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Question Paper Code: 53206

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Third Semester

Computer Science and Engineering

15UCS306 – DATABASE SYSTEM CONCEPTS

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

PART A - (5 x 1 = 5 Marks)

1. Database system which supports majority of concurrent users is classified as CO1 -R
 - (a) multiuser system
 - (b) multi-function system
 - (c) multi transaction system
 - (d) client and disk server system
2. Which one of the following is a procedural language ? CO2 -R
 - (a) Domain relational calculus
 - (b) Tuple relational calculus
 - (c) Relational algebra
 - (d) Set difference
3. Select * from employee, What type of statement is this? CO3- R
 - (a) View
 - (b) DDL
 - (c) DML
 - (d) Integrity Constraint
4. Which level of RAID refers to disk mirroring with block striping? CO4- R
 - (a) RAID level 0
 - (b) RAID level 1
 - (c) RAID level 2
 - (d) None
5. SQL is a standard language for _____ CO5- R
 - (a) accessing databases
 - (b) creating web pages
 - (c) creating front ends
 - (d) none of these

PART – B (5 x 3= 15Marks)

6. Give a description on DCL commands. CO1 -R

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| 7. | Define Aggregate Functions in SQL? | CO2 -R |
| 8. | What are the steps followed in executing write(x) command in transaction? | CO3- R |
| 9. | Define RAID | CO4- R |
| 10. | What are the cost components for query execution? | CO5 -R |

PART – C (5 x 16= 80Marks)

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| 11. | (a) Define entity and relationship. Sketch and discuss ER modeling for Student Management System. | CO1- U | (16) |
| | Or | | |
| | (b) Explain the three different groups of data models with examples. | CO1 -U | (16) |
| 12. | (a) What are the pitfalls in relational database design? With a suitable example, explain the role of functional dependency in the process of normalization. | CO2 -App | (16) |
| | Or | | |
| | (b) Define normalization. Explain 1NF,2NF and 3NF using appropriate examples | CO2 -U | (16) |
| 13. | (a) Discuss on strict, two - phase locking protocol and time stamp-based protocol. | CO3 -U | (16) |
| | Or | | |
| | (b) How can you implement atomicity in transactions? Explain. | CO3- Ana | (16) |
| 14. | (a) Describe the structure of B+ tree and give the algorithm for search in the B+ tree with example. | CO4 -U | (16) |
| | Or | | |
| | (b) Analyze the Dynamic hashing in detail. | CO4 -Ana | (16) |
| 15. | (a) Explain selection operation with suitable examples. | CO5 -U | (16) |
| | Or | | |
| | (b) Explain the relational Expressions with suitable example. | CO5- U | (16) |