

Madras University

M.C.A DBMS Question paper

Time: Three hours

Maximum: 75 marks

PART A - [5 x 5 = Marks 25]

Answer ALL questions.

All questions carry equal marks.

1. (a) Define and explain the terms Data Base and Data Base Management System.
Or
(b) What are entity and entity sets? Explain with examples.
2. (a) Compare and contrast the conventional file system with DBMS.
Or
(b) Explain one to one, one to many and many to many relationships with examples.
3. (a) What are the three common types of data models? Explain briefly one of them.
Or
(b) When will you use each of the following relational algebraic operations : Select, Project, Join?
4. (a) Draw the diagram of DBTG Codasyl model and explain.
Or
(b) What is plex structure? What are its special features?
5. (a) Discuss Query interpretation.
Or
(b) Explain concurrency control.

PART B - [5 x 10 = Marks 50]

Answer any FIVE questions.

All questions carry equal marks.

6. What are the objectives and purposes of a Data Base Management system? Describe the ANSI/SPARC architecture of a Data Base Management system.

7. Explain the various possible associations between entities with suitable examples. What is E-R diagram? Explain with an example.

8. How are Relational Algebra and Relational Calculus employed in DBMS? Explain the various operations performed by them.

9. Explain the four forms of normalization employed in relational database with appropriate examples.

10. Describe the different steps in the design of a relational database. Discuss also the pitfalls.

11. Compare and contrast the three popular data models with respect to their structure and implementation.

12. Explain DBTG data structure and architecture. Also discuss the DBTG data retrieval facility.

13. Write short notes on :

- (a) Data Base security and integrity
- (b) Query Processing.