

Name:

Total: /40

Grade:

## National 5 Computing Science

## Database Test

### Analysis

1. Explain what should happen at the analysis stage of database development. (1 mark)

2. Draw an Entity Relationship Diagram for the following Primary school database (3 marks)

Entity: Pupil  
Attributes: PupilID  
PupilName  
Address  
TeacherID  
Emergency Contact

Entity: Teacher  
Attribute: TeacherID  
RoomNumber  
Subject

3. Match the words to the correct description. (3 marks)

Entity

Stores once piece of information

Records

Stores the information about one person/thing

Attribute

Table that stores all the information on a subject.

## Design

4. At the design stage a data dictionary must be created highlighting all fields, data types, validation etc. Name and describe two different types of validation. (4 marks)

Validation Name:
Description:
Validation Name:
Description:

5. The data dictionary will also state if a field is a primary or Foreign Key. What is a primary key? (1 mark)

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6. What is a Foreign Key? (1 mark)

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7. Complete the table below highlighting the most suitable datatypes for the fields. An example record is given for you. (4 marks)

First Name	Megan	
Surname	Smith	
DOB	31/01/2003	
Gender	Female	

8. An E \_\_\_\_\_ R \_\_\_\_\_ D \_\_\_\_\_ is a graphical representation of a relational database. (3 marks)

9. During design you must design any queries. These will be written in a language called SQL. What does SQL stand for? (2 marks)

S _____ Q _____ L _____
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10. What is the difference between a simple and complex search? (2 marks)

11. What is the difference between a flat file and relational database? (2 marks)

12. Design a query to list the town name, hotel name, and star rating of all 5 star hotels in the Ayrshire area from a table called Hotels in alphabetical order by name. (4 marks)

Field(s)	
Table(s)	
Criteria	
Sort Order	

## Implementation

13. Write the SQL for the following query design. (4 marks)

Field(s)	Firstname, Surname, DOB
Table(s)	Pupil
Criteria	Born after 01/11/2004
Sort Order	Oldest to Youngest

14. Explain what the following SQL query will do. (2 marks)

```
INSERT INTO Pupil (pupilID, firstname, surname, test1, test2, test3)
VALUES ("1012", "Joanne", "Roberts", "56", "46", "87");
```

15. Explain what the following SQL query will do. (2 marks)

```
UPDATE Team  
SET teamname = "Ayrshire Arrows"  
WHERE teamID = "54";
```

16. Identify the 2 errors in the SQL below and rewrite the correct SQL in the box the corrected query. (2 marks)

```
DELETE TABLE Game  
WHEN title = "Fifa 2016";
```

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