Internal Practical Examination Apr-2025

CA-LAB IV (NEW): Lab on DBMS

Duration 3:00 Hrs. Max marks: 60

Instructions:

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- Take Printout of:
  1) Queries and their output.
  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table).

SUPPLIER (Sno, Sname, address,City)

PARTS (Pno, Pname, Color, Weight, price)

PROJECT (Jno, Mame, City) SPJ

(in=q,En, JUQ, Qty)

Integrity Constraints:

- The values of any attributes should not be null.
- Legal cities are London, Paris, Rome, New York and Amsterdam.
- Supplier Number must start with 'S' followed by a decimal integer in the range of 0 to 9999.

Queries:

a) Find all the projects which are provided 3 or more parts .

b) Write a trigger on PROJECT table for update / insert such that the .jname value Should not be repeated.

c) Find full details of all projects in London.

d) Write a procedure for calculating the total sales of all the parts which are provided to projects in paris city.

Design an Input form for entering Parts data. Apply possible validations.

Answer :-

```
CREATE TABLE SUPPLIER (

Sno VARCHAR(5) PRIMARY KEY CHECK (Sno LIKE 'S%' AND CAST(SUBSTRING(Sno, 2) AS UNSIGNED) BETWEEN 0 AND 9999),

Sname VARCHAR(50) NOT NULL,

address VARCHAR(100) NOT NULL,

City VARCHAR(20) NOT NULL CHECK (City IN ('London', 'Paris', 'Rome', 'New York', 'Amsterdam')));

CREATE TABLE PARTS (

   Pno INT PRIMARY KEY,

   Pname VARCHAR(50) NOT NULL,

   Color VARCHAR(20) NOT NULL,

 Weight DECIMAL(6,2) NOT NULL,

   Price DECIMAL(10,2) NOT NULL

);

CREATE TABLE PROJECT (

   Jno INT PRIMARY KEY,
```

```
    Jname VARCHAR(50) UNIQUE NOT NULL,

    City VARCHAR(20) NOT NULL CHECK (City IN ('London', 'Paris', 'Rome', 'New York', 'Amsterdam'))

);

CREATE TABLE SPJ (

    Sno VARCHAR(5) NOT NULL,

    Pno INT NOT NULL,

    Jno INT NOT NULL,

    Qty INT NOT NULL CHECK (Qty > 0),

    FOREIGN KEY (Sno) REFERENCES SUPPLIER(Sno),

    FOREIGN KEY (Pno) REFERENCES PARTS(Pno),

    FOREIGN KEY (Jno) REFERENCES PROJECT(Jno)

);
```

1) `INSERT INTO SUPPLIER VALUES ('S100', 'ABC Corp', '123 Street', 'London'),('S101', 'XYZ Ltd', '45 Ave', 'Paris'),('S102', 'Delta Inc', '67 Blvd', 'Rome'),('S103', 'Omega LLC', '89 Lane', 'New York'),('S104', 'Gamma Co', '12 Road', 'Amsterdam'),('S105', 'Sigma Plc', '34 St', 'Paris'),('S106', 'Beta Pvt', '78 Way', 'Rome'),('S107', 'Theta GmbH', '90 Dr', 'London'),('S108', 'Zeta Corp', '21 Pl', 'New York'),('S109', 'Alpha Ltd', '55 Cir', 'Amsterdam');`

2) `INSERT INTO PARTS VALUES (1, 'Bolt', 'Red', 0.5, 10.00),(2, 'Nut', 'Blue', 0.3, 5.00),(3, 'Screw', 'Green', 0.2, 3.00), (4, 'Washer', 'Red', 0.1, 2.50), (5, 'Pin', 'Yellow', 0.4, 4.00), (6, 'Cap', 'Black', 0.7, 6.50), (7, 'Plug', 'White', 1.2, 7.00), (8, 'Seal', 'Blue', 0.8, 8.25), (9, 'Clip', 'Black', 0.6, 9.75), (10, 'Spring', 'Green', 1.1, 11.00);`

3) `INSERT INTO PROJECT VALUES (100, 'Bridge', 'London'), (101, 'Building', 'Paris'), (102, 'Tunnel', 'Rome'),`

`(103, 'Airport', 'New York'),(104, 'Harbor', 'Amsterdam'),(105, 'Roadway', 'Paris'),(106, 'Dam', 'London'),(107, 'Tower', 'Paris'),(108, 'Mall', 'Rome'),(109, 'Stadium', 'New York');`

4) INSERT INTO SPJ VALUES ('S100', 1, 100, 100), ('S101', 2, 101, 150), ('S102', 3, 102, 200), ('S103', 4, 103, 250),('S104', 5, 104, 300), ('S105', 6, 101, 80),('S106', 7, 105, 90), ('S107', 8, 105, 100),('S108', 9, 105, 110), ('S109', 10, 105, 120);

