

A) WRITE THE QUERY FOR THE FOLLOWING.

1) CREATE THE FOLLOWING TABLE AND INCLUDE THE NECESSARY CONSTRAINTS NOT NULL, DEFAULT, CHECK, PRIMARY KEY, UNIQUE.

A) STUDENT (SID, SNAME, GENDER, DOB, MARKS, CLASS, EMAIL)

```
SQL> create table student(sid int primary key, sname varchar(10) not null, gender varchar(10) not null, dob date not null, marks int check(marks>50), class varchar(10) default 'FYCS', emailid varchar(10));

Table created.

SQL> desc student
      Name                                           Null?     Type
-----
SID                                                NOT NULL  NUMBER(38)
SNAME                                              NOT NULL  VARCHAR2(10)
GENDER                                              NOT NULL  VARCHAR2(10)
DOB                                                NOT NULL  DATE
MARKS                                              NOT NULL  NUMBER(38)
CLASS                                              NOT NULL  VARCHAR2(10)
EMAILID                                           NOT NULL  VARCHAR2(10)
```

B) COURSE (CID, CNAME, CREDITS)

```
SQL> create table course(cid int primary key, cname varchar(10) not null, credits int not null);

Table created.

SQL> desc course
      Name                                           Null?     Type
-----
CID                                                NOT NULL  NUMBER(38)
CNAME                                              NOT NULL  VARCHAR2(10)
CREDITS                                           NOT NULL  NUMBER(38)
```

2) ALTER THE STRUCTURE OF THE COURSE TABLE

C) MODIFY DATA TYPE OF CNAME

```
SQL> alter table course
  2  modify cname varchar(20);
```

Table altered.

```
SQL> desc course
```

Name	Null?	Type
CID	NOT NULL	NUMBER(38)
CNAME	NOT NULL	VARCHAR2(20)
CREDITS	NOT NULL	NUMBER(38)

D) ADD A COLUMN COURSEHOURS WITH MINIMUM COURSE HOURS GREATER THAN 45.

```
SQL> alter table course
  2  add coursehours int check(coursehours>45);
```

Table altered.

```
SQL> desc course
```

Name	Null?	Type
CID	NOT NULL	NUMBER(38)
CNAME	NOT NULL	VARCHAR2(20)
CREDITS	NOT NULL	NUMBER(38)
COURSEHOURS		NUMBER(38)

E) ADD A COLUMN CDESC

```
SQL> alter table course
  2  add cdesc varchar(10);
```

Table altered.

```
SQL> desc course
```

Name	Null?	Type
CID	NOT NULL	NUMBER(38)
CNAME	NOT NULL	VARCHAR2(20)
CREDITS	NOT NULL	NUMBER(38)
COURSEHOURS		NUMBER(38)
CDESC		VARCHAR2(10)

3) ALTER THE STRUCTURE OF THE STUDENT TABLE

F) ADD COLUMN AGE WITH MINIMUM AGE AS 17

```
SQL> alter table student
  2  add age int check(age>17);
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME	NOT NULL	VARCHAR2(10)
GENDER	NOT NULL	VARCHAR2(10)
DOB	NOT NULL	DATE
MARKS		NUMBER(38)
CLASS		VARCHAR2(10)
EMAILID		VARCHAR2(10)
AGE		NUMBER(38)

G) DELETE COLUMN DOB

```
SQL> alter table student
  2  drop column dob;
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME	NOT NULL	VARCHAR2(10)
GENDER	NOT NULL	VARCHAR2(10)
MARKS		NUMBER(38)
CLASS		VARCHAR2(10)
EMAILID		VARCHAR2(10)
AGE		NUMBER(38)

H) ADD A COLUMN PHONENO

```
SQL> alter table student
  2  add phoneno int;
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME	NOT NULL	VARCHAR2(10)
GENDER	NOT NULL	VARCHAR2(10)
MARKS		NUMBER(38)
CLASS		VARCHAR2(10)
EMAILID		VARCHAR2(10)
AGE		NUMBER(38)
PHONENO		NUMBER(38)

1) RENAME PHONENO TO CONTACTNO

```
SQL> alter table student
  2  rename column phoneno to contactno;
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME	NOT NULL	VARCHAR2(10)
GENDER	NOT NULL	VARCHAR2(10)
MARKS		NUMBER(38)
CLASS		VARCHAR2(10)
EMAILID		VARCHAR2(10)
AGE		NUMBER(38)
CONTACTNO		NUMBER(38)

4) RENAME STUDENT TABLE AS STUDENT_DETAILS

```
SQL> alter table student
  2  rename to student_details;
```

Table altered.

```
SQL> desc student_details
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME	NOT NULL	VARCHAR2(10)
GENDER	NOT NULL	VARCHAR2(10)
MARKS		NUMBER(38)
CLASS		VARCHAR2(10)
EMAILID		VARCHAR2(10)
AGE		NUMBER(38)
CONTACTNO		NUMBER(38)

6) DROP THE TABLE STUDENT_DETAILS AND COURSE.

```
SQL> drop table course;
```

```
Table dropped.
```

```
SQL> drop table student_details;
```

```
Table dropped.
```

```
SQL> desc course
```

```
ERROR:
```

```
ORA-04043: object course does not exist
```

```
SQL> desc student_details
```

```
ERROR:
```

```
ORA-04043: object student_details does not exist
```

B) 1. CREATE A TABLE EMPLOYEE WITH FOLLOWING ATTRIBUTES AND SPECIFIC DATA TYPES AND CONSTRAINTS REQUIRED (EMP_NO, E_NAME, E_ADDRESS, E_PH_NO, DEPT_NO, DEPT_NAME, JOB_ID, SALARY)


```
SQL> create table employee(Emp_no int primary key,E_name varchar(10) not null,E_address
varchar(20),E_ph_no int,Dept_no int not null,Dept_name varchar(10),Job_id int,salary int
);
```

Table created.

