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BCA-09/BA-IT-06

Database Management System

Bachelor of Computer Application (BCA-11/16/17)

3rd Semester Examination 2019

Time : 3 Hours **Maximum Marks : 80**

Note : This paper is of Eighty (80) marks divided into three (03) sections A,B and C. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section –A

(Long Answer Type Questions)

Note: Section 'A' contains four (04) long –answer- type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only. (2x19=38)

1. Define DBMS? Explain types of database management systems. Mention merits, demerits and explain of advantages of DBMS.

2. What is the difference between Physical data model, Logical data model, ER data model and explain the conversion of conversion of ER model into relational schema with the help of a suitable example.

3. Explain the need of Normalization in database management system? Also describe 2NF, 3NF,4NF and 5NF with the help of suitable example and advantage of later one later one over previous one.

4. Write down the characteristics and advantages of SQL. Also explain types of database failure, types of database recovery and various goals of database security.

Section – B
(short-Answer- Type Questions)

Note : Section 'B' contains eight (08) short –answer type questions of Eight (08) marks each. Learners are required to answer Four (04) questions only. (4x8=32)

1. Define records? Explain different types of records with suitable example.

2. Discuss the limitations of file processing systems. Also write down the responsibilities of DBA.

3. Explain two tier and three tier architecture of DBMS. Also write down the advantages and disadvantages of each.

4. Explain Entity integrity, Referential integrity and foreign key giving example to each.

5. What is functional dependency? Explain with example. Also Discuss INF.

6. What are the different types of SQL commands? Give two commands of each.

7. What do you understand by backup of database? Why is it required?

8. (a) What is Doman Constraint? (4)
   (b) What is Database Security? (4)

Section –C
(Objective-type-questions)

Note: Section 'C' contains ten (10) objective - type questions of one (01) mark each. All the questions of his section are compulsory. (10x1=10)

1. If a piece of data is stored in two places in the database, then
   (a) Storage space is wasted
   (b) Changing the data in one spot will cause data inconsistency
   (c) In can be more easily accessed
   (d) Storage space is wasted & Changing the data in one spot will cause data inconsistency
2. The user defined data type can be created using
   (a) Create datatype
   (b) Create data
   (c) Create definetype
   (d) Create type
3. The attribute name could be structured as an attribute consisting of first name, middle initial, and last name. This type of attribute is called
   (a) Simple attribute
   (b) Composite attribute
   (c) Multivalued attribute
   (d) Derived attribute
4. Which of the normal form is based on multivalued dependencies?
   (a) First
   (b) Second
   (c) Third
   (d) Fourth
5. Which of the following is an attribute that can uniquely identify a row in a table?
   (a) Secondary Key
   (b) Candidate Key
   (c) Foreign Key
   (d) Alternate Key

6. Which of the following has “all-or-none” property?
   (a) Atomicity
   (b) Durability
   (c) Isolation
   (d) All of the mentioned
7. In the given query which of the keyword has to be inserted?
   INSERT INTO employee _____(1002,Joney,2000):
   (a) Table
   (b) Values
   (c) Relation
   (d) Field
8. Which of the following is not outer join?
   (a) Left outer join
   (b) Right outer join
   (c) Full outer join
   (d) All of the mentioned
9. Which –one of the following statements about normal forms is FALSE?
   (a) BCNF is stricter than
   (b) Lossless, dependency- preserving decomposition into 3 NF is always possible
   (c) Loss less, dependency- perserving decomposition into BCNF is always possible
   (d) Any relation with two attributes is BCNF
10. Given the basis ER and relational models, which of the following is INCORRECT?
   (a) An attribute of an entity can have more than one value
   (b) An attribute of an entity can be composite
   (c) In a row of a relational table, an attribute can have more than one value
   (d) In a row of a relational table, an attribute can have exactly one value or a NULL value

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