

SECTION 2 — DATABASE DESIGN AND DEVELOPMENT — 25 marks

Attempt ALL questions

11. A gym would like to make use of a relational database.

(a) Some of the end-user requirements described by the gym staff are to find and display the:

- number of classes run by each instructor
- name of the member who attends the most classes
- name and address of any member who attends more than five classes per week
- total cost of all the classes attended by a member.

(i) Using the end-user requirements above, identify one functional requirement of the relational database.

1

(ii) State an aggregate function that would be needed when implementing the functional requirement identified in part (i) above.

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[Turn over



11. (continued)

(b) The following sample data shows:

- instructors and the classes that they run
- members and the classes that they attend.

Instructor	Class
Ins1	Class1
Ins2	Class4
Ins3	Class2
Ins3	Class3

Member	Class
Mem1	Class2
Mem2	Class2
Mem3	Class1
Mem1	Class3
Mem2	Class4

Using this sample data, complete an entity-occurrence diagram. Your diagram should include the:

- name of the entities
- instances for each entity
- association between these instances.

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