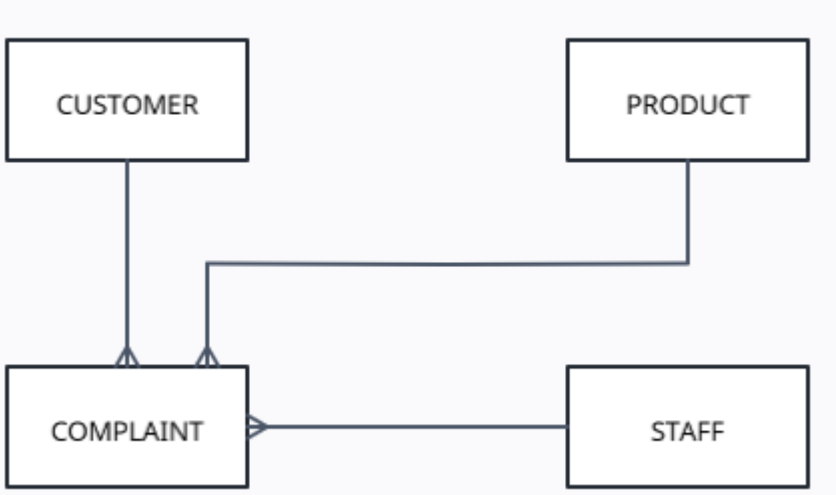
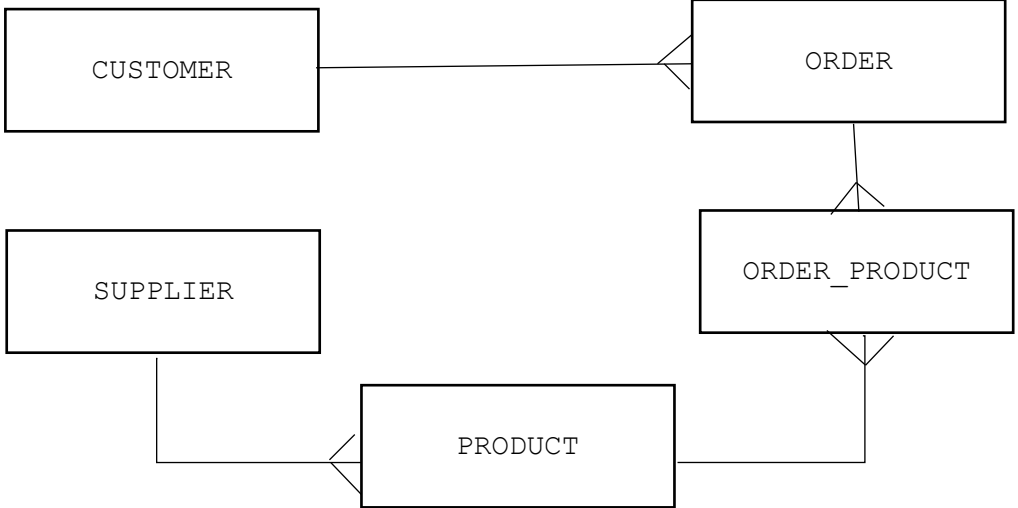


5(a)	1 mark for each correct relationship, max 3 marks  <pre> graph TD CUSTOMER --> COMPLAINT PRODUCT --> COMPLAINT STAFF --> COMPLAINT </pre>
5(b)	1 mark per bullet point, max 4 marks • Create table with opening and closing brackets and commas separating the attributes • Appropriate data types for StaffFirstName, StaffLastName and Department • Appropriate data types for StaffID and RemoteWorker • Primary key correctly defined Example Answer 1: <pre> CREATE TABLE STAFF(StaffID INTEGER, StaffFirstName VARCHAR, StaffLastName VARCHAR, Department CHAR, RemoteWorker BOOLEAN, PRIMARY KEY (StaffID)); </pre> Example Answer 2: <pre> CREATE TABLE STAFF(StaffID INTEGER NOT NULL PRIMARY KEY, StaffFirstName VARCHAR, StaffLastName VARCHAR, Department CHAR, RemoteWorker BOOLEAN); </pre>

