B.Tech. 4th Semester (CSE) (F-Scheme) Examination, May–2018

DATABASE MANAGEMENT SYSTEMS

Paper–CSE–202–F

Time allowed : 3 hours]   _[Maximum marks : 100_

Note :   _Attempt any **five** questions in all, selecting **one** question from each Part. **Question No. 1 is compulsory.**_

1.   (a)   What is a weak entity ? Give an example.

     (b)   State the need of query optimization.

     (c)   Write the characteristics that distinguish the Database approach with the file based approach.

     (d)   What is authorization and authentication in oracle ?

     (e)   Write about the four types of Data warehouse schemas.

     (f)   What is data stripping ?

     (g)   Why is B+ tree efficient than B tree.

     (h)   Explain atomicity of a transaction.

     (i)   What is Database and DBMS ?

     (j)   Define Primary and Foreign Key.

Section–A

2.

(a) Explain the overall system structure of Database management system. 10

(b) Illustrate the need for a Database system with the help of suitable example. 10

3.

(a) Draw an E-R diagram for a student management system. Assume suitable entity and relations. 10

(b) Give a brief note on the different views of data, with the necessary diagram. 10

Section–B

4. Discuss how multi-level indexes are constructed using B trees and B+ trees. 20

5.

(a) Explain static hash function. What is the need for dynamic hash function. 10

(b) Explain the principle of the various RAID levels. 10

Section–C

6.

(a) Explain 2nd normal form and Boyee-code normal forms with example. 10

(b) Explain domain constraints and referential integrity with examples. 10

7. Explain how sorting queries are processed with examples. 20

Section–D

8.

(a) What is the need of concurrency control ? Illustrate the problem with suitable example. 10

(b) Explain 2-Phase commit protocol. 10

9. What is serializability ? What are its types ? What is a serializability schedule ? Give example. 20