**1.** Nov/2021/Paper_21/No.5

A database table, APPLIANCE, is used to keep a record of kitchen appliances available for sale.

The following data is stored for each appliance:

- CATEGORY – washer, dishwasher, fridge or freezer
- ECONOMYRATING – A, B, C or D
- MANUFACTURER – Baku or ABC
- PRICE – price in $
- CODE – a unique code allocated by the manufacturer e.g. B982
- STOCK – number in stock.

The database management system uses these data types:

Text Number Currency Boolean

The ECONOMYRATING field and MANUFACTURER field have a data type of text.

**(a)** Identify the most appropriate data type for each field from the **four** types shown. State the reason why you chose each data type.

CATEGORY data type .....

Reason .....

.....

PRICE data type .....

Reason .....

.....

CODE data type .....

Reason .....

.....

STOCK data type .....

Reason .....

.....

[4]

**(b)** Complete the query-by-example grid to display only the category, manufacturer and code of the appliances with an economy rating of A.

| | | | | |
|---|---|---|---|---|
| Field: | | | | |
| Table: | | | | |
| Sort: | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | |
| or: | | | | |

[3]

**2.** A pet supplier uses the database table, STOCK, to keep records of its products for pets.

The fields are:

| Field name | Description |
|---|---|
| ProductID | code to identify the product |
| ProductName | name of product |
| ProductDescription | information about the product |
| Animal | type of animal the product is for, e.g. cat, bird, horse |
| ProductType | type of product, e.g. food, toy, medicine |
| InStock | whether the product is in stock or **not** |

**(a) (i)** Identify the field that could have a Boolean data type.

..... [1]

**(ii)** Identify the field that should be used as the primary key.

..... [1]

**(b)** Complete the query-by-example grid to output the products intended for a cat that are in stock. Display only the primary key and the name of the products. The output should be sorted by the primary key.

| | | | | | |
|---|---|---|---|---|---|
| Field: | | | | | |
| Table: | | | | | |
| Sort: | | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | | |
| or: | | | | | |

[4]

**3.** Nov/2021/Paper_23/No.5

A database table, COMPUTER, is used to keep a record of computers available for sale.

The following data is stored for each computer:

- CATEGORY – desktop, laptop or tablet
- WEIGHT – weight in kilograms
- MANUFACTURER – ICN, Linoldo, Pear or JoeSing
- PRICE – price in $
- CODE – a unique code allocated by the manufacturer, e.g. P771
- STOCK – quantity in stock.

A database management system uses these data types:

Text Number Currency Boolean

The CATEGORY field and MANUFACTURER field have a data type of text.

**(a)** Select the most appropriate data type for each field from the four types shown. State the reason why you chose the data type.

WEIGHT data type .....

Reason .....

.....

PRICE data type .....

Reason .....

.....

CODE data type .....

Reason .....

.....

STOCK data type .....

Reason .....

.....

[4]

**(b)** Complete the query-by-example grid to display only the category, manufacturer, price and code of the computers with weight of less than 2.5 kilograms.

| | | | | | |
|---|---|---|---|---|---|
| Field: | | | | | |
| Table: | | | | | |
| Sort: | | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | | |
| or: | | | | | |

[3]

**4.** March/2021/Paper_22/No.5

A database table, CHOCBAR, is used to keep a record of chocolate bars sold. Chocolate bars are categorised by:

- SIZE – small or large
- FILLING – brief description, for example mint crunch
- PRICE – price in Rupees, for example ₹2.50
- NUMBERSOLD – how many sold

A database management system uses these data types:

Text Number Currency Boolean

**(a)** Select the most appropriate data type for these three fields from the four data types shown. Each data type must be different. State the reason why you chose the data type.

SIZE data type .....

Reason .....

.....

PRICE data type .....

Reason .....

.....

NUMBERSOLD data type .....

Reason .....

.....

