DATABASE SYSTEMS
BESE 15 B

Exam: Midterm **Total Marks**: 20

Question .No.1 **(0.5 x 10)**

Write the function / clause used to perform the following tasks in SQL. Write the function format where applicable.

a. To arrange records based on value of a particular field.
   Order by
b. To cluster records based on value of a particular field.
   Group by
c. To find a character within a string.
   instr(string, char)
d. To implement conditional logic.
   Decode(col/expression,
   Result1, value1
   [result2, value2, …,]
   [default]
e. To specify century other than the current one.
   To_date (char, 'DD-Mon-RR')
f. To display structure of table.
   Describe, desc
g. To replace NULL values.
   NVL(col,val)
h. For adding literal strings in displayed columns.
   || ' literal string' ||
i. For matching given/current value to every value returned by subquery.
   ALL
j. To match a character pattern.
   LIKE

Question .No.2 **(1.25 x 12)**

Write the queries to:

a. Display all the data from the customers table. Separate each column by a comma. Name the output column THE_OUTPUT.
   Select cid||','||lastname||','||firstname||','||address||','||city AS THE_OUTPUT from customers;

b. Select all records from customers table that have last names after Chris and before Sandlers including Chris and Sandlers.
   Select * from customers where lastname between 'Chris' and 'Sandler';

c. Select records of all customers who placed their order on 12th July, 05.
   Select c.firstname, c.lastname, o.orderdate from customers c, orders o where o.cid= c.cid and o.orderdate ='12-JUL-05';

d. Display records of all customers and the products they have purchased.

```
Select c.firstname, c.lastname, productname from customers c, orders o,products p where
o.cid= c.cid and o.pid= p.pid;
```

e. Display records of all customers where products purchased value more than 20,000. First and last names joined together and displayed in capitals, product names in initial capitals.

```
Select upper(c.firstname) ||' ' || upper(c.lastname), initcap(p.productname), o.amount from
customers c, orders o, products p where o.cid = c.cid and o.pid =p.pid and o.amount
>20000;
```

f. Create list of all transactions that occurred after 1998.

```
Select c.firstname, c.lastname, p.productname, o.amount from customers c, orders o,
products p where o.cid = c.cid and o.pid =p.pid and o.orderdate >'31-DEC-98';
```

g. Assign priorities to customers. If they have done transaction of more than 40,000, assign priority High. If more than 25,000, assign priority Medium. For the others assign priority Low.

```
Select c.firstname, c.lastname, DECODE (round(o.amount/10000),
 4 , 'HIGH',
 3, 'MEDIUM',
2, 'MEDIUM LOW',
 'LOW') PRIORITY from customers c, orders o where o.cid = c.cid;
```

h. Calculate the total amount of money spent by each customer.

```
SELECT c.firstname,SUM(o.amount) FROM customers c,Orders o where o.cid = c.cid
group by c.firstname;
```

i. Display all customers and their respective orders. Also display customers that haven't placed any order yet.

```
Select c.firstname, o.* from customers c full outer join orders o on (o.cid = c.cid);
```

j. Display record of person who did the first transaction using subquery.

```
Select c.firstname from customers c, orders o where o.cid=c.cid and o.orderdate = (select
min(orderdate) from orders);
```

k. Display records of all customers who have bought products from supplier with id 9 using subquery.

```
Select c.firstname from customers c, orders o where o.cid=c.cid and o.pid =ANY (select
pid from products where supplierid = 9);
```

l. Use subquey to display records of all customers that have ordered Wall Unit.

```
Select c.firstname from customers c, orders o where o.cid=c.cid and o.pid = (select pid
from products where productname = 'Wall Unit');
```