Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Course: **Database Management Systems and Data Modelling** **Semester: III**
Programme: BCA **Course Code:2002**
Time: 03 hrs. **Max. Marks: 100**
Instructions: Use Oracle Academy Schema

SECTION A

S. No.		Marks	CO
Q 1	List properties of primary key and foreign key with example.	**4**	**CO1**
Q 2	Create diagram to show different type of joins through SQL.	**4**	**CO4**
Q 3	Query the data dictionary for each of the following: USER_OBJECTS USER_CATALOG	**4**	**CO4**
Q 4	Explain concept of " Like" with example	**4**	**CO3**
Q 5	Define the term Database Schema, privilege, Single row functions, Role.	**4**	**CO1,CO5,CO3**

SECTION B

Q 6	CREATE TABLE as per the schema given in Employee Table Design of Oracle Academy database EMPLOYESS LOCATIONS JOBS Apply PK, FK , constraints on Salary should have values >0. Insert 3 records in each table.	**10**	**CO2**
Q 7	Justify the need of Normalization during database design. Explain with example 1NF, 2NF and 3NF.	**10**	**CO2**
Q 8	In a multiple-user environment, you want to maintain security of the database access and use. How can system and object privilege used. Explain each with example.	**10**	**CO5**
Q 9	Define and give an example of the seven group functions: AVG, COUNT, MAX, MIN, STDDEV, SUM, and VARIANCE. a) Create a query that will show the average cost of the DJs on Demand events. Round to two decimal places. b) Find the average salary for Global Fast Foods staff members whose manager ID is 19. c) Find the sum of the salaries for Global Fast Foods staff members whose IDs are 12 and 9.	**10**	**CO3**

	d) Using the Oracle database, select the lowest salary, the most recent hire date, the last name of the person who is at the top of an alphabetical list of employees, and the last name of the person who is at the bottom of an alphabetical list of employees. Select only employees who are in departments 50 or 60. **OR**		
	Write SQL statements using date functions a).For DJs on Demand, display the number of months between the event_date of the Vigil wedding and today's date. Round to the nearest month. b). Display the days between the start of last summer's school vacation break and the day school started this year. Assume 30.5 days per month. Name the output "Days." c). Display the days between January 1 and December 31. d). Using one statement, round today's date to the nearest month and nearest year and trun-cate it to the nearest month and nearest year. Use an alias for each column. e). What is the last day of the month for June 2005? Use an alias for the output.		**CO3**
	SECTION-C		
Q 10	Design an ER Diagram for banking system in rural India. Specify all assumption and proper constraints.	**20**	**CO1**
Q 11	Use Oracle Academy database schemas and perform following subqueries a) Write a query that returns jazz and pop songs. Write a multi-row subquery and use the d_songs and d_types tables. Include the id, title, duration, and the artist name. b) Find the last names of all employees whose salaries are the same as the minimum salary for any department. c) Which Global Fast Foods employee earns the lowest salary? Hint: You can use either a single-row or a multiple-row subquery. d) Write a query to return a list of department id's and average salaries where the depart-ment's average salary is greater than Ernst's salary. e) Return the department ID and minimum salary of all employees, grouped by department ID, having a minimum salary greater than the minimum salary of those employees whose department ID is not equal to 50. **OR**	**20**	**CO4**
	Perform join queries using Oracle Academy database schema a) Use JOIN ON syntax to query and display the location ID, city, and department name for all Canadian locations.	**20**	**CO4**

	b) Query and display manager ID, department ID, department name, first name, and last name for all employees in departments 80, 90, 110, and 190. c) Display employee ID, last name, department ID, department name, and hire date for those employees whose hire date was June 7, 1994. d) Write a statement joining the employees and jobs tables. Display the first and last names, hire date, job id, job title, and maximum salary. Limit the query to those employees who are in jobs that can earn more than $12,000. e) Display job title, employee first name, last name, and email for all employees who are stock clerks.		