Queries :-

a) SELECT Jno

FROM SPJ

GROUP BY Jno

HAVING COUNT(DISTINCT Pno) >= 3;

b) DELIMITER //

```
CREATE TRIGGER check_unique_jname
BEFORE INSERT ON PROJECT
FOR EACH ROW
BEGIN
   IF EXISTS (SELECT 1 FROM PROJECT WHERE Jname = NEW.Jname) THEN
      SIGNAL SQLSTATE '45000'
      SET MESSAGE_TEXT = 'Duplicate Jname not allowed';
   END IF;
END;
//DELIMITER ;
```

C) SELECT * FROM PROJECT WHERE City = 'London';

d) DELIMITER //

```
CREATE PROCEDURE total_sales_paris()

BEGIN

   SELECT SUM(p.Price * s.Qty) AS TotalSales

   FROM SPJ s

   JOIN PARTS p ON s.Pno = p.Pno

   JOIN PROJECT j ON s.Jno = j.Jno

   WHERE j.City = 'Paris';

END;

//

DELIMITER ;

-- To call:

CALL total_sales_paris();
```

E) Design an Input form for entering Parts data. Apply possible validations.

```
<form action="submit_parts.php" method="post">

   <label>Part Number:</label>

   <input type="number" name="pno" required><br>

   <label>Part Name:</label>

   <input type="text" name="pname" required><br>

   <label>Color:</label>

   <input type="text" name="color" required><br>

   <label>Weight (kg):</label>

   <input type="number" step="0.01" name="weight" min="0.01" required><br>

   <label>Price ($):</label>

   <input type="number" step="0.01" name="price" min="0.01" required><br>

   <input type="submit" value="Submit">

</form>
```

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Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table).

PRODUCT (Maker, Modelno, Type)

PC (Modelno,,Speed, RAM, HD, CD, Price)

LAPTOP (Modelno, Speed, RAM, HD, Price) PRINTER (Mg_delaQ, Color, Type, Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be IBM, Compaq,etc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black 8r. white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.
- Product Type should one of these (PC, Laptop or Printer)

Queries:

a) Find PC models having a speed of at least 150 MHz.

b) Find those manufacturers that sell Laptops, but not PC's.

c) Write a trigger on LAPTOP table such that the price should not less than 30000

a) Write a procedure to find the manufacturer who has produced the most expensive laptop.

Design an input form for entering LAPTOP data. Apply possible validations.

Answer :-

```
CREATE TABLE PRODUCT (

   Maker VARCHAR(20) NOT NULL,

   Modelno INT PRIMARY KEY,

   Type VARCHAR(10) NOT NULL CHECK (Type IN ('PC', 'Laptop', 'Printer'))

);

CREATE TABLE PC (

   Modelno INT PRIMARY KEY,

   Speed INT NOT NULL,

   RAM INT NOT NULL,

   HD INT NOT NULL,

   CD VARCHAR(10) NOT NULL,

   Price DECIMAL(10,2) NOT NULL,

   FOREIGN KEY (Modelno) REFERENCES PRODUCT(Modelno) );
```

```
CREATE TABLE LAPTOP (
   Modelno INT PRIMARY KEY,
   Speed INT NOT NULL,
   RAM INT NOT NULL,
   HD INT NOT NULL,
   Price DECIMAL(10,2) NOT NULL,
   FOREIGN KEY (Modelno) REFERENCES PRODUCT(Modelno)
);
CREATE TABLE PRINTER (
   Modelno INT PRIMARY KEY,
   Color CHAR(1) NOT NULL CHECK (Color IN ('T', 'F')),
   Type VARCHAR(15) NOT NULL CHECK (Type IN ('laser', 'ink-jet', 'dot-matrix', 'dry')),
   Price DECIMAL(10,2) NOT NULL,
   FOREIGN KEY (Modelno) REFERENCES PRODUCT(Modelno)
);
```

Insert Values :-

INSERT INTO PRODUCT VALUES ('IBM', 101, 'PC'), ('HP', 102, 'Laptop'), ('Dell', 103, 'Printer'), ('Lenovo', 104, 'PC'), ('Acer', 105, 'Laptop'), ('Canon', 106, 'Printer'), ('Asus', 107, 'Laptop'), ('Sony', 108, 'PC'), ('Epson', 109, 'Printer'), ('Samsung', 110, 'Laptop');

INSERT INTO PC VALUES (201, 200, 8, 500, '52X', 25000), (204, 180, 4, 320, '48X', 23000), (208, 150, 16, 1000, '56X', 28000), (211, 220, 8, 512, '52X', 27000), (212, 240, 16, 1024, '64X', 35000), (213, 160, 8, 500, '48X', 26000), (214, 300, 32, 2000, '72X', 45000), (215, 170, 4, 250, '40X', 20000),c(216, 210, 16, 1500, '52X', 34000), (217, 190, 12, 750, '50X', 31000);