[3]

**(b)** Complete the query-by-example grid below to display only the price, filling and number sold of small chocolate bars that have sold fewer than 10 bars.

| | | | | |
|---|---|---|---|---|
| Field: | | | | |
| Table: | | | | |
| Sort: | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | |
| or: | | | | |

[3]

**5.** June/2021/Paper_21/No.6

A library uses a database table, GENRE, to keep a record of the number of books it has in each genre.

| ID | GenreName | Total | Available | Loaned | Overdue |
|---|---|---|---|---|---|
| ABI | Autobiography | 500 | 250 | 250 | 20 |
| BIO | Biography | 650 | 400 | 250 | 0 |
| EDU | Education | 20200 | 10000 | 10200 | 1250 |
| FAN | Fantasy | 1575 | 500 | 1075 | 13 |
| GFI | General Fiction | 35253 | 23520 | 11733 | 0 |
| GNF | General Non-Fiction | 25200 | 12020 | 13180 | 0 |
| HFI | Historical Fiction | 6300 | 3500 | 2800 | 0 |
| HNF | Historical Non-Fiction | 8000 | 1523 | 6477 | 0 |
| HUM | Humour | 13500 | 9580 | 3920 | 46 |
| MYS | Mystery | 26000 | 13269 | 12731 | 0 |
| PFI | Political Fiction | 23561 | 10523 | 13038 | 500 |
| PNF | Political Non-Fiction | 1823 | 750 | 1073 | 23 |
| REF | Reference | 374 | 374 | 0 | 0 |
| ROM | Romance | 18269 | 16800 | 1469 | 0 |
| SAT | Satirical | 23567 | 12500 | 11067 | 0 |
| SCF | Science Fiction | 36025 | 25000 | 11025 | 0 |
| SPO | Sport | 45720 | 32687 | 13033 | 3256 |
| THR | Thriller | 86000 | 46859 | 39141 | 0 |



**(a)** State the reason ID could be used as a primary key in the table GENRE.

.....

..... [1]

**(b)** State the number of records in the table GENRE.

.....

..... [1]

**(c)** Complete the query-by-example grid to display any genres with overdue books. Only display the ID, GenreName and Overdue fields in order of the number of books overdue from largest to smallest.

| | | | | | |
|---|---|---|---|---|---|
| Field: | | | | | |
| Table: | | | | | |
| Sort: | | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | | |
| or: | | | | | |

[4]

**6.** June/2021/Paper_22/No.6

A database table, PLANT, is used to keep a record of plants sold by a nursery. The table has these fields:

- NAME – name of plant
- FLOWER – whether the plant flowers (True) or not (False)
- POSITION – shade, partial shade or sun
- SIZE – small, medium or large
- PRICE – price in $
- NUMBERSOLD – how many sold

A query-by-example grid has been completed to display only the price, name and number sold of small plants that do not flower.

| Field: | NAME | PRICE | NUMBERSOLD | SIZE | FLOWER | POSITION |
|---|---|---|---|---|---|---|
| Table: | PLANT | | | | | |
| Sort: | | | | | | |
| Show: | ✓ | ✓ | ✓ | ☐ | ☐ | ☐ |
| Criteria: | | | | | | = "shade" |
| or: | | | | | | |

Identify the errors in the query-by-example grid.

.....

.....

.....

.....

.....

.....

Rewrite the corrected query-by-example grid.

| Field: | | | | | | |
|---|---|---|---|---|---|---|
| Table: | | | | | | |
| Sort: | | | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | | | |
| or: | | | | | | |

[5]

**7.** June/2021/Paper_23/No.6

A car hire company uses a database table, TREAD, to store details of the cars. The table has fields to represent each car's licence number, mileage, and the tread depth of each of its four tyres.

**(a)** Suggest suitable names for each of the fields described.

| Field name |
|---|
| |
| |
| |
| |
| |
| |

[2]

**(b)** Complete the query-by-example grid to display cars where all four tyres have a tread depth of less than 2. Display all the fields, using the field names you created in **part (a)**. The output should be sorted by licence number.

| | | | | | | |
|---|---|---|---|---|---|---|
| Field: | | | | | | |
| Table: | | | | | | |
| Sort: | | | | | | |
| Show: | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Criteria: | | | | | | |
| or: | | | | | | |

[4]