Name:
Enrolment No:

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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, Dec 2021

Course: BCA **Semester: I**
Program: DBMS **Time 03 hrs.**
Course Code: CSBC1005 **Max. Marks: 100**

SECTION A
(Scan and upload) **(5Qx 4M = 20 Marks)**

S.No.		Marks	CO
Q1.	Draw & explain the purpose of different type symbols used in ER Diagram.	4	CO1
Q2.	List different number, character, date function available in SQL	4	CO2
Q3.	Explain with example inner join Vs Outer Join	4	CO4
Q4.	Design SQL statement for two aggregate functions.	4	CO3
Q5.	List different characteristics of DBMS.	4	CO1

SECTION B
(Scan and upload) **(4Qx10M = 40 Marks)**

Q6. (10 Marks, CO2)

Consider the following tables Item. Write SQL commands for the statement and give outputs for SQL queries.

Table: **ITEM**

I_ID	Item Name	Manufacturer	Price
PC01	Personal Computer	ABC	35000
LC05	Laptop	ABC	55000
PC03	Personal Computer	XYZ	32000
PC06	Personal Computer	COMP	37000
LC03	Laptop	PQR	57000

1) To display the details of those Items , whose Manufacturer is XYZ

	2) To display the details of Item whose Price is in the range of 35000 to 55000 (Both values included). 3) To display the Customer Name, City from table Customer, and Item Name and Price from table Item. 4) SELECT DISTINCT City FROM Customer. **5)** Find out maximum & minimum price.		
Q7.	Elaborate the purpose of Primary key , Foreign key along with example.Write SQL statement for creating the table structure given below . Apply Primary key foreign key constraints also. Table: **ITEM** (I_ID, Item Name, Manufacturer, Price) Table: **CUSTOMER**(C_ID, Customer Name, City, I_ID) **Primary key** : I, _ID, C_ID **Foreign key** : I, _ID in Customer table Write SQL statement to insert 5 records in ITEM & CUSTOMER table	**10**	**CO3**
Q8.	**Design SQL quires as per details given below** **EMP Table (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO)** 1. Display all the fields of employee table 2. Retrieve employee ID and their salary. 3. Retrieve total salary of employee group by employee name and count similar names 4. Retrieve total salary of employee which is greater than 5000 5. Display names and salary of employees in descending order.	**10**	**CO1**
Q9.	Elaborate the purpose of Join . Explain with example Inner Join, Outer Joins and Self Joins **OR** **EMP Table** (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) **DEPT Table** (DEPTNO, DNAME, LOC) **Using above tables write the appropriate SQL join query to list the following details:** I. ENo., Ename, DName. II. The details of all the employees. III. Display all the columns of both the tables without repeating the column name (i.e. columns with same name appear only once) IV. Perform outer join on above tables.	**10**	**CO4**
SECTION-C **(Scan and upload)**		**(2Qx 20M= 40 Marks)**	

Q10.	Elaborate the concept of Normalization in database. Explain with example INF, 2NF and 3NF.	**5,15**	**CO2**
Q11.	Draw Oracle Database Server Architecture and explain its different component. How Instance Database Configurations work. Explain with Block diagram **OR** Elaborate the concept of subqueries along with example. Design subqueries for below mention table structure **EMP Table (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO)** **DEPT Table (DEPTNO, DNAME, LOC)** 1. List the department names which are having more than 4 employees 2. List department name having at-least 2 salesman 3. Display second max salary. 4. Display all employees who do not have any manager. 5. Display employees who are reporting to AMIT	**20**	**CO3**