Ese/retest examination 2020
5th semester
Data-Base Management System
CO-503
Total Time : 3 hours
Total Marks: 70

PART-A

(Total marks: 25; All the questions are compulsory)

Q1. Fill up the blank. 10x1=10

a) Database schema is the description of _____.

b) Data in a database at a particular moment in time is called _____.

c) The prime attributes together forms the _____key.

d) If an attribute has multiple values then it is called _____ attribute.

e) If an attribute has two or more parts then it is called _____ attribute.

f) SQL stands for _____ _____ Language.

g) FK stands for _____ key.

h) _____ algorithm is used to convert plain text to cipher text.

i) _____ algorithm is used to convert cipher text back to plain text.

j) Duplicate data is referred as data _____ in dbms.

Q2. Say true or false. 10x1=10

a) In Natural Join, the name of the joining attribute is same in both the table.

b) Records of weak entity can be identified with the help from identifying owner.

c) Full participation is indicated by single stroke in a ER diagram.

d) 3NF is almost similar to BCNF.

e) Partial participation is indicated by double stroke in a ER diagram.

f) Primary key is always available in weak entity.

g) In ACID property of transaction A stand for availability.

h) In ACID property of transaction D stand for durability.

i) System log is used for recovery purpose.

j) A situation, in which few transactions are in waiting phase for infinite time to get their required resources is called starvation.

Q3. Choose the correct answer: 5x1=5

i) Which one of the following is a function of distributed database?

a) Network transparency. b) Increased availability. c) Improved performance

d) All of these. e) None of these.

ii) Which of the following is a control measure of database security?

a) Shadow paging b) Data encryption c) Two phase locking

d) All of these. e) None of these.

iii) One of the Two phase locking may be:

a) Basic b) Conservative c) Strict

d) Rigorous e) All of these f) None of these

iv) A valid states of a transaction may be:

a) Begin transaction b) End transaction c) Committed

d) All of these e) None of these

v) Which of the following clause of SELECT statement is used for pattern matching:

a) Where clause. b) Group by clause. c) Having clause.

d) Any one of these e) None of these

PART – B

(Total marks: 45; Answer any 5 questions)

Q4. a). Define the terms: 2x3=6

i) Database view ii) Transaction iii) Redundancy

b) Describe three schema architecture. 3

Q5. a) What do you mean by data independence? Describe two different types of data independence. 2+3

b) What are database anomalies? 2

c) State the meaning of normalisation of a database. 2

Q6. Write the SQL statements as directed considering two tables: 3x3=9

Employee (ecode, ename, salary, dno) and

Department (dnum, dname, mgr_ecode)

a) Retrieve all the employees who are working in "Marketing Department".

b) Retrieve name of all the managers along with department name.

c) Retrieve name of all the departments with number of employees working on it.

Q7. a) Describe horizontal and vertical fragmentation of distributed database. 2+2=4

b) Illustrate flow control and access control to secure a database. 2+2=4

c) What is cipher text? 1

Q8. a) What are the advantages of using DBMS approach? 3

b) What are the problems of concurrent execution of transactions? 3

c) Illustrate two tire client server architecture of DBMS. 3

Q9. a) What is primary key and candidate key? 3

b) Define DDL, DML and DCL 3x2=6

Q10. **Write short note on any three:** 3x3=9

a) Characteristics of DBMS approach.

b) ACID properties in transactions.

c) Deadlock.

d) Schedule.

e) 3NF.

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