Module – 2 Possible questions

1) Study, how to draw ER diagram, if a database description is given
2) Study, how to write Relational Model, if E-R diagram is given (**Mapping from E-R model to Relational Model**) (Study the 7 steps & practice 1 or 2 examples)
   (Refer question papers for examples. In case of doubts, ask me)
3) Study relational model concepts with examples
   a. Domain
   b. Attribute
   c. Tuple
   d. Relation Schema
   e. Relation Instance
   f. Degree of Relation
   g. Relation Database Schema
   h. Relation Database Instance
   i. Different types of Keys
      i. Super Key
      ii. Candidate Key
      iii. Composite Key
      iv. Primary Key
      v. Foreign Key
4) Study E-R model concepts
   a. Entity
      i. Entity Type & Entity Set with examples
      ii. Weak Entity & Strong Entity
      iii. Types of Attributes
         1. Simple & Composite
         2. Single Valued & Multivalued
         3. Stored & Derived
   b. Relationship
      i. Relationship Type & Relationship Set
      ii. Degree of relationship (Binary relationship -2 , Ternary relationship– 3, n-ary relationship- n)
      iii. Cardinality Constraint (Maximum Constraint)
         1. 1:N
         2. 1:1
         3. M:N
      iv. Participation Constraint (Minimum Constraint)
         1. Partial Participation
         2. Total Participation
      v. Recursive relationship
      vi. Identifying Relationship (Relationship of weak entity with its owner entity)
      vii. Structural constraints is another way of representing minimum and maximum values together as (min , max)
   c. Study Symbols of ER Diagram
5) Enhanced Entity Relationship Model (EER Model) Concepts
   a. Subclass , Super class , Inheritance
   b. Specialization & Generalization
      i. Constraints of Specialization & Generalization
         1. Disjoint Vs. Overlapping
         2. Total Vs. Partial
      ii. Study with example
6) Relational Algebra Operators (Study the name of operator, symbol, use and example)
   a. SELECT σ , PROJECT π , RENAME ρ
   b. SET operations - UNION , INTERSECTION , DIFFERENCE
   c. CARTESION PRODUCT
   d. JOIN (Natural Join, Equijoin , INNER JOIN , LEFT OUTER JOIN , RIGHT OUTER JOIN , FULL OUTER JOIN)