2.8 SQL and Data Handling: Test Pack

OCR J277 · Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A librarian at Chesterfield Library keeps records about members and the books they borrow, stored electronically instead of on paper.

(a) Which term describes a single item of data stored about one attribute (e.g. just a member's Town)? **(1)**

- ☐ A) Record
- ☐ B) Field
- ☐ C) Table
- ☐ D) Database

(b) Which term describes all the data stored about one entity (e.g. all the data about one member)? **(1)**

- ☐ A) Record
- ☐ B) Field
- ☐ C) Table
- ☐ D) Database

(c) Which term describes a collection of related records, each made up of the same set of fields? **(1)**

- ☐ A) Record
- ☐ B) Field
- ☐ C) Table
- ☐ D) Query

(d) Which term describes an organised collection of structured data, typically made up of one or more related tables? **(1)**

- ☐ A) Record
- ☐ B) Field
- ☐ C) Table
- ☐ D) Database

(Total for Question 1 is 4 marks)

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2 Before switching to a database, the library kept each member's details on a separate paper form filed in a cabinet. Explain why storing this data in a database instead makes it easier to find information about members.

(Total for Question 2 is 3 marks)

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3 The library is designing the Members table and needs to choose an appropriate data type for each field. For each field below, state the most appropriate data type, choosing from: text (string), integer, real (decimal), Boolean.

(a) MemberID **(1)**

(b) JoinYear **(1)**

(c) Town **(1)**

(d) A new field called HasPaid, which records whether a member has paid their annual membership fee. **(1)**

(Total for Question 3 is 4 marks)

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4 The library is adding a new field, EmailAddress, to the Members table when a new member joins.

(a) Explain how a presence check could be used to validate data entered into the EmailAddress field. **(2)**

(b) Explain how a length check could also be used to validate data entered into the EmailAddress field. **(1)**

(Total for Question 4 is 3 marks)

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Mark scheme · 2.8 SQL and Data Handling: Test Pack

Question 1

(a) B cao **B1**

(a) Answer: B) Field

(b) A cao **B1**

(b) Answer: A) Record

(c) C cao **B1**

(c) Answer: C) Table

(d) D cao **B1**

(d) Answer: D) Database

Question 2

Every record in a database table is stored in the same structured format, with the same set of fields, unlike paper forms which may be filled in inconsistently (1) **B1**

Software can search/query all the records automatically and systematically, checking every record against given criteria (1) **B1**

This is much faster and less error-prone than a person having to search through a paper filing cabinet by hand, especially as the number of members grows (1) **B1**

Answer: A database stores every member in the same consistent structure, so software can search all records automatically and quickly, which is far faster and less error-prone than manually checking paper forms.

Question 3

(a) Integer **B1**

(a) Answer: Integer

(b) Integer **B1**

(b) Answer: Integer

(c) Text/string **B1**

(c) Answer: Text (string)

(d) Boolean **B1**

(d) Answer: Boolean

Question 4

(a) A presence check tests whether any data at all has been entered into a field (1) **B1**

(a) If the EmailAddress field is left blank when a new record is added, the system rejects the record/prompts the user to enter a value (1) **B1**

(a) Answer: A presence check rejects a new record if the EmailAddress field has been left empty, forcing a value to be entered.

(b) A length check tests that the number of characters entered is within an acceptable range (e.g. rejecting an email address that is only 1 or 2 characters long, which is too short to be valid) **B1**

(b) Answer: A length check rejects an entry that has too few (or too many) characters to realistically be a valid email address.

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