SECTION 2 — 70 MARKS

Attempt ALL Questions

14. Bike Scotland uses a flat file database to store details of its members and affiliated cycling clubs.

Membership Number	Forename	Surname	Date of Birth	Club Code	Club Name	Founded	Number of Members
011-423	Alojzy	Czajka	15/03/1979	24FW05	Free Wheel	16/10/2000	67
192-033	Donny	Carruthers	20/02/1982	77SU22	Spokes United	29/04/1985	29
213-847	Salim	Hanif	09/06/1994	12DW39	District Wheelers	03/01/1954	45
624-536	Harry	Fence	01/02/1963	12DW39	District Wheelers	03/01/1954	45
018-253	Derrick	Smith	12/12/1970	77SU22	Spokes United	29/04/1985	29
773-362	Maria	Amonte	02/11/1999	24FW05	Free Wheel	16/10/2000	67
836-555	Fiona	Hewitt	20/02/1972	77SU22	Spokes United	29/04/1985	29
983-543	Samantha	Wellbeck	18/09/1975	77SU22	Spokes United	29/04/1985	29
098-133	Tracy	Uttley	30/05/2000	12DW39	District Wheelers	03/01/1954	45

(a) State the **field type** used to store each Membership Number. **1**

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(b) The database contains personal information.

   (i) State the **Act** with which Bike Scotland must comply. **1**

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   (ii) Describe what Bike Scotland must do to ensure it complies with this Act when collecting this information. **1**

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14. (continued)

The database is redesigned and implemented as a relational database with two linked tables.

Cyclist

Membership Number	Forename	Surname	Date of Birth	Club Code
098-133	Tracy	Uttley	30/05/2000	12DW39
213-847	Salim	Hanif	09/06/1994	12DW39
624-536	Harry	Fence	01/02/1963	12DW39
011-423	Alojzy	Czajka	15/03/1979	24FW05
773-362	Maria	Amonte	02/11/1999	24FW05
018-253	Derrick	Smith	12/12/1970	77SU22
192-033	Donny	Carruthers	20/02/1982	77SU22
836-555	Fiona	Hewitt	20/02/1972	77SU22
983-543	Samantha	Wellbeck	18/09/1975	77SU22

Club

Club Code	Club Name	Founded	Number of Members
12DW39	District Wheelers	03/01/1954	45
24FW05	Free Wheel	16/10/2000	67
77SU22	Spokes United	29/04/1985	29

(c) Describe two advantages of using a relational database rather than a flat file database for storing the data.

2

Advantage 1 _____

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Advantage 2 _____

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14. (continued)

(d) (i) Explain why the Club Code field is a primary key and a foreign key in the relational database.

2

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(ii) When adding a new club to the Club table the following error message is displayed:

Club code **12OYB22** is invalid, please re-enter

State the validation that has been applied to the field Club Code.

1

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(e) The Cyclist table has been sorted on two fields.

Describe how the table has been sorted.

2

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[Turn over