INSERT INTO LAPTOP VALUES(202, 220, 8, 512, 35000), (205, 200, 16, 1000, 40000), (207, 250, 16, 1024, 45000), (210, 300, 32, 2048, 60000), (218, 180, 8, 512, 31000), (219, 260, 16, 1024, 48000), (220, 240, 12, 750, 42000), (221, 280, 32, 2048, 70000), (222, 170, 4, 256, 32000), (223, 200, 8, 512, 37000);

INSERT INTO PRINTER VALUES (203, 'T', 'laser', 12000), (206, 'F', 'ink-jet', 7000), (209, 'T', 'dot-matrix', 9000), (224, 'F', 'laser', 8000), (225, 'T', 'ink-jet', 9500), (226, 'F', 'dot-matrix', 6000), (227, 'T', 'laser', 13000), (228, 'F', 'dry', 10000), (229, 'T', 'ink-jet', 8500), (230, 'F', 'laser', 7500);

QUERIES :-

a) SELECT * FROM PC WHERE Speed >= 150;

b)
```
SELECT DISTINCT p1.Maker
FROM PRODUCT p1
WHERE p1.Type = 'Laptop'
AND p1.Maker NOT IN (
   SELECT DISTINCT Maker
   FROM PRODUCT
   WHERE Type = 'PC'
);
```

c)
```
DELIMITER //
CREATE TRIGGER laptop_price_check
BEFORE INSERT ON LAPTOP
FOR EACH ROW
BEGIN
   IF NEW.Price < 30000 THEN
      SIGNAL SQLSTATE '45000'
      SET MESSAGE_TEXT = 'Laptop price must be at least 30000';
   END IF;
END;
//
DELIMITER ;
```

d)
```
DELIMITER //
CREATE PROCEDURE most_expensive_laptop_maker()
BEGIN
   SELECT p.Maker, l.Modelno, l.Price
   FROM LAPTOP l
   JOIN PRODUCT p ON l.Modelno = p.Modelno
   WHERE l.Price = (SELECT MAX(Price) FROM LAPTOP);
END;
//
DELIMITER ;

-- Call:
CALL most_expensive_laptop_maker();
```

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PC (Modelno, Speed, RAM, HD, CD, Price)

LAPTOP (Modelno, Speed, RAM, HD, Price)

PRINTER (Modelno, Color, Type, Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be IBM, Compaq,etc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black & white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.
- Product Type should one of these (PC, Laptop or Printer) **Queries:**

a) Find the different types of printers produced by Epson.

b) Find those hard disk sizes which occur in two or more PC's.

c) Write a trigger on LAPTOP table such that the minimum speed should be 1201\4Hz.

d) Demonstrate the use of cursor using PRODUCT table.

Design an input form for entering LAPTOP data. Apply possible validations.

Answer :-

```
CREATE TABLE PRODUCT (
   Maker VARCHAR(20) NOT NULL,
   Modelno INT PRIMARY KEY,
   Type VARCHAR(10) NOT NULL CHECK (Type IN ('PC', 'Laptop', 'Printer'))
);


CREATE TABLE PC (
   Modelno INT PRIMARY KEY,
   Speed INT NOT NULL,
   RAM INT NOT NULL,
   HD INT NOT NULL,
   CD VARCHAR(10) NOT NULL,
   Price DECIMAL(10,2) NOT NULL,
   FOREIGN KEY (Modelno) REFERENCES PRODUCT(Modelno)
);
CREATE TABLE LAPTOP (
   Modelno INT PRIMARY KEY,
   Speed INT NOT NULL,
   RAM INT NOT NULL,
   HD INT NOT NULL,
   Price DECIMAL(10,2) NOT NULL,
   FOREIGN KEY (Modelno) REFERENCES PRODUCT(Modelno)
);
```

```
CREATE TABLE PRINTER (
   Modelno INT PRIMARY KEY,
   Color CHAR(1) NOT NULL CHECK (Color IN ('T', 'F')),
   Type VARCHAR(20) NOT NULL CHECK (Type IN ('laser', 'ink-jet', 'dot-matrix', 'dry')),
   Price DECIMAL(10,2) NOT NULL,
   FOREIGN KEY (Modelno) REFERENCES PRODUCT(Modelno)
);
INSERT INTO PRODUCT VALUES
('Epson', 301, 'Printer'),
('Epson', 302, 'Printer'),
('Epson', 303, 'Printer'),
('Dell', 304, 'PC'),
('HP', 305, 'PC'),
('Lenovo', 306, 'Laptop'),
('Acer', 307, 'Laptop'),
('HP', 308, 'Printer'),
('Asus', 309, 'Laptop'),
('Canon', 310, 'Printer');

INSERT INTO PC VALUES
(304, 220, 8, 500, '52X', 25000),
(305, 240, 16, 1000, '48X', 30000),
(311, 250, 16, 1000, '48X', 32000),
(312, 230, 8, 500, '52X', 27000),
(313, 180, 4, 320, '40X', 21000),
(314, 260, 32, 2000, '64X', 40000),
(315, 210, 8, 500, '48X', 24000),
(316, 190, 4, 250, '40X', 22000),
(317, 220, 16, 1000, '52X', 31000),
```

