select max(marks) from academic\_details));**

**Ques 3.**

**mysql> create database twowheeler;**

**mysql> create table customer(**

**-> CustId varchar(20) primary key,**

**-> email varchar(50) not null,**

**-> Name char(30) not null,**

**-> phone varchar(10) unique,**

**-> ReferrerID varchar(20));**

**mysql> create table BicycleModel(**

**-> ModelNo varchar(10) primary key,**

**-> Manufacturer Char(20) not null,**

**-> Style Varchar(20) not null);**

**mysql> create table Bicycle(**

**-> BicycleId varchar(20) primary key,**

**-> DatePurchased date not null,**

**-> Color Char(10) not null,**

**-> CustId varchar(20) not null,**

**-> ModelNo varchar(10) not null,**

**-> foreign key(CustId) references customer(CustId),**

**-> foreign key(ModelNo) references BicycleModel(ModelNo));**

**mysql> create table Service(**

**-> StartDate date not null,**

**-> BicycleId varchar(20) not null,**

**-> EndDate date not null,**

**-> Foreign key(BicycleId) references Bicycle(BicycleId));**

**(a) Primary Key - CustId in table Customer**

**ModelNo in table BicycleModel**

**BicycleId in table Bicycle**

**Foreign Key- CustId in table Bicycle**

**ModelNo in table Bicycle**

**BicycleId in table Service**

**mysql> insert into customer values(1001,"vks1245@gmail.com","Vinay Singh",9873645321,"C1");**

**mysql> insert into customer values(1002,"kk4373@gmail.com","Krishna Kumar",8373876327,"A2");**

**mysql> insert into customer values(1003,"ravishkumar8653@gmail.com"," Ravish Kumar",9375472814,"C3");**

**mysql> insert into customer values(1004,"sumanss7368@gmail.com","Suman Singh",8293765392,"B7");**

**mysql> insert into customer values(1005,"reenasingh3753@gmail.com","Reena Singh",9375428765,"C5");**

**mysql> insert into bicyclemodel values("M101","Honda","Activa");**

**mysql> insert into bicyclemodel values("M102","Hero","Mastero");**

**mysql> insert into bicyclemodel values("M103","Bajaj","Discover");**

**mysql> insert into bicyclemodel values("M104","Hero","Splendor");**

**mysql> insert into bicyclemodel values("M105","Yamaha","FZ");**

**mysql> insert into bicycle values("B501",'2019-02-05',"Red","1002","M101");**

**mysql> insert into bicycle values("B502",'2018-05-22',"Silver","1001","M105");**

**mysql> insert into bicycle values("B503",'2020-01-03',"Red","1004","M104");**

**mysql> insert into bicycle values("B504",'2019-04-17',"blue","1003","M103");**

**mysql> insert into bicycle values("B505",'2020-02-08',"black","1002","M102");**

**mysql> insert into service values('2019-09-09','B505',"2019-09-12");**

**mysql> insert into service values('2018-10-10','B502','2018-10-12');**

**mysql> insert into service values('2018-04-24','B502','2019-04-26');**

**mysql> insert into service values('2019-05-17','B501','2019-05-19');**

**mysql> insert into service values('2020-01-18','B502','2020-01-20');**

**(b) mysql> Select \* from customer where custID in(Select custid from bicycle where modelno in(select Modelno from bicyclemodel where manufacturer="Honda"));**

**(c) mysql> Select \* from bicyclemodel where modelno in(select modelno from bicycle where custid in(select custid from customer where referrerId="C1"));**

**(d) mysql> select bm.manufacturer from bicycle as bi, bicyclemodel as bm where bi.modelno=bm.modelno and bi.color="red";**

