

**GOVERNMENT POLYTECHNIC MUMBAI**  
**TERM END EXAMINATION**

**Programme : Information Technology**  
**Course Title : Database Management Systems**

2:30 Hours / 60 marks

Enrolment No.

Y 0 2 4 I Y 0 0 I

**Instructions:**

1. Attempt all the questions.
2. Illustrate your answers with neat sketches wherever necessary.
3. Use of Mathematical Tables, Steam Table and Pocket Calculator (non-programmable) is permissible.
4. Marks on Right Hand Side indicate full marks for the question.
5. Assume suitable additional data, if necessary
6. CO-COURSE OUTCOMES, L-LEVELS

**Q.1 Attempt any SIX**

**12 Marks**

- ~~a.~~ Enlist any two applications of DBMS [CO-1, L-R]
- ~~b.~~ Define Normalization [CO-4, L-R]
- c. Enlist normal forms [CO-4, L-R]
- d. State data types in SQL [CO-2, L-R]
- ~~e.~~ Define 1) Domain 2) Relation [CO-2, L-R]
- ~~f.~~ Write the SQL Query to find the names of Students in the Student table [CO-3, L-A]
- g. Define 1) Entity 2) Entity Set [CO-3, L-R]
- h. State transaction properties [CO-5, L-R]
- ~~i.~~ Enlist advantages of PL/SQL (Any 2) [CO-6, L-R]

**Q.2 Attempt any THREE**

**12 Marks**

- a. Describe structure of DBMS with suitable diagram [CO-1, L-U]
- ~~b.~~ Explain functional dependencies and multivalued dependencies with suitable examples [CO-4, L-U]
- c. Describe lock based protocols [CO-5, L-R]
- d. Explain different types of cursors [CO-6, L-U]

**Q.3 Attempt any THREE**

**12 Marks**

- ~~a.~~ Explain data independence with types [CO-1, L-U]
- b. Explain following with examples 1) Where clause  
2) Having clause [CO-2, L-U]
- c. Write PL/SQL program based on exception handling( User-defined exceptions) [CO-6, L-A]
- d. Write PL/SQL program to illustrate use of while loop [CO-6, L-A]

**Q.4 Attempt any FOUR**

**12 Marks**

- ~~a.~~ Explain Functions of database administrator (Any three) [CO-1, L-A]
- ~~b.~~ Construct ER diagram for library management system [CO-3, L-A]
- c. Explain codd's rule (Any three) [CO-2, L-U]
- ~~d.~~ Explain following with example 1) Group by clause 2) Order by clause. [CO-2, L-U]
- e. Explain types of schedule [CO-5, L-U]

**Q. 5      Attempt any TWO**

**12 Marks**

- a. Explain Specialization & Generalization with suitable example [CO-2, L-U]
- b. Describe concurrent execution of transaction with suitable example [CO-5, L-U]
- ~~c.~~ Describe data redundancy and updating anomalies in detail [CO-4, L-U]

\*\*\*\*End\*\*\*\*