(318, 170, 8, 500, '48X', 23000);

INSERT INTO LAPTOP VALUES

(306, 2200, 8, 512, 35000),

(307, 2100, 16, 1000, 40000),

(319, 2500, 16, 1024, 42000),

(320, 1800, 8, 512, 33000),

(321, 2600, 16, 1024, 47000),

(322, 2400, 12, 750, 39000),

(323, 2800, 32, 2048, 55000),

(324, 1700, 4, 256, 31000),

(325, 2000, 8, 512, 37000),

(309, 2300, 16, 512, 38000);

INSERT INTO PRINTER VALUES

(301, 'T', 'laser', 12000),

(302, 'F', 'ink-jet', 7000),

(303, 'T', 'dot-matrix', 9500),

(308, 'F', 'laser', 8500),

(310, 'T', 'ink-jet', 8700),

(326, 'T', 'laser', 11000),

(327, 'F', 'dry', 6200),

(328, 'T', 'ink-jet', 9200),

(329, 'F', 'dot-matrix', 8000),

(330, 'T', 'laser', 12500);

Query :-

a) select * from PRODUCT1 where maker='Epson';

b) SELECT HD, COUNT(*) AS frequency
FROM PC1
GROUP BY HD

```
HAVING COUNT(*) >= 2;

select HD from PC1 where HD>=500;
```

c)
```
DELIMITER //

CREATE TRIGGER check_laptop_speed
BEFORE INSERT ON LAPTOP
FOR EACH ROW
BEGIN
  IF NEW.Speed < 1200 THEN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'Laptop speed must be at least 1200 MHz';
  END IF;
END;
//

DELIMITER ;
```

d)
```
SELECT HD, COUNT(*) AS frequency
FROM PC1
GROUP BY HD
HAVING COUNT(*) >= 2;

select HD from PC1 where HD>=500;
```

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Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

DOCTOR (Did, Dname, Daddress, qualification)

1AT1ENTMASTER (Pcode, Pname, Padd, age, gender, bloodgroup, Pid)

ADMITTEDPATIENT (P_code, Entry date, Discharge date, wardno, disease)

Integrity Constraints:

- The values of any attributes should not be null.
- Gender value should be M male) or F(female).
- Wardno should be less than 6.

Queries:

a) Find the details of doctors who are treating the patient of ward no 3.

b) Write a trigger on **PATIENTMASTER** table such that the blood group should be A,B,AB or 0.

c) Find the details of patient who are discharge within the period 03/03/12 to 25/ 03/12

d) Write a procedure on ADMIFTEDPATIENT table such as to calculate bill of all discharged patients. The charges per day for a ward is WardNo. * 100. e.g. For ward no 3 charges/day are 300Rs.

Create a data report for the details of Doctors. Report should also include the details of patients treated by that doctor.

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DOCTOR (Did, Dname, Daddress, qualification)

PATIENTMASTER (Pcode, Pname, Padd, age, gender, bloodgroup, Did)
ADMITTEDPATIENT (Pcode, Entry date, Discharge_date, wardno, disease)

Integrity Constraints:

- The values of any attributes should not be null.
- Gender value should be M (male) or F(female). ·
  Wardno should be less than 6.

Queries:

a) Find the details of the doctors who are treating the patients of ward no 3 & display the result along with patient name & disease.

b) Find the name of the disease by which maximum patients are suffering.

c) Write a trigger on ADMITTEDPATIENT table such that the wardno value should be between 1-5.

d) Write a procedure to give the details of patients who are admitted in the hospital for more than 5 days.

Create a input form for doctors. Apply all possible validations.

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Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least l 0 records in each table).

DOCTOR (Did, Dname, Daddress, qualification)

PATIENTMASTER (Pcode, Pnarne, Padd, age, gender, bloodgroup, aid)
ADMITTEDPATIENT (Pcode, Entry_date, Discharge date, wardno, disease)

Integrity Constraints:

- The values of any attributes should not be null.
- Gender value should be M (male) or F(female).
- Wardno should be less than 6.

Queries:

a) Find details of the patients who are treated by M.B.B.S. doctors.

b) Find the details of patient who is suffered from blood cancer having age less than 50 years & blood group is A.

c) write a procedure on ADMITTEDPATIENT table such as to calculate the bill of all patients. (bill no of days * 600)

d) Write a cursor on PATIENTMASTER table to fetch the last record & display the rows in that table.

Create a data entry for New Doctor's entry. Apply all possible validations

Create a data entry form for discharging a patient. Also give information regarding his bill. (bill no_of_days * 500)

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PATIENTMASTER (Pcocle, Pname, Padd, age, gender, bloodgroup, Did)

ADMITTEDPATIENT (Pcode, Entry date, Discharge date. wardno, disease)

Integrity Constraints:

- The values of any attributes should not be null.
- Gender value should be M (male) or F(female).
- Wardno should be less than 6.

