30~5

Reg. No. :

Question Paper Code : 70287

M.E./M.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

First Semester

Computer Science and Engineering

IF 5191 – ADVANCED DATABASES

(Common to M.E. Software Engineering)

(Regulations 2017)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. What are the limitations of client server architecture ?

2. Differentiate between inter-query and intra-query parallelism.

3. Write the syntax and semantics of Datalog languages.

4. How can we represent time in temporal databases ?

5. Define XML schema.

6. Highlight the use of web database.

7. What is data distribution ?

8. Mention the use of commit protocols.

9. What are the multimedia data formats ?

10. Why do we need multimedia databases ? List its advantages and disadvantages.

PART – B   (5×13=65 Marks)

11. a) i) Explain the key properties which are used to measure the performance of parallel database system.   (8)

    ii) Discuss the different architectures for parallel databases.   (5)

(OR)

b) i) Explain the steps involved in processing a query with suitable example. (8)

   ii) Compare and contrast the following pairs in distributed database (5)

     1) Fragmentation and replication.

     2) Vertical and horizontal partitioning.

12. a) Explain the syntax and semantics of Starburst Database. How the active rules are specified in Starburst Database.

<div align="center">(OR)</div>

b) Explain Spatial Data Structures and Spatial Access Methods.

13. a) Give details about approaches used for storing and extracting XML documents in database.

<div align="center">(OR)</div>

b) How Web Database is differ from Mobile Database ? Describe the Web Database architecture with suitable diagram.

14. a) i) Explain the effect of mobility on Data Management. (8)

   ii) Explain the following Mobile Transaction Model. (5)

     1) HiCoMo Model

     2) Moflex model

<div align="center">(OR)</div>

b) Write detailed notes on transaction commit protocols in mobile database.

15. a) Discuss the concepts of multidimensional data structures.

<div align="center">(OR)</div>

b) Explain multimedia database design in detail.

<div align="center">PART – C   (1×15=15 Marks)</div>

16. a) How is concurrency control achieved in distributed database ? Justify your answer with an example.

<div align="center">(OR)</div>

b) Create a sample XML document for student database.