Ahmadu Bello University, Zaria

Department of Mathematics

**2009/2010 Second Semester Continuous Assessment**

**COSC 406: Advanced Database Systems**

**CA Test 1**

**Instruction**: Attempt BOTH questions. **Time Allowed**: 60 Minutes

**Student’s Registration Number**:…………………………………………………………… Signature:………………………………………

1. (**20 marks**). A publishing company produces scientific books on various subjects. The books are written by authors who specialize in one particular subject. The company employs editors who, not necessarily being specialists in a particular area, each take sole responsibility for editing one or more books. A book covers essentially one of the specialist subjects and is normally written by a single author. When writing a particular book, each author works with on editor, but may submit another work for publication to be supervised by other editors. To improve their competitiveness, the company tries to employ a variety of authors, more than one author being a specialist in a particular subject. Design an ER schema for this company and draw ER diagram for the schema showing all details.
2. (**10 marks**). Consider the entity sets and attributes shown in the table below. Place a checkmark in one column in each row to indicate the relationship between the far left and the far right columns.
   1. The far left side has a relationship with right side
   2. The right side is an attribute of the left side
   3. The left side is a specialization of the right side
   4. The left side is a generalization of the right side

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Entity Set** | **Has relationship with** | **Has an attribute that is** | **Is a specialization of** | **Is a generalization of** | **Entity Set or Attribute** |
| MOTHER |  |  | x |  | PERSON |
| DAUGHTER | x |  |  |  | MOTHER |
| HUMAN |  |  |  | x | WOMAN |
| HORSE |  | x |  |  | Breed |
| EMPLOYEE |  | x |  |  | SSN |