

# University of Asia Pacific

## Department of Computer Science & Engineering

### Mid-Semester Examination Fall -2019

#### Program: B. Sc. Engineering (2<sup>nd</sup> Year/2<sup>nd</sup> Semester)

Course Title: Database Systems

Course No. CSE 211

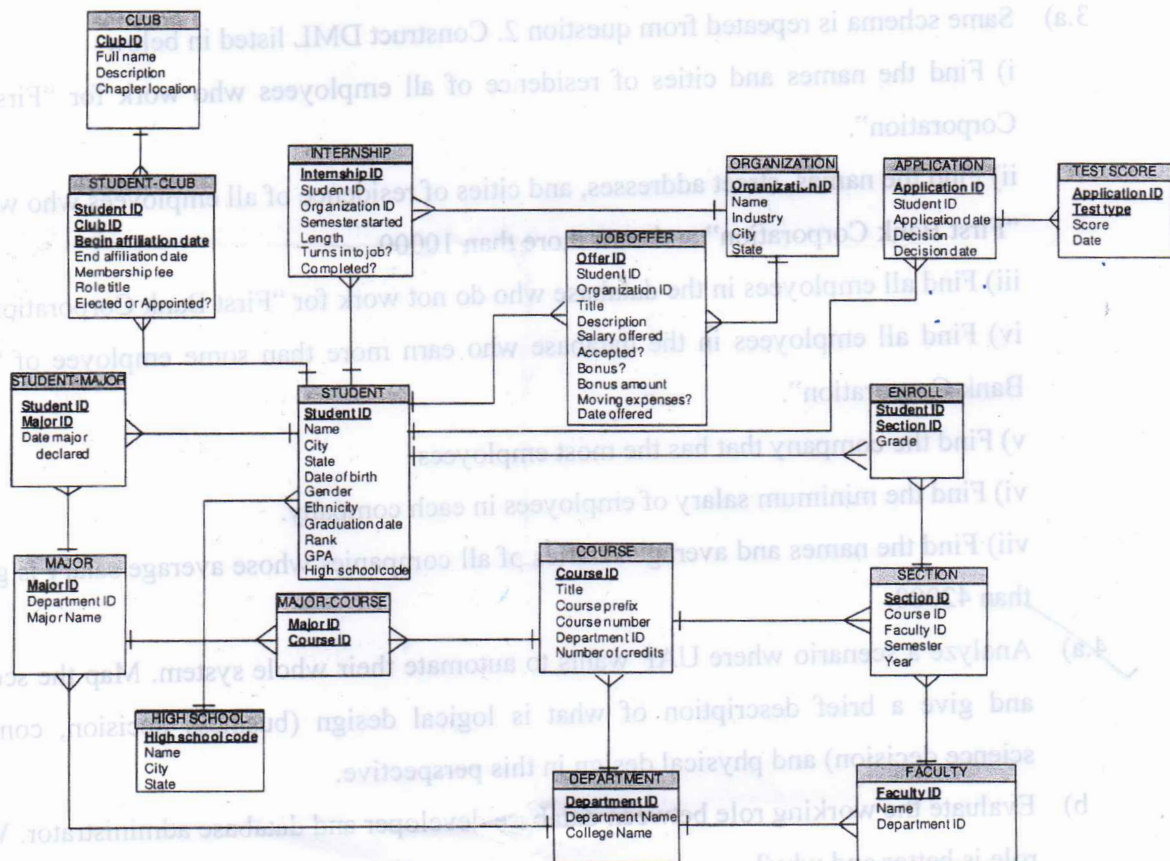
Credit: 3.00

Time: 1.00 Hours.

Full Mark: 60

There are **Four** Questions. **Answer questions 1, 4 and (2 or 3).** Figures in the right margin indicate marks.

- 1.a) Define Integrity Constraint. Explain Super key, Candidate key, Primary and Foreign key with an example. 10
- b) Analyze a scenario where you have already created the tables in below. Now you want to drop all the tables. Write DDL in a correct sequence. 10



✓ 2. Consider the following schema:

employee (person id, street, city)

works (person id, person name, company name, salary)

company (company name, city)

a) Construct the DDL for creating the above mentioned tables in question with proper integrity constraints. ✓ 10

b) i) Construct the DDL for adding a new column "country" in employee and company table. ✓ 10

ii) Construct a SQL to insert information of 2 persons into works table. ✓

iii) Construct a SQL to drop the salary attribute from works table. ✓

iv) Construct a SQL to select all tuples from company table where city attribute starts with 'Sa'. ✓

v) Construct a SQL to Show all 'person\_id' of Dhaka city. ✓

3.a) Same schema is repeated from question 2. Construct DML listed in below. 20

i) Find the names and cities of residence of all employees who work for "First Bank Corporation".

ii) Find the names, street addresses, and cities of residence of all employees who work for "First Bank Corporation" and earn more than 10000.

iii) Find all employees in the database who do not work for "First Bank Corporation".

iv) Find all employees in the database who earn more than some employee of "Small Bank Corporation".

v) Find the company that has the most employees.

vi) Find the minimum salary of employees in each company.

vii) Find the names and average salaries of all companies whose average salary is greater than 42000.

✓ 4.a) Analyze a scenario where UAP wants to automate their whole system. Map the scenario and give a brief description of what is logical design (business decision, computer science decision) and physical design in this perspective. 12

b) Evaluate the working role between database developer and database administrator. Which role is better and why? 8