Note: learners do not need to use QBE grids, so these parts of the past questions have been omitted. Teachers can rewrite the QBE parts of the questions to use SQL to provide extra example questions.

June 2019 Paper 21 Question 5(a) and 5(b)

5 The table, BEVERAGES, shows the number of calories in 100 ml of a range of popular beverages. It also shows the availability of these drinks in a can, a small bottle and a large bottle.

BevNo	BevName	Calories	Can	Small Bottle	Large Bottle
Bev01	Cola	40	Yes	Yes	Yes
Bev02	Lime	45	Yes	No	Yes
Bev03	Energy Drink 1	52	Yes	Yes	No
Bev04	Energy Drink 2	43	Yes	No	No
Bev05	Mango	47	Yes	No	Yes
Bev06	Lemon Iced Tea	38	Yes	No	Yes
Bev07	Lemonade	58	Yes	Yes	Yes
Bev08	Orange Juice	46	Yes	Yes	No
Bev12	Apple Juice	50	Yes	Yes	No
Bev15	Chocolate Milk	83	Yes	Yes	No

(a) Give a reason for choosing BevNo as the primary key for this table.

.....

..... [1]

(b) State the number of records shown in the table BEVERAGES.

.....[1]

(c) List the output that would be given by this query-by-example.

Field:	BevNo	BevName	Can	Small Bottle	Large Bottle	
Table:	BEVERAGES	BEVERAGES	BEVERAGES	BEVERAGES	BEVERAGES	
Sort:		Descending				
Show:	☑	☑	☐	☐	☐	☐
Criteria:			= "Yes"	= "Yes"	= "Yes"	
or:						

SELECT BevNo, BevName FROM BEVERAGES WHERE Can=Yes AND SmallBottle=Yes AND LargeBottle=Yes ORDER BY BevName DESC;

.....

.....

..... [3]

(d) Write SQL to output a list showing just the names and primary keys of all the beverages with a calorie count greater than 45. The list should be in alphabetical order of names.

.....

.....

.....[4]

June 2019 Paper 22 Question 5(a)

5 Explain what is meant by **validation** and **verification**.
Give an example for each one.

Validation .....

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Example .....

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Verification .....

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.....

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Example .....

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.....[6]

June 2019 Paper 23 Question 6(a)

6 A database table, TRAIN, is used to keep a record of train departures from a station.

TrainNumber	Platform	Destination	DepartureTime	Status
1A37	1	Newtown	08:00	On time
2X19	2	Anytown	08:10	Late
1A29	1	Bigcity	08:15	On time
1A28	2	Anytown	08:30	Cancelled
1A67	3	Gardenvillage	08:45	On time
1A37	1	Newtown	08:50	On time
1A24	2	Charter Train	09:00	Late
1A67	3	Gardenvillage	09:15	On time

(a) Explain why the field **TrainNumber** could not be used as a primary key.

.....

.....[1]

(b) A query-by-example has been written to display only the train numbers and platforms of all trains leaving after 08:30 that are late.

Field:	Train Number	Platform	Departure Time	Status
Table:	TRAIN	TRAIN	TRAIN	TRAIN
Sort:				
Show:	☐	☑	☐	☐
Criteria:		= Y	< 08:30	
or:				= "Late"

SQL : **SELECT Platform FROM TRAIN WHERE Plateform = Y AND DepartureTime < 08:30 OR Status = "Late";**

Explain why the query-by-example is incorrect, and write a correct query-by-example.
Explanation .....

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Correct SQL
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Nov 2019 Paper 21 Question 5(a) and 5(b)

5 A car manufacturer makes a range of car models named Pegasus, Apollo and Cupid. It keeps a database to store the records of its range and the different options for each car model. Within the table CAR_RANGE, the following data needs to be stored:

1. Car model
2. Body style – saloon, hatchback or estate
3. How many doors it has
4. Whether it uses petrol, diesel or batteries as fuel
5. An identifier for a specific car.

(a) Complete the table to show suitable field names and an example of appropriate data for each field in the database table CAR_RANGE.