Queries:

a) Find details of the patients who are treated by M.S. doctors.

b) Find the name of doctor who is treating maximum number of patients.

c) Write a procedure to give the details of patients who are admitted in the hospital for more than 15 days.

d) Create a view on DOCTOR & PATIENTMASTER tables. Update details of the patients who are treated by B.A.-M.S. doctors **to M.B.B.S** doctor.

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Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

ACCOUNT (accno, open date. acctype, balance)

TRANSACTION (trans id, trans date, accno, trans type, amount) CUSTOMER (cust id, name, address, Accno)

Integrity Constraints:

- The values of any attributes should not be null.
- acctype value should be P(Personal) or J(Joint).
- Accno should be less than 3 digits.
- Trans type should be C(Credit) or D(Debit)

Queries:

a) Find the details of customers whose minimum balance is 1 lakhs.

a) Find the details of amount credited within the period 25-3-2012 to 28-3- 2012

b) Write a trigger on TRANSACTION table to calculate current balance of account on which transaction is made.

c) Write a cursor on ACCOUNT table of balance attribute such that if the balance is less than 10000 then print the 'loan is not provided'else 'loan is provided'.

Create a data entry for New account entry. Apply all possible validations

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ACCOUNT (accno, open date, acctype, balance)

TRANSACTION (trans id, trans date, cno, trans type, amount) CUSTOMER (cust id, name, address, accno)

Integrity Constraints:

- The values of any attributes should not be null.
- acctype value should be P(Personal) or J(Joint).
- Accno should be less than 3 digits.
- Trans_type should be **C(Credit) Or** D(Debit)

Queries:

a) Find the details of customers who have personal accounts & balance is less than 2 lakhs.

b) Find the details of customers who have joint accounts.

c) Write a trigger on ACCOUNT table such that if balance is less than 300 then customer should not withdraw the money.

d) Write a procedure on ACCOUNT & TRANSACTION table such that as user enters new transaction the balance is, updated in ACCOUNT table.

Create a data entry for New customer entry. Apply all possible validations.

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Integrity Constraints:

- The values of any attributes should not be null.
- acctype value should be P(Personal) or Moira):
- Accno should be less than 3 digits.
- Transtype should be C(Credit) or D(Debit)

Queries:

a) Find the details of all transactions performed on account number 101. Also specify the name/names of cutomers who owns that account.

b) Find the details ol amount credited within the period 15 -3-2012 to 18 -3 -2012.

c) Write a trigger on insert on ACCOUNT table such that the account which is having balance less than or equal to 500 should not be debited.

d) Write a procedure on ACCOUNT table to calculate interest on current balance from open_date to today's date. (Take interest rate from user).

Create a data entry for New account entry. Apply all possible validations.

Internal Practical Examination Apr-2025

Duration 3:00 Hrs.

CA-LAB IV
(NEW) : Lab on DBMS
Max marks : 60

Instructions:

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
  I) Queries and their output.
  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

.Creat4 database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

ACCOUNT (accno, open date, acctype, balance)

TRANSACTION (trans id, trans date, accno, trans type, amount)

CUSTOMER (cust id name, address, accno) Integrity Constraints:

- The values of any attributes should not be null.
- acctype value should be P(Personal) or Moira).
- Accno should be less than 3 digits.
- Trans_type should be C(Credit) or D(Debit)

Queries:

a) Find the details of customers who have opened the accounts within the period 25-3-2012 to 28-3-2012.

b) Find the details of customers who have joint accounts & balance is less than 2 lakhs.

c) Write a trigger TRANSACTION on table to calculate the current balance of the account on which transaction is made.

(if trans_type = c then bal = bal amt else if trans_type = d then bal = bal — amt)

a) write a cursor on CUSTOMER table to fetch the last row.

Create a data entry for New customer entry. Apply all possible validations.

North Maharashtra University,

Jalgaon

Internal Practical Examination Apr-2025 North Maharashtra LIniversity, Jalgaon.

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

- Read the slip carefully.
- R-ead-theSchernas·vatefuttyliefore· finitig'retordsinlhe tableikftittl^{y}e records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
  1) Queries and their output.
  1) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in eae,h table).

EMPLOYEE (fname, Mame, ssn, sex, salary, joindate,superssn, dno,)
DEPT (dname, dnum, mgrssn, dlocation)

PROJECT (pname, pno, plocation, dnumber)
WORK ON (ssn, pno, hours) Integrity
Constraints:

- The values of any attributes should not be null.
- The deptno should less than 4 digit
- ssn -(social security no of-employee)
- mgrssn(manager_social_security_no)
- superssn(supervisor_social_securit)'_no)

Queries:

a) For every project located in 'jalgaon''. List the pno,the controlling detptno and dept manager last name.

b) For each project on which more than two employee work, Find the pno, pname & no. of employees who work on the project.

a) create a view that has the deptname,manager name & manager salary for every dept.

c) Express the following constraint as SQL assertions -

"salary of employee must not be greater than the salary of the manager of the dept".