**(e) mysql> select modelno from bicycle where bicycleid in(select distinct bicycleid from service);**

**Ques 4.**

**mysql> create database employee\_details;**

**mysql> use employee\_details;**

**mysql> create table employee(**

**-> Person\_name char(30) primary key,**

**-> Street char(30) not null,**

**-> city char(15) not null);**

**mysql> create table Company(**

**-> Company\_name varchar(30) Primary key,**

**-> City char(15));**

**mysql> create table Works(**

**-> Person\_name char(30),**

**-> Company\_name varchar(30),**

**-> Salary decimal(10,2),**

**-> foreign key(Person\_name) references employee(Person\_name),**

**-> foreign key(Company\_name) references Company(Company\_name));**

**mysql> Create table manages(**

**-> Person\_name char(30),**

**-> Manager\_name char(30),**

**-> foreign key(Person\_name) references employee(Person\_name));**

**mysql> insert into employee values("Vinay","23/34 B block","Gorakhpur");**

**mysql> insert into employee values("Gaurav","454/4 V block","Lucknow");**

**mysql> insert into employee values("Rahul","65/6 A block","Delhi");**

**mysql> insert into employee values("Jatin","87/2 D block","Noida");**

**mysql> insert into employee values("Garima","74/2 F block","Banglore");**

**mysql> insert into employee values("Suresh","54/2 G block","Lucknow");**

**mysql> insert into employee values("Kapil","347-5 A block","Noida");**

**mysql> insert into employee values("Pawan","65/8 V block","Gorakhpur");**

**mysql> insert into employee values("Nikhil","62/7 d block","Delhi");**

**mysql> insert into employee values("Nupur","91/8 C block","Banglore");**

**mysql> insert into company values("Samba Bank","Delhi");**

**mysql> insert into company values("NCB Bank","Gorakhpur");**

**mysql> insert into company values("Axis Bank","Noida");**

**mysql> insert into company values("SBI bank","Lucknow");**

**mysql> insert into company values("Kotak Bank","Banglore");**

**mysql> insert into works values("Vinay","Samba Bank", 20000);**

**mysql> insert into works values("Gaurav","NCB Bank",15000);**

**mysql> insert into works values("Rahul","Samba Bank",5000);**

**mysql> insert into works values("Jatin","SBI Bank",8000);**

**mysql> insert into works values("Garima","Axis Bank",10000);**

**mysql> insert into works values("Suresh","NCB Bank",20000);**

**mysql> insert into works values("Kapil","Kotak Bank",15000);**

**mysql> insert into works values("Pawan","Axis Bank",20000);**

**mysql> insert into works values("Nikhil","SBI Bank",12000);**

**mysql> insert into works values("Nupur","Kotak Bank",18000);**

**(a) Primary Key- Person\_name in table employee**

**Company\_name in table company**

**Foreign Key- Person\_name in table works**

**Company\_name in table works**

**Person\_name in table manages**

**(b) mysql> alter table employee add column email varchar(20);**

**(c) mysql> select distinct(manager\_name) from manages as m, works as w where m.person\_name=w.person\_name and (w.company\_name="Samba bank" or w.Company\_name="NCB Bank");**

**(d) mysql> select e.Person\_name, e.Street, e.City, w.salary from employee as e, works as w where e.person\_name=w.person\_name and w.company\_name="Samba Bank" and w.salary>10000;**

**(e) mysql> select e.person\_name from employee as e, works as w, company as c where e.person\_name=w.person\_name and e.city=c.city and w.company\_name=c.company\_name;**

**(f) mysql> select company\_name, max(salary), min(salary), avg(salary) from works group by company\_name;**

**(g) mysql> select company\_name, sum(salary), count(company\_name) as "number of employees" from works group by company\_name;**

