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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Fifth Semester B.E. - Computer Science and Engineering

Semester End Examination; Dec. - 2014

Data Base Management System

Time: 3 hrs *Max. Marks: 100*

Note: *Answer any **FIVE** full questions, selecting at least **TWO** full questions from each part.*

PART - A

1. a. Distinguish between actors on the scene and workers behind the scene. Discuss in detail the actors on the scene. 12

   b. List and briefly explain the advantages of using DBMS approach. 8

2 a. Write the ER diagram with proper names of schema and relationship to student database of the college. Identify all kinds of relationships. 10

   b. With a neat diagram explain the main phases of DB Design. 10

3 a. Explain update operations and dealing with constraint violations. 10

   b. Briefly describe relational model constraints and relational DB – Schemas. 10

4 a. Write an ER diagram for student, faculty and subject relationship. Explain in detail. 10

   b. Explain any 5 aggregate functions and grouping along with syntax. 10

PART - B

5 a. Differentiate between schema, table and domain. Also explain with the syntax how they are created and used in database. 10

   b. Discuss the anomalies with respect to insert, delete and update command (Employee database to be considered), Also explain how do you eliminate these anomalies. 10

6 a. By taking an example of employee data base, explain the process of normalization up to 3 NF. Explain in detail. Discuss how you are going to eliminate anomalies. 10

   b. Discuss the informal design guidelines for relational schemas in detail. 10

7 a. Briefly discuss the properties of relational decompositions. 10

   b. List and explain the different algorithms for relational database schema design. 10

8. a. Describe two phase locking techniques for concurrency control. 10

   b. Explain the recovery concepts in database. 10

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