**Department of Computer Science & Engineering**

**University of Dhaka**

**2nd Year 2nd semester 2014, Lab Assignment**

**Course Code: CSE-2211, Database System**

**Marks: 15**

Consider a relational database model of your own and go for the following tasks.

1. Consider the database of at least 4 schemas/tables.
2. Plan for attributes that cover all general datatypes.
3. Plan for constraints of different types (primary keys, foreign keys, unique keys, check, not null etc) with appropriate **constraint names**.
4. Create appropriate data for the above schemas.
5. Implement the database in Oracle 10g Express Edition creating a user.
6. Plan queries and find the answers (at least 10).
7. Formulate everything in a report which includes:
   1. Brief description of the system that you are going to implement in the database
   2. Mention schemas with attributes
   3. Expected **functional dependencies** on your schemas.
   4. Proof of good database design so that the schemas are in **good form** (BCNF or 3NF)
   5. **Schema diagram** of the database
   6. **E-R diagram** of the database
   7. Snapshots of **SQL DDL** of all the schemas/tables
   8. Snapshots of the **instances** (data of the populated tables)
   9. **Query statements in English language, SQL statements** and snapshots of the **outputs**. SQL statements **should** contain the following :
      1. **natural join, cross product, outer join, join** with **using, on**
      2. nested sub-queries with clauses (**some, all, any, exists, unique** etc.)
      3. **order by, group by, having** clauses
      4. Use of **with** clause
      5. Use of Functions (**string/text, numeric**) , set operations (**union, intersect, difference/minus**)
      6. **Update, delete** operations
   10. Conclusion of the work