Create a data entry for New employee entry. Apply all possible validations.

North Maharashtra University,
Jalgaon

Internal Practical Examination Apr-2025 North Maharashtra LIniversity, Jalgaon.

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

- Read the slip carefully.
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- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
    1) Queries and their output.
    2) Code if written by you for generating report, input form, trigger, assertion,cursor, views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

EMPLOYEE (fname, lname, ssn, sex, salary, joindate,superssn,
dno,) DEPT (dname, dnum, En_ grssn, (llocation)
PROJECT (pname, pno, plocation, dnumber) WORK
ON (5sn, pno, hours)

Integrity Constraints:

- The values of any attributes should not be null.
- The deptno should less than 4 digit

- Ssn (social security_no of employee)
- Mgrssn(managersocial_security_no)
- Superssn(supervisor_social_security_no)

Queries:

a) For each employee, Find the employee first & last name & the first & last name of his or her immediate supervisor.

b) For each dept, Find the deptno, the no. of employees in the dept & their average salary.

c) Create a view that has pname,controlling dept name, no of employees, & total hours worked per week on the project for each project with more than one employee working on it.

d) Create a procedure on EMPLOYEE table to determine the employees who will get promotion. (An employee will get promotion after working on 5 projects.)

Create a data report showing the information of all female employees working in "Research" department.

Internal Practical Examination Apr-2025 North Maharashtra LIniversity, Jalgaon.

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

- **Instructions:**
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- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
    1) Queries and their output.

2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in eaCh table).

EMPLOYEE (fna.me, Mame, ssn, sex, salary, joindate,superssn, dno4) DEPT (dname, dnum, mgrssn, dlocation)

PROJECT (pname, pno, plocation, dnumber)
WORK_ ON (ssn, pno, hours)

Integrity Constraints:

- The values of any attributes should not be null.
- The deptno should less than 4 digit · Ssn (social_security_no of employee) · Mgrssn(manager_social_security_no)
- Superssn(supervisor_social_security_no)

Queries:

a) Find the ssn of all employees who work on pno 101, 102 or 103.

b) Make a list of all pno for project that involve an employee whose last name is 'sonar' either as a worker or as a manager of the dept that control the project.

a) Write a trigger on insert on WORK_ON table such that if total work hours of employee in company is less than 20 hours then his salary is deducted.

c) Write a cursor on PROJECT table to fetch the first row from the table & display the total number of rows present in the table.

Create a data report showing the informatio.n of all the projects and names of employees working on individual projects.

Create a data report that display the information of all books available in the library.

Internal Practical Examination Apr-2025

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

- Read the slip carefully.
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- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
    1) Queries and their output.
    2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

BOOKMASTER (bid, title, author, price)

STUDENTMASTER (stud enrollno, sname,class,dept)

ACCESSIONTABLE (bid, accession_no,avail)

ISSUETABLE(issueid,accession no,stud enrollno,issuedate,cluedate, ret_date,bid)

Integrity Constraints:

- The values of any attributes should not be null.
- Avail should be T (if book is not issue) or F (if book is issue)

Queries:

a) Find the name of books which is issued maximum times.

b) Find the detail information of books that are issued by computer department students.

c) Write a procedure to calculate the fines for the books which are not return on or before due date. no.of days = (ret_date - due_date) fine = no.of days (ret_date - due_date) * 10

d) Write a trigger on insert of ISSUETABLE such that

duedate = issuedate + 7

Internal Practical Examination Apr-2025

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

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- Take Printout of:
    1) Queries and their output.
    2) Code if written by you for generating report, input form, trigger, assertion,cursor ,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

BOOKMASTER (bid, title, author, price)

STUDENTMASTER (stud enrollno, snaine,class,dept)

ACCESSIONTABLE (accession no,avail)

fiMUETABLE(issueid,as_ussion no,stud earalno,issuedate,duedate, ret_date,bi,d)

Integrity Constraints:

- The values of any attributes should not be null.
- Avail should be T (if book is not issue) or 1' (if book is issue)

Queries:

a) Find the detail information of the students who have issued books Between two given dates.

b) Create a view that display all the accession infortnatiOn for a book having bid = 100

c) Write a cursor to fetch last record from view **in (b).**

d) Find the information of books issued by MCA students.

Create a input form for new book issue. Apply all possible validations.

Internal Practical Examination Apr-2025

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

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    2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the followingqueries using SQL. (Fill up database with at least 10 records ir+ eaoh,tab4e).

