



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc.DEGREE EXAMINATION –COMPUTER SCIENCE**

**SECOND SEMESTER – APRIL 2019**

**17/18PCS2MC05– ADVANCED DATABASE MANAGEMENT SYSTEMS**

Date: 09-04-2019

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

**PART-A**

**Answer ALL questions**

**10 × 2 = 20**

1. What is a Data Model?
2. What do you mean by Relational Model Constraints?
3. Briefly explain the INTERSECTION relational algebra operation.
4. Differentiate between Binary and Unary relational operators.
5. What are Structural Constraints in ER modeling?
6. What do you mean by Generalization?
7. What is Multi-valued dependency?
8. What are Single-level indexes?
9. What is Query Processing?
10. What do you mean by Recoverability?

**PART-B**

**Answer ALL questions**

**5 × 8 = 40**

11. a. Briefly explain the DDL and DML.  
(or)  
b. Briefly explain the External Schema with a suitable example.
12. a. Explain the Aggregate Functions AVERAGE, MAXIMUM and MINIMUM.  
(or)  
b. Briefly explain the JOIN binary relational operation with an example.
13. a. Briefly explain the Relationship types and Relationship Sets with examples.  
(or)  
b. Explain the Specialization concept in the context of Entities.
14. a. Explain the Multi-level indexes with suitable examples.  
(or)  
b. Briefly explain the fourth normal form with an example.
15. a. Briefly explain the concept of Query Optimization.  
(or)  
b. Explain the transaction support that is available in SQL.

**PART-C**

**Answer any TWO questions**

**2 × 20 = 40**

16. a. Briefly explain the Internal Schema and Conceptual Schema with an example for each.  
b. Explain the SELECT and PROJECT unary relational operators with examples.
17. a. Explain Entity Types, Entity Sets, Attributes and Keys.  
b. Explain the various concepts related to ER diagrams with suitable examples.
18. a. Explain the first normal form and third normal form with suitable examples.  
b. Briefly explain the Query Trees. Explain the Heuristic optimization of Query Trees.

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