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BT-3 / D-17

DATA BASE MANAGEMENT SYSTEM
Paper–CSE–201–E

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

Note :   *Attempt five questions in all, by selecting atleast one question from each unit. All questions carry equal marks.*

Unit–I

1. (a) Define schema, instances, data sublanguages, super key, referential integrity constraint, weak entity, complex attribute.

   (b) What do you mean by data independence? Discuss different type of data independence. How three tier architecture of DBMS achieve data independence?   10+10=20

2. (a) What do you mean by relationship in ER diagram? Exemplify relationship types and relationship constraints.

   (b) Draw a neat sketch of network and hierarchical data models. Differentiate among them.   10+10=20

Unit–II

3. What do you mean by file organization? Define and differentiate between Sequential, indexed sequential and direct access files. 20

4. (a) Discuss how aggregate functions and grouping is performed in relational algebra.

   (b) What are the rules on the basis of which a tuple variable is said to be free or bound?   10+10=20

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(2)

Unit–III

5. What do you mean by normalization? Why it is required? Discuss the similarities and dissimilarities between third normal form and BCNF.   20

6. (a) What do you mean by functional dependencies? Discuss different type of functional dependencies.

   (b) Write a note on QBE.   10+10=20

Unit–IV

7. (a) What are the key elements in parallel databases? Explain.

   (b) What do you mean by object identity? Discuss complex objects in object oriented databases.   10+10=20

8. (a) Explain the two-phase locking protocols with the help of an example.

   (b) Discuss the characteristics of Data warehouse. Explain the motivating factors behind data mining.   10+10=20

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