BOOKMASTER (bid, title, author, price)

STUDENTMASTER (stud enroll no, sname,class,dept)

ACCESSIONTABLE (bid, accession no,avail)

SUETABLE(issueid,accessipn no.stl.KLmrsillag,issuedate,cluedate, ret_date,hisp

Integrity Constraints:

- The values of any attributes should not be null.
- Avail should be T (if book is not issue) or F (if book i8 issue)

Queries:

a) Write a procedure for giving the detail information of books available in the library.

a) Find the number of books issued by each student.

b) Write a trigger such that the return date should not exceed today's date.

c) Find the number of books available in the library & written by "Henry Korth".

Create a class wise issue report of books.

Internal Practical Examination Apr-2025 CA-
LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

- **Read** the slip carefully.
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- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
    1) Queries and their output.
    2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in •aa table).

EMPLOYEE (fname, lname, ssn, sex, salary, joindate,superssn, dno,)

DEPT (dname, dnum, mgrssn, dlocation)

PROJECT (pname, pno, plocation, &lumber)

WORK ON (ssn, pno, hours)

Integrity Constraints:

- The values of any attributes should not be null.
- The deptno should less than 4 digit
- ssn (social security_no of employee)
- mgrssn(manager_social_security_no)
- superssn(supervisor_social_security_no)

Queries:

a) For every project located in `jalgaon'. List the pno,the controlling detptno and dept manager last name.

b) For each project on which more than two employee work, Find the pno, pnarne & no. of employees who work on the project.

c) create a view that has the deptna.me,manager name *8z* manager salary for every dept.

d) Express the following constraint as SQL assertions -

"salary of employee must not be greater than the salary of the manager of the dept".

Create a data entry for New employee entry. Apply all possible validations.

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Internal Practical Examination Apr-2025

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

- Read the slip carefully.
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- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
    1) Queries and their output.
    2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Creat4 database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

ACCOUNT (accno, open_date, acctype, balance)

TRANSACTION (trans id, trans date, accno. trans_type, amount) CUSTOMER (cust id name, address, accno)

Integrity Constraints:

- The values of any attributes should not be null.
- acctype value should be P(Personal) or J(Joint).
- Accno should be less than 3 digits.
- Trans_type should be C(Credit) or D(Debit)

Queries:

a) Find the details of customers who have opened the accounts within the period 25-3-2006 to 28-3-2006.

b) Find the details of customers who have joint accounts & balance is less than 2 lakhs.

c) Write a trigger TRANSACTION on table to calculate the current balance of the account on which transaction is made.

(if trans_type = c then bal = bal + amt else if trans_type = d then bal bal — amt)

a) write a cursor on CUSTOMER table to fetch the last row.

Create a data entry for New customer entry. Apply all possible validations.

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks: 60

Instructions:

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key & double underline attributes are foreign keys.
- 'fake Printout of:
  1) Queries and their output.
  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table).

PRODUCT (Maker, .Modelno, Type)

PC(4.oc jeki,o, Speed, RAM, HD, CD, Price)

LAPTOP (Modelno, Speed, RAM, HD, Price)

PRINTER (Mosklm, Color, Type, Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be IBM, Compaq,etc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black & white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.
- Product Type should one of these (PC, Laptop or Printer)

Queries:

a) Find the manufacturers of color printers.

b) Find the laptops whose speed is slower than that of any PC.

c) Express the following constraint as SQL assertions -

"No black & white printer should have price greater than color printers."

d) write a trigger on PC & LAPTOP table such that the hard disk size should be greater than 20 GB

Design an input form for entering PRINTER data. Apply possible validations.

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 firs. Max marks: 60

Instructions:

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
  - I) Queries and their output.
  - 2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

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Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table).

PRODUCT (Maker, Modelno, Type)

PC (IvIodeln, Speed, RAM, HD, CD, Price)

LAPTOP (Rh, Speed, RAM, HD, Price)

PRINTER (Model, Color, Type, Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be IBM, Compaq,etc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black & white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.
- Product Type should one of these (PC, Laptop or Printer)

Queries:

a) Find the manufacturers of color printers.

b) Find the laptops whose speed is slower than that of any PC.

C) Express the following constraint as SQL assertions -

Internal Practical Examination Apr-2025

No black & white printer should have price greater than color printers."

d) write a trigger on PC & LAPTOP table such that the hard disk size should be greater than 20 GB

Design an input form for entering PC data. Apply possible validations.

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks: 60

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
  1) Queries and their output.
  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table).

PRODUCT (Maker, Modelno, Type)

PC (Modelno, Speed, RAM, HD, CD, Price)

LAPTOP (Modelno, Speed, RAM, HD, Price)

PRINTER (Modelno, Color, Type, Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be IBM, Compaq,etc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black & white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.
- Product Type should one of these (PC, Laptop or Printer).

Queries:

Internal Practical Examination Apr-2025

a) Find the different types of printers produced by Epson.

b) Find those hard disk sizes which occur in two or more PC's.

c) Write a trigger on LAPTOP table such that the minimum speed should be 120MHz.

d) Demonstrate the use of cursor using PRODUCT table.

