FIFTH SEMESTER B.TECH DEGREE EXAMINATION
MODEL QUESTION PAPER
Branch: Computer Science & Engineering
Subject: DATA BASE DESIGN

Time: 3 Hours

Max Marks 100

PART - A

Answer all questions. (4 x 10=40 Marks)

1. What is the role of a DBA?

2. Define the terms data integrity and data consistency with suitable examples.

3. Distinguish between schema and instance.

4. What are the advantages of index sequential file?

5. What are the differences between weak entity and strong entity?

6. What is normalization? What are the advantages of normalization?

7. What is functional dependency?

8. What is lossless decomposition of relation?

9. What are the properties of transaction?

10. Define transaction log?

PART - B

Answer one from each Module. (20 x 3=60 Marks)

MODULE - 1

11. a) Explain the features of relational model, network model and hierarchical model considering the structure and implementation.

 b) What are the advantages of DBMS over conventional file processing?

12. a) Discuss the features of different types of files.

 b) Draw the E-R diagram for an engineering college database by determining entities, attributes and their relations.

MODULE - 2

13. a) What are the various relational algebraic operations? Perform the algebraic operation for the relations?

 P(id, name), Q(id, dept)

assuming 5 tuples in each.

b) Discuss the role of normal forms in the database design.

14. a) Define integrity constraints with respect to Codd's integrity rule.

b) Discuss domain calculus and tuple calculus features for realtional database processing.

MODULE - 3

15. a) Define concurrency in the database transaction. How to achieve concurrency in the transaction?

b) What is 2 PC protocol?

16. a) Explain database recovery techniques in database management system?

b) What are the security issues in the database transactions?