

**CMR ENGINEERING COLLEGE: : HYDERABAD  
UGC AUTONOMOUS**

**I–M.TECH–I–Semester End Examinations (Regular) - February- 2026  
ADVANCED DATABASE PROGRAMMING WITH PL/SQL  
(CSE)**

[Time: 3 Hours]

[Max. Marks: 60]

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 10 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A****(10 Marks)**

1. a) List commonly used scalar data types in PL/SQL. [2M]
- b) Mention any four built-in data types in PL/SQL. [2M]
- c) How the procedures to be invoked using SQL call notation? [2M]
- d) What happens to package variables in a serially reusable package? [2M]
- e) What are the DDL and DML triggers? [2M]

**PART-B****(50 Marks)**

- 2.a) Explain different control structures in PL/SQL with examples. [5M]
- b) Discuss exception handling in PL/SQL. [5M]

**OR**

3. Explain functions in PL/SQL. How are they different from procedures? [10M]

- 4.a) Explain lexical units in PL/SQL with suitable examples. [5M]
- b) Discuss iterative control statements with syntax and examples. [5M]

**OR**

- 5.a) Explain cursor structures in PL/SQL. Differentiate implicit and explicit cursors. [5M]
- b) Explain Oracle Collection API methods with examples. [5M]

- 6.a) Explain the architecture of PL/SQL functions and procedures with diagrams. [5M]
- b) Discuss transaction scope in PL/SQL subprograms. [5M]

**OR**

- 7.a) Discuss procedures and their parameter modes with examples. [5M]
- b) Compare pass-by-value and pass-by-reference for procedures. [5M]

8. Describe the package specification in detail with syntax and examples. [10M]

**OR**

- 9.a) Illustrate how functions and procedures are organized within a package. [5M]
- b) Describe how packages are managed in the database catalog. [5M]

- 10.a) Explain how to build and manage DDL triggers. [5M]
- b) Discuss compound triggers and their advantages. [5M]

**OR**

11. Compare DML, DDL, and system triggers. [10M]

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