**(h) mysql> select company\_name,max(salary) from works;**

**Ques 5.**

**mysql> create database product;**

**mysql> use product;**

**mysql> create table suppliers(**

**-> Sno int(8) primary key,**

**-> Sname varchar(20) not null,**

**-> Status char(20) not null,**

**-> Scity char(30) not null);**

**mysql> create table Parts(**

**-> PNo int(8) primary key,**

**-> Pname varchar(20) not null,**

**-> Colour varchar(20) not null,**

**-> Weight int(4) not null,**

**-> City char(20) not null);**

**mysql> create table Project(**

**-> Jno int(8) Primary key,**

**-> Jname char(20) not null,**

**-> Jcity char(20) not null);**

**mysql> create table Shipment(**

**-> Sno varchar(20) not null,**

**-> Pno int(8) not null,**

**-> Jno int(8) not null,**

**-> Quantity int(8) not null,**

**-> foreign key(Sno) references suppliers(Sno),**

**-> foreign key(Pno) references Parts(Pno),**

**-> Foreign key(Jno) references Project(Jno));**

**mysql> insert into suppliers values("101","S1",30,"London");**

**mysql> insert into suppliers values("102","S2",19,"New York");**

**mysql> insert into suppliers values("103","S1",22,"Paris");**

**mysql> insert into suppliers values("104","S2",70,"Los Angeles");**

**mysql> insert into suppliers values("104","S2",70,"Los Angeles");**

**mysql> insert into parts values( "501","P1","Black",16,"Paris");**

**mysql> insert into parts values( "502","P2","Red",40,"London");**

**mysql> insert into parts values( "503","P3","Gray",20,"London");**

**mysql> insert into parts values( "503","P2","Green",60,"Singapore");**

**mysql> insert into parts values( "505","P2","Black",10,"New York");**

**mysql> insert into project values(1001,"J1","London");**

**mysql> insert into project values(1002,"J2","New York");**

**mysql> insert into project values(1003,"J3","New York");**

**mysql> insert into project values(1004,"J4","Singapore");**

**mysql> insert into project values(1005,"J4","Delhi");**

**mysql> insert into shipment values(101,504,1002,250);**

**mysql> insert into shipment values(103,505,1003,100);**

**mysql> insert into shipment values(105,502,1003,500);**

**mysql> insert into shipment values(101,503,1001,300);**

**mysql> insert into shipment values(102,501,1005,750);**

**mysql> insert into shipment values(101,501,1002,100);**

**(a) Primary Key- Sno in table Suppliers**

**Pno in table Parts**

**Jno in table Project**

**Foreign Key- Sno in table Shipment**

**Pno in table Shipment**

**Jno in table Shipment**

**(b) mysql> select Sno from suppliers where scity="Paris" and Status>20;**

**(c) mysql> Select \* from suppliers where Sno in(select Sno from shipment where Pno in(select Pno from parts where Pname="P2")) Order by sno;**

**(d) mysql> Select Sname from suppliers where Sno in(Select distinct sno from shipment where Pno in(select Pno from parts where Pname!="P2"));**

**(e) mysql> select s.Sno, s.Pno, s.Jno, s.Quantity, s.quantity\*p.weight as "Total\_shipment\_weight" from shipment as s, parts as p where s.pno=p.pno;**

**(f) mysql> Select \* from shipment where quantity between 300 and 750;**

**(g) mysql> select Pno from parts where weight>16 or pno in(select pno from shipment where sno in(select s.sno from shipment as s, suppliers as su where s.sno=su.sno and su.sname="S2"));**

**(h) mysql> select city from parts where colour="Red" and Pno in(select pno from shipment where quantity>5);**

**(i) mysql> select \* from parts where pno in(select Pno from shipment where sno in(select sno from suppliers where Scity="London"));**

**(j) mysql> select Pno from shipment where sno in(select sno from suppliers where scity="London") and Jno in(Select jno from project where Jcity="London");**

**(k) mysql> select count(distinct(Jno)) as "No. of Project Supplied by supplier S1" from shipment where sno in(select sno from suppliers where Sname="S1");**

**(l) mysql> select count(\*) from parts where Pno in(Select Pno from shipment where sno in(select Sno from suppliers where sname ="S1")) and Pname="P1";**