

105 博士班資格考

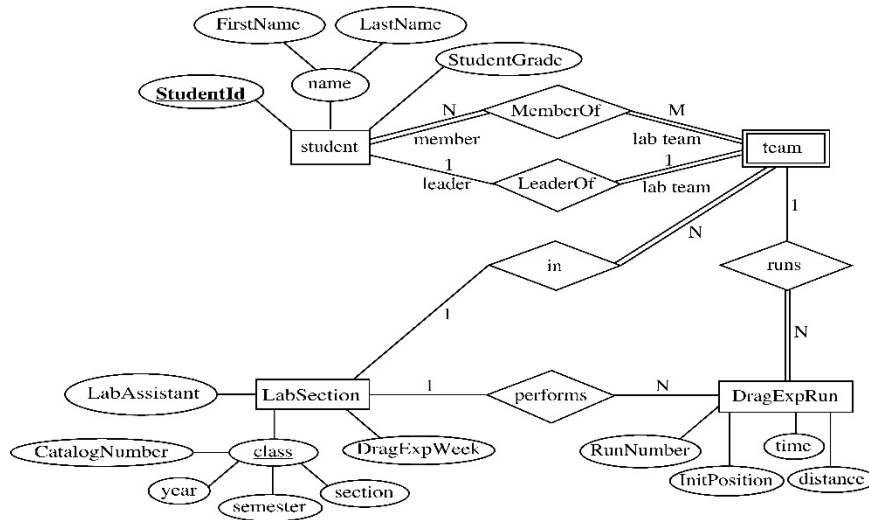
科目：資料庫系統

時間：4 小時 (Closed book)

作答時，請注意各題之比例配分，並清楚標示題號

Part I. (50 分)

1. Discuss the characteristics of relations that make them different from ordinary tables and files. (10%)
2. Please map the following ER schema to a relational schema. (20%)



3. Discuss the two main types of constraints on specializations and generalizations in the EER model. (10%)
4. What is meant by granting a privilege? What is meant by revoking a privilege in database security? (10%)

Part II. (50 分)

1. List the operations of relational algebra and the purpose of each. (10%)
2. What is SQLJ used for? Describe the two types of iterators available in SQLJ. (10%)
3. Define Boyce-Codd normal form. How does it differ from 3NF? Why is it considered a stronger form of 3NF? (10%)
4. Discuss the advantages and disadvantages of using (a) an unordered file, (b) an ordered file, and (3) a static hash file with buckets and

- chaining. Which operations can be performed efficiently on each of these organizations, and which operations are expensive? (10%)
5. Discuss the deferred update technique of recovery. What are the advantages and disadvantages of this technique? Why is it called the NO-UNDO/REDO method? (10%)