Computer Science - ICS Part 2 Computer Science Chapter 4 Short Questions Preparation

Q1. Define Insertion Anomaly.

Ans 1: An Insert Anomaly occurs when certain attributes cannot be inserted into the database without the presence of other attributes. For Example this is the converse of delete anomaly.we can't add a new course unless we have at least one student enrolled on the course.

Q2. Define Mutual Exclusive of data.

Ans 1: Mutually exclusive data exist when attributes occur whose values can be expressed as "Yes/no" indicators , cannot all be true for any single entity.

Q3. Define Transitive Dependency .

Ans 1: Transitive Dependency is a functional dependency in a relation between two (or more) non-key attributes.It is also defined as "It states that in a relation R, if an attribute B is functionally dependent on an attribute A,and the attribute C is functionally dependent on the attribute B This implies that the attributes C is functionally dependent on the attribute A.

Q4. Define Entity Integrity.

Ans 1: Entity Integrity is a constraint on primary values that states that no attribute of a primary key should contain nulls.

Q5. What is Normalization?

Ans 1: Normalization:Normalization is the process of converting complex data structures into simple and stable data structures. It is based on the analysis of functional dependence . In other words, Normalization is a technique for reviewing the entity/ attributes lists to that attributes are stored " where they belongs ".it is base for a relational data base system .There are three Forms of Normalization:a) First Normal Formb) Second Normal Formc) Third Normal Form

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Q6. How is Entity Integrity attained?

Ans 1: The entity integrity can be attained by specifying primary key in a relation. When a primary key constraint is specified on a relation, the DBMS automatically applies the entity integrity on the attribute that is used as primary key .

Q7. Define 3rd normal form .

Ans 1: A relation is in third normal form (3 NF) if it is in 2 NF and no transitive dependencies exist.A more precise definition for 3 NF is : "A non-key attribute must not depend on any other non-key attributes " or if a non-key attributes value can be obtained simply by Knowing the value of another non-key attribute, the relation is not in 3 NF.

Q8. What is homonym?

Ans 1: A homonym is created when same name is used for two attributes. Consider the following example :Customer SupplierCompany_Name Company_NameWe Should use Supplier _Name instead of Company _Name in Supplier

Q9. How first normal form is achieved?

Ans 1: A relation R is in First Normal Form if and only if all underlying domains contain atomic values only.The Pre-requisite is that, A relation has a always a primary key associated with it. Thus, we can define it as follow:1) All entities must have a key,composed of a combination of one or more attributes which uniquely one occurrence of the entity.2) For any single occurrence of an entity,each attribute must have one and only one value or "An attributes must have no REPEATING GROUPS".

Q10. Define partial dependency .

Ans 1: A partial functional dependency exist when one or more non- key attributes (Such as NAME) are functionally dependent on part (but not all) of the primary key