KING SAUD UNIVERSITY
Community college
Computer science department

جامعة الملك سعود
كلية المجتمع
قسم علوم الحاسب

نموذج الاجابة
Answer Model

A : Information **أ- معلومات**

Student Name		اسم الطالب
Student Number		الرقم الجامعي للطالب
Semester	Second Semester (Major Exam II)	الفصل الدراسي
Academic year	1439/1440	السنة الدراسية
Course Title	Fundamentals of Database Systems	اسم المقرر
Course Symbol, No	COMP 1211	رقم ورمز المقرر
Section number	1941 & 1989	رقم الشعبة
Instructor Name	Dr. Mohammed Amoon	اسم مدرس المقرر
Exam date	Wednesday 20/07/1440H	تاريخ الاختبار
Exam time	12:00 PM	موعد الاختبار
Time allowed	One hour	الزمن المتاح للاختبار
Total Marks	15 Marks	درجة الاختبار الكلية

B -Guidelines **ب- إرشادات**

-The exam consists of 3 questions and the total mark is (15). - Each question has its own mark beside it. -The answer must be written clearly and write the question number relevant to the answer. - Student must not talk or cheat during the exam or he will be subject to penalty.	- الامتحان يتكون من ثلاث أسئلة ومجموع العلامات (١٥). - العلامة مكتوبة إزاء كل سؤال. - يجب كتابة الإجابة بوضوح وتحديد رقم السؤال المتعلق بالإجابة. - يمنع منعاً باتاً الالتفات/ أو الكلام / و الغش خلال الامتحان تحت طائلة العقاب

C- student Comments about the Questions (If any)(إذا وجد) **جـ - ملاحظات الطالب حول الأسئلة**

1.	١.
2.	٢.

Marks **الدرجات**

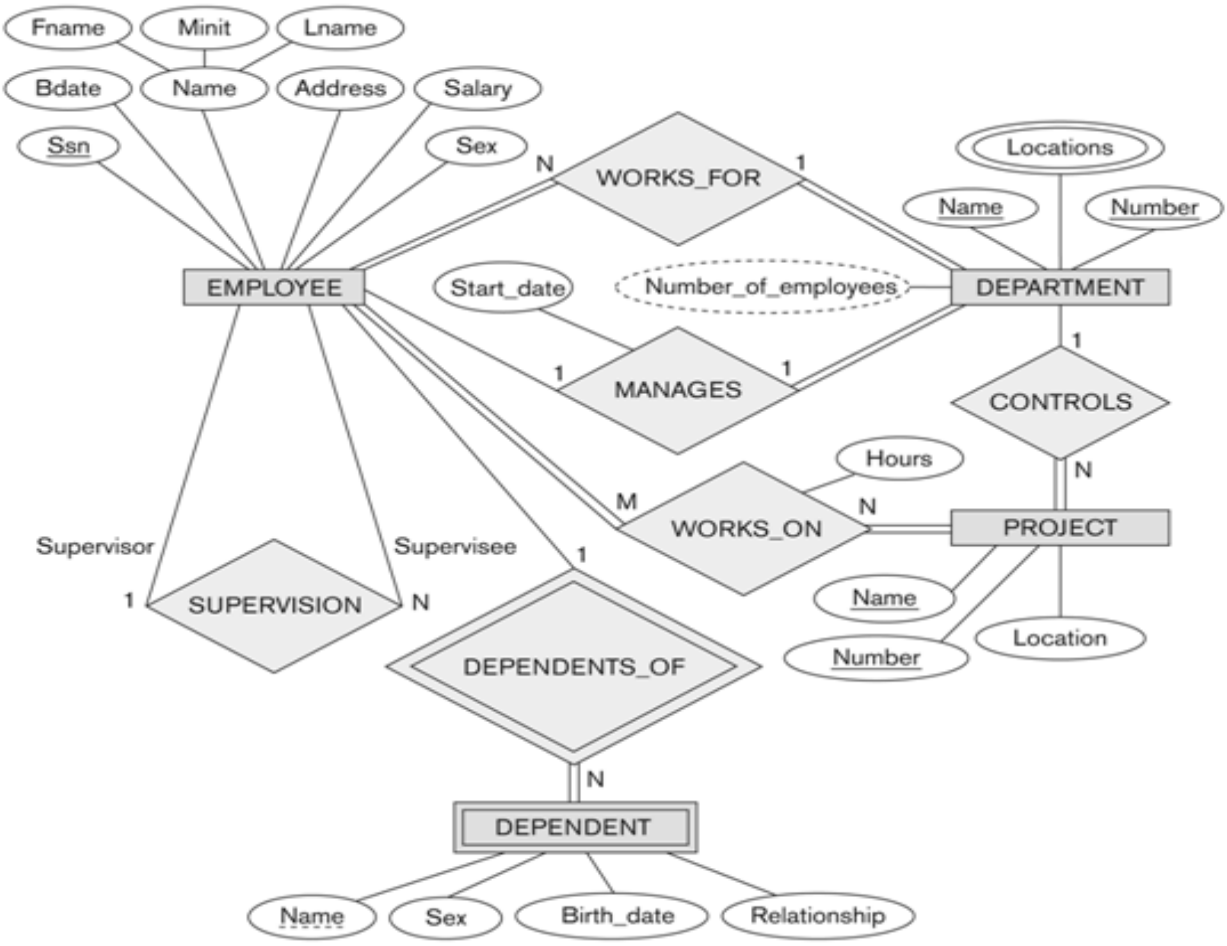
السؤال	الأول	الثاني	الثالث						المجموع
الدرجة									

Learning Outcomes Mapping
Fundamentals of Database Systems (COMP1211)

