(d) What do you mean by transaction? Also describe the state of transaction. 7

Unit-V

5. (a) Define Indexing. 2

(b) What do you mean by Buffer Management? Explain log record buffering and Database buffering. 7

(c) Write short notes on :

Advanced recovery system. 7

(d) Write short note on . (any one) 7

(i) B^+ tree

(ii) Indexed Sequential Access Method (ISAM)

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B. E. (Fifth Semester) Examination, Nov.-Dec. 2016

(New Scheme)

(CSE Engg. Branch)

DATABASE MANAGEMENT SYSTEM

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each unit is compulsory carrying 2 marks. Attempt any two parts from (b), (c) and (d) is of 7 marks.

Unit-I

1. (a) Define transaction. 2

(b) Explain the following terms :

Attribute, Entity, Entity set, Relationship, one-to-many relationship. 7

(c) Construct an E-R-Diagram for university database contains information about professors and courses assumes all necessary constraints. 7

(d) Differentiate between DBMS Vs. File system. 7

Unit-II

2. (a) Differentiate between candidate key and primary key. 2

(b) Consider the following schema and write the following queries in Relational Algebra : 7

Suppliers (sid : integer, sname, string, address, string)

Parts (pid : integers, pname : string, color : string)

Catalog (sid : integer, pid : integer, cost : real)

(i) Find the name of suppliers who supply some red parts.

(ii) Find the sids of suppliers who supply some red or green part.

(iii) Find the sids of suppliers who supply some red part or at 221 packer street.

(iv) Find the pids of part supplied by at least two different suppliers.

(v) Find the sids of suppliers who supply every parts.

(c) Write short notes on Tuple Calculus and Domain Relational Calculus. 7

(d) Explain following operation in Relational Algebra selection, projection, renaming and join operation. 7

Unit-III

3. (a) Define primary key and write SQL query for dummy table to create primary key. 2

(b) Write short notes on trigger and give SQL Query example. 7

(c) Define following logical connectivity with example : AND, OR, NOT. 7

(d) What are the various aggregative operators (functions) in SQL? Explain in brief. 7

Unit-IV

4. (a) What do you mean by schema? 2

(b) Define multivalued dependency. Also describe 4th Normal form. 7

(c) Define 1NF, 2NF, 3NF and BCNF. 7