

**CA: Assignment**

**Course Code: INT306**

**Allocation Date: 17-08-2020**

**Submission Date: 20-08-2020**

**IMPORTANT GUIDELINES:**

**1. The assignment must be handwritten and it should be submitted as a single word document or pdf containing pics of the attempted assignment.**

**2. The student will attempt one question on each page which will contain his name, registration number, roll number and signature.**

**3. The plagiarism (COPYING) will result in ZERO Marks.**

**4. Student should only attempt the allocated set.**

Student Name: \_\_\_\_\_

Registration Number: \_\_\_\_\_

Roll Number: \_\_\_\_\_

Signature: \_\_\_\_\_

### SET A

Q1. What is relational algebra? Explain Projection, Intersection, Set Difference with the help of suitable examples. [10 Marks]

Q2. A) Explain the degree of relationship with the help of suitable example. [5 Marks]

B) Explain briefly DDL, DML and TCL commands. [5 marks]

Q3. Create a Table Mobile with following Field and required Data Type specified in the Table below. [10 Marks]

Mobile	
IMEINo	VARCHAR(20)
Brand	Varchar(20)
Price	NUMBER(20)
ModelNo	VARCHAR(20)
RAM	NUMBER(10)
Storage	Varchar(10)

Write the required SQL Queries to get the following output:

- 1) Display the information of all the mobiles.
- 2) List all the mobiles whose brand name is 'Samsung'.
- 3) Display the name of the mobiles whose price is less than 25000.
- 4) Update the price of the mobile whose is model no is 'M30s'.
- 5) Sort the information of the mobiles based on price in ascending order.

## SET B

Q1. What is relational algebra? Explain Selection, Union, Cartesian Product with the help of suitable examples. [10 Marks]

Q2. A) Explain the concept of Primary Key with the help of suitable example [5 Marks]

B) What is Relational data model? Explain with example. [5 marks]

Q3. Create a Table Laptop with following Field and required Data Type specified in the Table below: [10 Marks]

Laptop	
SerialNo	VARCHAR(20)
Brand	Varchar(20)
Price	NUMBER(20)
ModelNo	VARCHAR(20)
RAM	NUMBER(10)
Processor	Varchar(10)

Write the required SQL Queries to get the following output:

- 1) Display the information of all the laptops.
- 2) List all the laptops whose brand name is 'HP'.
- 3) Display the name of the laptops whose price is less than 50000.
- 4) Update the RAM of the laptop whose processor is 'i5'.
- 5) Sort the information of the laptops based on price in ascending order.

### SET C

Q1. Explain Entity Relationship model with example. [10 Marks]

Q2. A) Explain Candidate Key and Super key with example [5 Marks]

B) Explain Network Data Model with example. [5 marks]

Q3. Create a Table Book with following Field and required Data Type specified in the Table below: [10 Marks]

Book	
BookID	VARCHAR(20)
Name	CHAR(20)
Price	NUMBER(20)
Author	VARCHAR(20)
Pages	NUMBER(10)
Publisher	VARCHAR(20)

Write the required SQL Queries to get the following output:

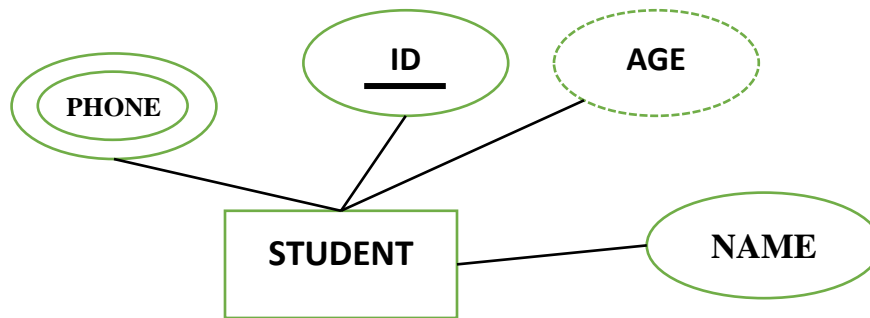
- 1) Display the information of all the books.
- 2) List all the books whose author is 'Korth'.
- 3) Display the name of the books whose price is less than 500.
- 4) Update the price of the book whose ID=2.
- 5) Sort the information of the books based on price in ascending order.

### SET D

Q1. A) Explain various types of abstraction level in database design.[5 marks]

B) Explain Foreign Key with suitable example. [5 marks]

Q2. A) Identify the type of following attributes from the given figure according to the ER Diagram: [5 Marks]



B) Explain the One to Many Entity Relationships with example [5 Marks]

Q3. Create a Table Customer with following Field and required Data Type specified in the Table below: [10 Marks]

Customer	
Customer_ID	VARCHAR2(20)
CUSTOMER_NAME	CHAR(20)
CONTACTNO	NUMBER(10)
ADDRESS	VARCHAR(20)
CITY	CHAR(10)
POSTAL_CODE	NUMBER(10)
COUNTRY	CHAR(10)

Write the required SQL Queries to get the following output:

A) Create another table namely My\_Customer from Customer Table and Copy the data of following columns only:

- Customer\_ID, Customer\_Name, Coutry

B) Find all the details of the customer whose name='Parul'

C) Update the contactno of the customer whose ID=3

D) Delete the records of all customers those are from 'Mexico'.

E) Display the information of all the customers.

### SET E

Q1. Explain the three-schema architecture in detail. [10 Marks]

Q2. A) Difference between single attribute and composite attribute [5 Mark]

B) Explain one to many relationships in E-R model in detail and reduce the same into tables. [5 marks]

Q3. Create a Table EMPLOYEE with following Field and required Data Type specified in the Table below: [10 Marks]

Employee	
Employee_ID	VARCHAR(20)
Name	CHAR(20)
Phone_No	NUMBER(20)
Designation	VARCHAR(20)
Experience	NUMBER(10)
Salary	NUMBER(10)
Location	CHAR(10)

Write the required SQL Queries to get the following output:

- 1) Display the information of all the employees.
- 2) List all the employees whose SALARY is greater than 40000.
- 3) Display the name of the employees whose location is 'Delhi'
- 4) Create another table namely emp from Employee Table and Copy the data of following columns only:  
Employee\_ID, Name, Salary.
- 5) Sort the information of the employees based on experience in ascending order.