CLO	Description	Questions		
		Q1	Q2	Q3
1.1	Defining the concepts of Database and Database systems.	√		
1.2	Illustrating the processes and activities of designing relational database systems.		√	√
2.1	Analyzing given requirements of database systems.		√	
2.2	Developing a design of relational database system, based on given requirements.		√	√

Question 1 (6 marks)

Answer the following Questions:



[1] Answer the following questions based on the ER diagram for COMPANY database:

12X0.5 = 6 marks

1. One EMPLOYEE can have only one DEPENDENT. (T / **F**)
2. One EMPLOYEE can work for many DEPARTMENTs. (T / **F**)
3. One EMPLOYEE can work on many PROJECTs. (**T** / F)
4. One DEPARTMENT can control many PROJECTs. (**T** / F)
5. Many EMPLOYEEs can supervise only one EMPLOYEE. (T / **F**)
6. One DEPARTMENT is managed by many EMPLOYEEs. (T / **F**)
7. One PROJECT can be done by many EMPLOYEEs. (**T** / F)
8. One DEPARTMENT can have many EMPLOYEEs. (**T** / F)
9. The entity DEPENDENT is a _____ entity.

   a) **weak** b) good c) strong d) super
10. The relationship DEPENDENTS_OF is a _____ relationship.

    a) **weak** b) recursive c) strong d) composite
11. The attribute *Number_of_employees* of Department entity is a _____ attribute.

    a) primary b) composite c) **derived** d) super

Question 1

12. The relationship SUPERVISION is a _____ relationship.

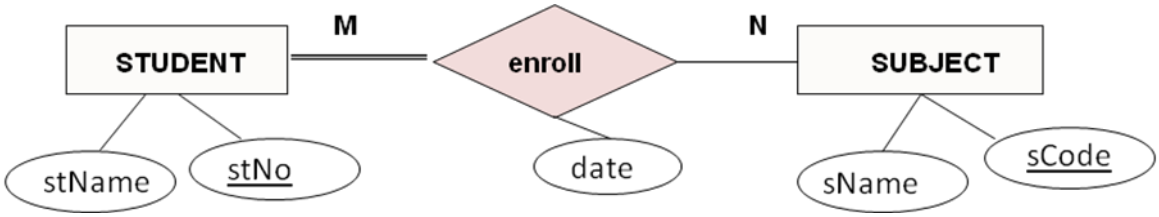
a) identifying b) **recursive** c) strong d) weak

Question 2 (6 marks)

3X2 = 6 marks

[2] Map the following ER models into relational model

(A)



Student (stNo, stName)

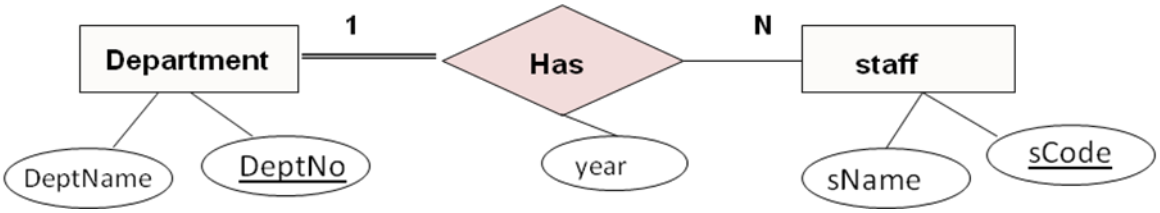
Subject (scode, sName)

Enroll (stNo, scode, date)

FKs: stNO references Student(stNo)

scode references Subject(sCode)

(B)

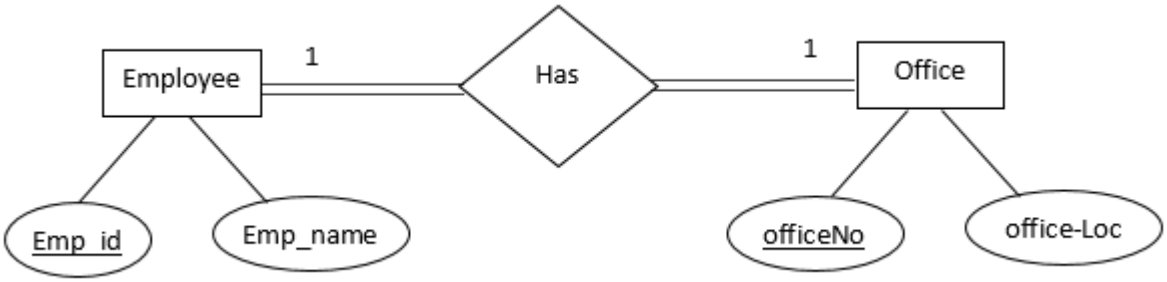


Department (DeptNo, DeptName)

Staff (scode, sName , DeptNo , year)

FKs: DeptNO references Department(DeptNo)

(c)



Employee(emp_name, emp_id)

Office (officeNo, office_Loc, emp_id)

FKs: emp_id references employee (Emp_id)

Question 3 (3 marks)

[3] <u>Design the database using ER-Diagram, taking into consideration all required constraints (including: Cardinality ratio, Multiplicity and Participation) on all relationships</u>. **3 marks**

Let a University database contains the following:

A teacher that has Teacher code (unique), Teacher's name, Teacher's address, rank. The teacher teaches courses. Each course has course name, course number(unique), course credits hours. Students register courses. Each student has student number(unique), name, major. Courses have sections. Each section has a number(unique) and location.

The following information is given on dependencies.

- A teacher should teach at most 4 courses, and each course could be taught by many teachers.
- A student may register many courses and each course can be registered by many students.
- The same course may have more than one section.