```
SQL> desc employee
```

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(38)
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO		NUMBER(38)
DEPT_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(10)
JOB_ID		NUMBER(38)
SALARY		NUMBER(38)

2. ADD A NEW COLUMN HIREDATE TO THE EXISTING RELATION.

```
SQL> alter table employee
2 add hiredate date;
```

Table altered.

```
SQL>
```

```
SQL> desc employee
```

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(38)
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO		NUMBER(38)
DEPT_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(10)
JOB_ID		NUMBER(38)
SALARY		NUMBER(38)
HIREDATE		DATE

ALTER

3. CHANGE THE DATATYPE OF JOB_ID FROM CHAR TO VARCHAR2.

```
SQL> alter table employee
  2  modify Job_id varchar(20);
```

Table altered.

```
SQL> desc employee
```

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(38)
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO		NUMBER(38)
DEPT_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(10)
JOB_ID		VARCHAR2(20)
SALARY		NUMBER(38)
HIREDATE		DATE

4. CHANGE THE NAME OF COLUMN/FIELD EMP_NO TO E_NO.

```
SQL> alter table employee
  2  rename column Emp_no to E_no;
```

Table altered.

```
SQL> desc employee
```

Name	Null?	Type
E_NO	NOT NULL	NUMBER(38)
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO		NUMBER(38)
DEPT_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(10)
JOB_ID		VARCHAR2(20)
SALARY		NUMBER(38)
HIREDATE		DATE

5. MODIFY THE COLUMN WIDTH OF THE JOB FIELD OF EMP TABLE.

```
SQL> alter table employee
  2  modify Job_id varchar(10);
```

Table altered.

```
SQL> desc employee
```

Name	Null?	Type
E_NO	NOT NULL	NUMBER(38)
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO		NUMBER(38)
DEPT_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(10)
JOB_ID		VARCHAR2(10)
SALARY		NUMBER(38)
HIREDATE		DATE

c) CREATE THE FOLLOWING TABLES WITH SPECIFIED ATTRIBUTES AND CONSTRAINTS

1) DEPARTMENT TABLE: DEPARTMENT_ID VARCHAR2(20) PRIMARY KEY, DEPARTMENT_NAME VARCHAR2(25) WITH REQUIRED DATA.

```
SQL> create table Department(Department_Id varchar(20) primary key, Department_Name varchar(25));
```

Table created.

```
SQL> alter table Department
  2  modify Department_Name varchar(25) not null;
```

Table altered.

```
SQL> desc Department
```

Name	Null?	Type
DEPARTMENT_ID	NOT NULL	VARCHAR2(20)
DEPARTMENT_NAME	NOT NULL	VARCHAR2(25)

2) INSTRUCTOR TABLE: INSTRUCTOR_ID VARCHAR2(20) PRIMARY KEY, DEPARTMENT_ID VARCHAR2(20) FOREIGN KEY, LAST_NAME VARCHAR2(25), FIRST_NAME VARCHAR2(20) MUST HAVE VALUE, TELEPHONE VARCHAR2(20) MUST BE UNIQUE, GENDER CHAR(1) MUST BE EITHER 'F' OR 'M', CITY VARCHAR(10) DEFAULT 'MUMBAI'.


```
SQL> create table Instructor(Instructor_id varchar(20) primary key,Department_Id varchar(20) references
Department(Department_Id),Last_name varchar(20),First_name varchar(200) not null,Telephone varchar(20) u
nique,gender char(1) check(gender='F'or gender='M'),city varchar(10) default 'MUMBAI');
```

Table created.

```
SQL> desc Instructor
```

Name	Null?	Type
INSTRUCTOR_ID	NOT NULL	VARCHAR2(20)
DEPARTMENT_ID		VARCHAR2(20)
LAST_NAME		VARCHAR2(20)
FIRST_NAME	NOT NULL	VARCHAR2(200)
TELEPHONE		VARCHAR2(20)
GENDER		CHAR(1)
CITY		VARCHAR2(10)

D) Create the following described below:

Table Name: EMP

Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
EMPNO	Int	-	-	-	Yes	-
ENAME	Varchar2	10	-	-	-	No
JOB	Varchar2	9	-	-	-	✓
MGR	Int	-	-	-	-	✓
HIREDATE	Date	-	-	-	-	✓
SAL	Number	-	7	2	-	✓
COMM	Int	-	-	-	-	✓
DEPTNO	Int	-	-	-	-	✓

Table Name: DEPT

Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
DEPTNO	Int	-	-	-	Yes	-
DNAME	Varchar2	14	-	-	-	No
LOC	Varchar2	13	-	-	-	✓

```
SQL> create table ashutosh_DEPT (Dept_no int primary key,Dname varchar(14) not null,Loc varchar(13));  
Table created.
```

```
SQL> desc ashutosh_DEPT
```

Name	Null?	Type
DEPT_NO	NOT NULL	NUMBER(38)
DNAME	NOT NULL	VARCHAR2(14)
LOC		VARCHAR2(13)

```
SQL> create table ashutosh_EMP(EMP_no int primary key,Ename varchar(10) not null,Job varchar(9),MGR int,Hiredate  
date(7,2),Comm int,Dept_no int references ashutosh_DEPT(Dept_no));
```

```
Table created.
```

```
SQL> desc ashutosh_EMP;
```

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(38)
ENAME	NOT NULL	VARCHAR2(10)
JOB		VARCHAR2(9)
MGR		NUMBER(38)
HIREDATE		DATE
SAL		NUMBER(7,2)
COMM		NUMBER(38)
DEPT_NO		NUMBER(38)