

Centre for Development of Advanced Computing (C-DAC) Bangalore  
**Post Graduate Diploma in Advanced Computing (PG-DAC)**  
February 2025 Batch  
**Lab Assessment Exam**

Date: 16 April 2024

Time: 1115 hrs – 1315 hrs

Module: Database Technologies

Module Code: DAC-05

Duration: 2 hrs

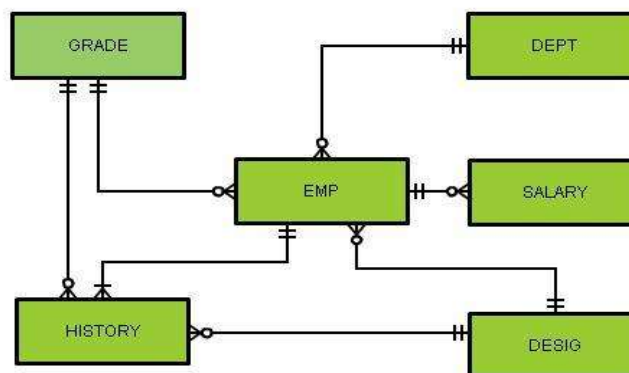
Max Marks: 40

Batch: Batch-2 (PRN 2502020071 – 2502020138)

**Section I - SQL (30 marks)**

**Instructions:**

1. Questions 1- 2 carry FOUR marks each.
2. Questions 3- 4 carry FIVE marks each.
3. Questions 5 - 6 carry SIX marks each.(Both the questions have options you can choose either one of the two)
4. You are advised to save all the queries along with the screenshots to a file with you Roll No.
  - \* If any query is not copied it will not be evaluated.
5. Refer to the ER Diagram for table structure and key migration details.



1. Create a view to display number of employees working in each department. Display this view
2. List the employee with maximum number of promotions. Also list the number of promotions that he/she got..
3. List the empcode, average take home pay and department name for those employees who are drawing salary lesser than the average salary of employees working for 'accounts' department
4. List the supervisor code, supervisor name and number of subordinates for those supervisor who have minimum 3 employee working under him.
5. Create a procedure to count number of employee born in a particular year. Execute this function by passing an year 1970

OR

Create a function to display all the employee less than 25 years of age . Execute this function.

6. Create a BEFORE UPDATE Trigger for emp table. If age is less than 18 it should not allow the user to insert a record in emp table. update a record in this to activate this trigger

Or

Create a procedure to get maximum salary for a particular department. Use a variable grade to set the grade as A if max salary is more than 5000. Execute this procedure

## Section II - NoSQL(MongoDB) (10 marks)

### Instructions:

- Questions 1 and 10 carry HALF marks each.
- Questions 3- 8 carry ONE marks each.
- Question no 2 is of TWO marks.
- You are advised to save all the queries along with the screenshots to a file with you Roll No.
- **NOTE: \* If any query is not copied it will not be evaluated.**

1-Create a database **students**

2-Insert the following documents in **participants** collection

first	last	age	gender	hair_colour	occupation	nationality
matthew	setter	40	m	brown	developer	australian
james	caan	28	m	brown	actor	american
arnold	chaw	53	m	brown	actor	american
tony	curtis	61	m	brown	developer	american
jamie	curtis	32	f	brown	actor	american
michael	caine	36	m	brown	actor	english
judi	dench	47	f	white	developer	english
sheena	bora	41	f	brown	actor	american

3-Retrieves all female, American actors and sort them in ascending order of age.

4-Update the record for tony curtis specifying that his hair is grey, not brown.

5-Count of the documents in the participants collection whose age is less than 35

6-Increment age of participant whose last name is curtis by 3

7-Create an index on the age field of the participants collection

8-Remove the documents from participant collection whose last name is "chaw".

9-Display all the indexes of the participant collection

10-Drop database Students