1. Please explain each of the components in the data hierarchy. (10%)

2. What is Object-oriented programming? (5%) What is Object-oriented DBMS? (5%)

3. What are the differences among assembler, compiler, and interpreter? (10%)

4. Please tell the differences among HTML, XML, and XHTML. (10%)

5. Why normalization is so important in database designing? Give a plain example to show its advantage. (10%)

6. Please distinguish between the database system and the file system. (10%)

7. Please describe the capabilities of on-line analytical processing (OLAP) and datamining. (10%)

8. What is the relationship between bandwidth and a channel’s transmission capacity? (10%)

9. What is decision support system? (5%) What is executive support system? (5%)

10. Please give a brief example to show the forward chaining and the backward chaining of inference engine in an expert system. (10%)