**Question 1**

Zoe owns a house cleaning service business. Her business operates as follows:

* The business employs several full-time and part-time cleaners.
* The business has lots of clients who pay for their house to be cleaned.
* Each cleaner visits and cleans several client’s houses each day.

For years Zoe has been recording the details of cleaning sessions on paper but this is time consuming and often inaccurate. Zoe has been told that a database storing the cleaning sessions data would have great benefits for her company.

You have been contracted to create Zoe’s new database.

a) Your first task is to decide on the data Zoe’s database will store.

In the space below draw an entity relationship diagram for the new database, showing clearly the type of relationship that will exist between each entity. (4)

Entity Relationship Diagram

b) Selecting one entity from your ERD, design the data dictionary required to implement that table. (6)

**Table Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Field Name** | **Sample Data** | **PK/ FK** | **Data Type** | **Validation** | **Required (Y/N)** |
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c) It is good practise to include a unique value, or primary key, in each table of your database.   
What is the purpose of a ‘*compound’* key in a table? (1)

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d) (i) Why may it be necessary to create a surrogate key in a table? (1)

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(ii) Using your entity relationship diagram, identify where you may require a surrogate key when you implement your design. (1)

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e) As the end-user of the database it is not essential that Zoe understands how the data in the database is organised. State the database feature you would implement to allow Zoe to….

(i) … enter the details of a new client into the database. (1)

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(ii) … print out a formatted page, displaying the cleaning sessions for a particular date. (1)

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