Design an input form for entering LAPTOP data. Apply possible validations.

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Intern Pr ct c l Examination Apr-2025

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks: 60

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.

  The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
  1) Queries and their output.
  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table). *

PRODUCT (Maker, Modelno, Type)

PC (Modelno, Speed, RAM, HD, CD, Price)

LAPTOP (Modelno, Speed, RAM, HD, Price)

PRINTER (1Viodelno, Color, Type, Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be IBM, Compacketc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black & white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.

- Product Type should one of these (PC, Laptop or Printer)

Queries:

a) Find the different types of printers produced by Epson.

b) Find those hard disk sizes which occur in two or more PC's.

c) Write a trigger on LAPTOP table such that the minimum speed should be 1201v1Hz.

d) Demonstrate the use of cursor using PRODUCT table.

Design an input form for entering LAPTOP data. Apply possible validations.

Internal Practical Examination Apr-2025 CA-
LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks: 60

Instructions:

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key &. double underline attributes are foreign keys.
- Take Printout of:

  I) Queries and their output.

  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL.(Fill up database with at least 10 records in each table).

PRODUCT(Maker, Modelno, Type)

PC (Modelno, Speed, RAM, HD, CD, Price)

LAPTOP (Modetno, Speed, RAM, HD, Price) PRINTER (ModelaQ, Color, Type. Price)

Details regarding Schemas

- PC relation contains model no. of PC, its speed in MHz, RAM in MB, HD size in GB, Speed of CD reader, and price.
- The value for Maker in Product table can be 113M, Compaq,etc.
- PRINTER relation contains model no., value of Color should be T(if printer is color) or F (if printer is black & white), type(laser, ink-jet, dot- matrix or dry), and price.

Integrity Constraints:

- The values of any attributes should not be null.
- Product Type should one of these (PC, Laptop or Printer)

Queries:

a) Find PC models having a speed of at least 150 MHz.

b) Find those manufacturers that sell Laptops, but not PC's.

c) Write a trigger on LAPTOP table such that the price should not less than 30000

a) Write a procedure to find the manufacturer who has produced the most expensive laptop.

Design an input form for entering LAPTOP data. Apply possible validations.

Internal Practical Examination Apr-2025 CA-
LAB IV (NEW) : Lab on DBMS

Duration 3:00 firs. Max marks : 60

Instructions:

- Read the slip carefully.
- Read the Schemas carefully before filling records in the table & fill the records appropriately so that mentioned queries can be executed.
- The underline attributes is primary key & double underline attributes are foreign keys.
- Take Printout of:
  1) Queries and their output.
  2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

DOCTOR (Did, Dname, Daddress, qualification)

PATIENTMASTER (Pcode, Pname, Padd, age, gender, bloodgroup, Did)

ADMITTEDPATIENT (Pcode, Entry date, Discharge_clate, wardno, disease)

Integrity Constraints:

- The values of any attributes should not be null.
- Gender value should be M (male) or F(feinale).
- Wardno should be less than 6.

Queries:

a) Find the details of patient who are admitted within the period 03/03/08 to 25/ 03/08.

b) Find the names of doctors who are treating Jalf_zaon patients.

c) write a procedure on ADMITTEDPATIENT table such as to calculate the bill of all patients currently admitted in the hospital.

(bill = no _ of_ days * 500)

d) Write a trigger on Doctor table such that the specialization should be :- M.B.B.S./B.A.M.S/M.S.

Create a data entry form for new DOCTOR. Apply all possible validations.

Internal Practical Examination Apr-2025

CA-LAB IV (NEW) : Lab on DBMS

Duration 3:00 Hrs. Max marks : 60

Instructions:

- Read the slip carefully.
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- Take Printout of:
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    2) Code if written by you for generating report, input form, trigger, assertion, cursor,views along with their output.

Create database using following schema. Apply given Integrity Constraints and answer the following queries using SQL. (Fill up database with at least 10 records in each table).

DOCTOR (Did, Dname, Daddress, qualification)

PATIENTMASTER (Pcode, Pname, Padd, age, gender, bloodgroup, Did)

ADMITTEDPATIENT (Pcode, Entry date, Discharge_date, warcino, disease)

Integrity Constraints:

- The values of any attributes should not be null.
- Gender value should be .M (male) or F(female).
- Wardno should be less than 6.

Queries:

a) Find details of the patients who are treated by M.B.B.S. doctors.

b) Find name of the doctor who are treating the male patients suffering from disease brain tumor & having age less than 40 years.

c) write a procedure on ADMITTEDPATIENT table such as to calculate the bill of all patients who are discharged on 30-3-2008 .

(bill no of days * 500)

d) write a cursor on DOCTOR table to fetch the first row & display the number of rows present in the table.

Create a data entry form for new patient. Apply all possible validations.