Q1/Show in details [10 marks]
   a- What the DBMS can provide to manage data? And how does the DBMS do that?
   b- What is the key in a database? And how many types of keys are there?

Q2/ [10 marks]
   a- Explain the two types of participation constraints with examples by E.R?
   b- What is meant by ‘Instance’ and ‘Schemas’? And what are the types of schemas?

Q3/ [10 marks]
   a- Suppose employees of bank may have jobs at multiple branches with
different jobs at different branches, show that by E.R
   b- Creates two tables (S1, S2) and joins it by SQL? Then show the result of
   relational algebra S1U S2, S1∩ S2 and S1- S2

Q4/ Define only (5) of the terms [10 marks]
   Object-oriented model, Concurrency Control, Network model, Logical data
   independence, Application programmers, sophisticated users, , Class Hierarchies,
   query evaluation engine.

Q5/ [10 marks]
   a- Name the type of languages used in DBMS and define each type?
   b- Sketch the taxonomy of file structures in physical layers and show the types
   of Hashing methods?

Q6/ If you are given the following relations
   Take (StudentID, CourseID)
   RequiredForGraduation (CourseID)
   
   Explain what the result find is if the DBMS run the query as follow:
   SELECT StudentId
   FROM Take AS T, RequiredForGraduation AS R
   WHERE T.CourseID = R.CourseID
   GROUP BY T.StudentId
   HAVING COUNT (T.CourseId) = 2

   [10 marks]