1. \_\_\_\_\_\_\_\_\_\_\_\_\_ can help us detect poor E-R design.  
a) Database Design Process  
b) E-R Design Process  
c) Relational scheme  
d) Functional dependencies

Answer: d  
Explanation: For eg.,Suppose an instructor entity set had attributes dept name and dept address, and there is a functional dependency dept name -> dept address.

2. If a multivalued dependency holds and is not implied by the corresponding functional dependency, it usually arises from one of the following sources.  
a) A many-to-many relationship set  
b) A multivalued attribute of an entity set  
c) A one-to-many relationship set  
d) Both A many-to-many relationship set and A multivalued attribute of an entity set

Answer: d  
Explanation: For a many-to-many relationship set each related entity set has its own schema and there is an additional schema for the relationship set. For a multivalued attribute, a separate schema is created consisting of that attribute and the primary key of the entity set.

3. Which of the following has each related entity set has its own schema and there is an additional schema for the relationship set.  
a) A many-to-many relationship set  
b) A multivalued attribute of an entity set  
c) A one-to-many relationship set  
d) All of the mentioned

Answer: a  
Explanation: If a multivalued dependency holds and is not implied by the corresponding functional dependency, it usually arises from this source.

4. In which of the following, a separate schema is created consisting of that attribute and the primary key of the entity set.  
a) A many-to-many relationship set  
b) A multivalued attribute of an entity set  
c) A one-to-many relationship set  
d) All of the mentioned

Answer: b  
Explanation: If a multivalued dependency holds and is not implied by the corresponding functional dependency, it usually arises from this source.

5. Suppose the user finds the usage of *room number* and *phone number* in a relational schema there is confusion.This is reduced by  
a) Unique-role assumption  
b) Unique-key assignment  
c) Role intergral assignment  
d) None of the mentioned

Answer: a  
Explanation: A desirable feature of a database design is the unique-role assumption, which means that each attribute name has a unique meaning in the database.

6. What is the best way to represent the attributes in a large database?  
a) Relational-and  
b) Concatenation  
c) Dot representation  
d) All of the mentioned

Answer: b  
Explanation: Example inst sec and student sec.

7. Designers use which of the following to tune the performance of systems to support time-critical operations?  
a) Denormalization  
b) Redundant optimization  
c) Optimization  
d) Realization

Answer: a  
Explanation: The process of taking a normalized schema and making it nonnormalized is called denormalization.

8. In the schema (dept name, size) we have relations *total inst 2007, total inst 2008*. Which dependency have lead to this relation ?  
a) Dept name, year->size  
b) Year->size  
c) Dept name->size  
d) Size->year

Answer: a  
Explanation: The process of taking a normalized schema and making it nonnormalized is called denormalization.

9. Relation *dept year(dept name, total inst 2007, total inst 2008, total inst 2009)*. Here the only functional dependencies are from dept name to the other attributes. This relation is in  
a) Fourth NF  
b) BCNF  
c) Third NF  
d) Second NF

Answer: b  
Explanation: BCNF has only one normal form.

10. Thus a \_\_\_\_\_\_\_ of course data gives the values of all attributes, such as title and department, of all courses at a particular point in time.  
a) Instance  
b) Snapshot  
c) Both Instance and Snapshot  
d) All of the mentioned

Answer: b  
Explanation: We use the term snapshot of data to mean the value of the data at a particular point in time.

11. Representations such as the in the dept year relation, with one column for each value of an attribute, are called \_\_\_\_\_\_\_ they are widely used in spreadsheets and reports and in data analysis tools.  
a) Cross-tabs  
b) Snapshot  
c) Both Cross-tabs and Snapshot  
d) All of the mentioned

Answer: a  
Explanation: SQL includes features to convert data from a normal relational representation to a crosstab.