Field name	**Example of data**

[3]

(b) State which of your fields would be most appropriate for a primary key and give a reason for your choice.

.....

.....

.....[2]

(c) Complete the SQL statement to provide a list of car models using petrol and the number of doors these cars have, in alphabetical order of car model. Display only the car models and the number of doors.

.....

.....

.....

.....[4]

Nov 2019 Paper 22 Question 7(a)

7 A database table, SALES, is used to keep a record of items made and sold by a furniture maker.

ItemNumber	OrderNumber	Notes	Amount	Status
CH001	1921	Smith – six dining chairs	6	Delivered
TB003	1921	Smith – large table	1	In progress
CH001	1924	Hue – extra chairs	4	In progress
CH003	1925	For stock	2	Cancelled
BN001	1927	Patel – replacement bench	1	Not started
ST002	1931	Sofa – small table	1	Delivered
CH003	1927	Patel – eight dining chairs	8	Not started
TB003	1927	Patel – large table	1	Not started

(a) Explain why the field **Item number** could not be used as a primary key.

.....

.....[1]

(b) A SQL has been written to display only the order number and item numbers of any items in progress or not started.

SELECT OrderNumber, Amount FROM SALES WHERE Status Not Like “Delivered”

Explain why the query-by-example is incorrect, and write a correct query-by-example.

Explanation .....

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Correct Query :

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Nov 2019 Paper 23 Question 7(a) and 7(b)

7 A teacher has decided to use a database table as her mark book for her Computer Science class, which she has called MARKBOOK. For each student, the following data will be recorded: first name, last name, their year 10 test score and their year 11 test score. The class has 32 students.

(a) State the number of fields and records required for this database.
Number of Fields .....

Number of Records .....[2]

(b) The data in MARKBOOK is stored under category headings: LastName, FirstName, Y10TestScore and Y11TestScore.
State, with a reason, whether any of these headings would be suitable as a primary key.
.....

.....

.....

..... [2]

(c) Complete the SQL query to only display the first name, last name and year 10 test score of each student who achieved 50 or more in their year 10 test. The output should be in test score order with the highest marks at the top of the list.

.....

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..... [4]

March 2020 Paper 22 Question 5(a)

5 A database table, BOX, is used to keep a record of boxes made and sold by a craftsman. Boxes are categorised by:
• SIZE – small, medium or large
• SHAPE – brief description for example ‘star shaped’
• WOOD – maple, beech, walnut or ebony
• PRICE – price in $
• SOLD – whether the box is sold or not.
A database management system uses these data types:

Text Number Currency Boolean

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

SIZE data type .....

Reason .....

.....

SHAPE data type .....

Reason .....

.....

WOOD data type .....

Reason .....

.....

PRICE data type .....

Reason .....

.....

SOLD data type .....

Reason .....

.....[5]

June 2020 Paper 21 Question 6(a)

6 A database table, JUICE, is used to keep a record of cartons of fresh fruit juice available for sale.

Juice code	Fruit 1	Fruit 2	Size	Volume (ml)	Stock level
LMO10	Mango	Orange	Large	1000	18
MOO05	Orange	Orange	Medium	500	8
SAM02	Apple	Mango	Small	200	25
SAA02	Apple	Apple	Small	200	50
SPP02	Pineapple	Pineapple	Small	200	10
MMM05	Mango	Mango	Medium	500	12
LMM10	Mango	Mango	Large	1000	5
MGG05	Guava	Guava	Medium	500	5
SMO02	Mango	Orange	Small	200	7
MOP05	Orange	Pineapple	Medium	500	12
LAA10	Apple	Apple	Large	1000	32
SGO02	Guava	Orange	Small	200	10
LPP10	Pineapple	Pineapple	Large	1000	3
LOO10	Orange	Orange	Large	1000	25
SOO02	Orange	Orange	Small	200	40

June 2020 Paper 22 Question 6(a)
June 2020 Paper 23 Question7(a)
2023 Specimen Paper 2 Question 11