

B.E./B.Tech. (Full Time) Degree Examinations Apr./May 2014

III Semester

Regulations 2012

IT8302 – Database System Concepts

Time : 3 Hours

Max. Marks : 100

Answer All Questions

Part A (10 x 2 = 20 Marks)

1. Distinguish between conceptual view and physical view.
2. How will you convert E-R diagrams into tables?
3. Define views. Compare views with base tables.
4. Write the advantages of Dynamic SQL.
5. Write the properties of Functional Dependences.
6. Distinguish between Non-loss decomposition and lossy decomposition.
7. Define 'serializability' of transactions.
8. What is deadlock in transactions?
9. Define 'Tertiary storage'.
10. How is catalog information useful for cost estimation?

Part B (5 x 16 = 80 Marks)

11. (i) Explain the Advanced SQL features. (8)
(ii) What is embedded SQL? Explain it. (8)
12. (a) (i) Write the advantages of database systems. (8)
(ii) Sketch the architecture of a DBMS and explain the components. (8)
(OR)
(b) (i) Explain Generalization and Specialization in E-R modeling. (8)
(ii) Compare relational algebra and calculus. Explain them. (8)
13. (a) (i) Define normalization, 1NF, 2NF and 3NF. Explain them. (8)
(ii) What are modification anomalies? How will you eliminate them? Explain BCNF with an example. (8)
(OR)
(b) (i) Explain Fourth normal form with an example. (8)
(ii) With a suitable example, explain Fifth normal form. (8)
14. (a) (i) Explain the ACID properties. (8)
(ii) Explain the log based recovery techniques. (8)
(OR)
(b) (i) Sketch the architecture of distributed databases and explain it. (8)
(ii) Explain Data Warehousing in detail. (8)
15. (a) (i) Explain the Magnetic disks with a neat diagram. (8)
(ii) What is RAID? Explain the levels in RAID. (8)
(OR)
(b) (i) Explain the B⁺ tree indexing method. (8)
(ii) Write the join processing algorithms and explain briefly. (8)