

Regulations 2013

PTIT 8203 – DATABASE SYSTEM CONCEPTS

Time: 3 Hours

Marks: 100

Answer All Questions

Part – A (10 X 2 = 20 Marks)

1. What is data model?
2. Define strong and weak entities.
3. Distinguish between procedures and functions.
4. What is ODBC? State its uses.
5. Define normalization: Give an example.
6. How will you compute the closure?
7. What is media recovery?
8. What are association rules?
9. Write the properties of sequential files.
10. How will you estimate the cost of a query?

Part – B (5 X 16 = 80 marks)

11. (i) Draw an E – R diagram for a student database of a university. (8)
(ii) Explain Join operations in relational algebra. (8)
12. (a) (i) Explain the DDL and DCL Commands of SQL. (8)
(ii) Explain the SELECT Statement in SQL. (8)
(OR)
(b) (i) List the parameter passing techniques and explain them. (8)
(ii) Explain about Embedded SQL. (8)
13. (a) (i) Explain 1 NF, 2 NF, 3 NF and BCNF. (8)
(ii) List the properties of functional dependencies and explain them. (8)
(OR)
(b) (i) Explain about multi-valued dependencies. (8)
(ii) State and explain Fifth Normal Form. (8)
14. (a) (i) Explain the shadow paging algorithm. (8)
(ii) State and explain the two phase commit protocol. (8)
(OR)
(b) (i) Explain the two phase locking protocol. (8)
(ii) Explain the ETL process. (8)
15. (a) (i) Explain the RAID levels. (8)
(ii) State the File organization methods and explain them. (8)
(OR)
(b) (i) Explain B – tree indexing. (8)
(ii) Define static hashing. Explain it with an example. (8)