

(104CS17)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2017

FIRST SEMESTER

Branch - Computer Science

Paper IV — DATABASE MANAGEMENT SYSTEMS

(New Syllabus)

Time : 3 Hours

Max. Marks : 70

SECTION - A

Answer any FOUR questions from Part - A each question carries 5 marks.

(Marks : 4×5 marks = 20 marks)

1. Define Database. List the characteristics of Database.
2. Explain client server architecture of DBMS.
3. Write an SQL query to create a database for the following details of employee: empno, ename, sal, designation, DOB, location.
4. Write about different types of join operations.
5. List the difference between BCNF and 3rd normal forms.
6. List the problems caused by Redundancy.
7. Define ACID. Specify the ACID properties.
8. What is serializability? What are its types?

SECTION - B

Answer ALL questions from Part B each question carries 12.5 marks.

(Marks : 4×12.5 marks = 50 marks)

UNIT - I

9. (a) Explain the overall system structure of database management system. Explain about DBA.

Or

- (b) Explain the component modules of a DBMS and their interaction with the architecture. Draw the E-R diagram for the banking database.

UNIT - II

10. (a) Explain the basic relational algebra operations with the symbol used and an example for each.

Or

- (b) Explain DDL and DML commands in SQL.

[P.T.O.]

UNIT - III

11. (a) Define normalization? Explain different types of normal forms in DBMS?

Or

- (b) What is functional dependency? Explain the functional dependencies based normal forms with an example for each?

UNIT - IV

12. (a) What is the need for concurrency? Explain the locking protocols Used for concurrency?

Or

- (b) Describe the transaction recovery system recovery and media recovery.
-