5(c)	1 mark per bullet point, max 5 marks • SELECT and the correct attributes • FROM and the correct tables • Tables joined correctly • Correct condition for the rating • Correct ORDER BY clause Example Answer 1 SELECT PRODUCT.ProductID, ProductName, ComplaintDetails FROM PRODUCT, COMPLAINT WHERE PRODUCT.ProductID = COMPLAINT.ProductID AND Rating <=5 ORDER BY Rating DESC; Example Answer 2 SELECT PRODUCT.ProductID, ProductName, ComplaintDetails FROM PRODUCT INNER JOIN COMPLAINT ON PRODUCT.ProductID = COMPLAINT.ProductID WHERE Rating <=5 ORDER BY Rating DESC;
5(d)	One mark for identification of method one mark for corresponding description max 4 marks • Authentication methods / passwords / biometrics / 2-factor authentication can be implemented • ... which prevents unauthorised access to the customer's data • Access rights / privileges can be set • ... so that only those with correct permissions can read / edit customer's data • Regular backups can be scheduled • ... so that a second copy of the customer's data is available in case of loss/damage • The data can be encrypted • ... so that the customer's data cannot be understood by anyone who gains unauthorized access • Different views can be created • ... so that not everyone can see the customer's data

6(a)	1 mark for each correct relationship  <pre> graph LR CUSTOMER --> ORDER SUPPLIER --> PRODUCT ORDER --> ORDER_PRODUCT PRODUCT --> ORDER_PRODUCT </pre>
6(b)	1 mark each • INSERT INTO PRODUCT • VALUES with opening and closing brackets • Inserting ProductID, ProductName and SupplierID correctly as strings including quotation marks into correct fields • Inserting quantity and cost correctly into correct fields Example 1: INSERT INTO PRODUCT VALUES ("002323", "Blue ball point 2 mm", 50, 5.00, "SFX223"); Example 2: INSERT INTO PRODUCT (ProductID, ProductName, QuantityInBox, Cost, SupplierID) VALUES ("002323", "Blue ball point 2 mm", 50, 5.00, "SFX223");

6(c)	1 mark each • Selection of customer name and counting any field from ORDER as an appropriate identifier • Joining tables ORDER and CUSTOMER • AND (or WHERE) clause: Collected = FALSE • Grouping by customer ID or customer name Example 1: SELECT CustomerName, COUNT(OrderID) AS NotCollected FROM ORDER, CUSTOMER WHERE ORDER.CustomerID = CUSTOMER.CustomerID AND Collected = FALSE GROUP BY CUSTOMER.CustomerID Example 2: SELECT CustomerName, COUNT(OrderID) AS NotCollected FROM ORDER INNER JOIN CUSTOMER ON ORDER.CustomerID = CUSTOMER.CustomerID WHERE Collected = FALSE GROUP BY CUSTOMER.CustomerID
6(d)(i)	1 mark each to max 3 e.g. • Relationships • Views • Data types • Validation rules
6(d)(ii)	1 mark each to max 3 e.g. • To create / modify / delete database objects • To create a form for data input • To add tools to a form • for example, drop-down boxes / buttons etc. • To design a report to show the output in an organised manner • To add a menu to enable users to choose different actions / run different queries

4(a)	1 mark each: - Foreign key: BatchID, table BATCH - Foreign key: CustomerID, table CUSTOMER
4(b)	1 mark each: - SELECT SUM(Quantity) - FROM SALE WHERE and one correct condition - AND with remainder correct conditions e.g. SELECT SUM(Quantity) FROM SALE WHERE CustomerID = "0034E" AND Date >= #01/01/2023# AND Date <= #31/12/2023#;
4(c)(i)	1 mark for each bullet point - Create table BATCH with opening and closing brackets, all statements within brackets - BatchID, Type and Flavour as varchar or equivalent ...with suitable constraint(s) - Size as decimal, SellingPrice as currency, EndDate as date (or equivalent) - Primary key identified as BatchID e.g. CREATE TABLE BATCH(BatchID VARCHAR(6) NOT NULL, Type VARCHAR (20) NOT NULL, Flavour VARCHAR (20) NOT NULL, Size FLOAT, SellingPrice CURRENCY, EndDate DATE, PRIMARY KEY (BatchID));

4(c)(ii)	1 mark for each bullet point each (max 4) e.g. • Ice cream table with an appropriate name • ... containing type, flavour, size, selling price • ... with suitable primary key • ... foreign key identified in BATCH that links to the primary key in ICECREAM Example table definitions – not example answer: <pre>BATCH(<u>BatchID</u>, IceCreamID, EndDate) ICE_CREAM(<u>IceCreamID</u>, Type, Flavour, Size, SellingPrice)</pre>
4(d)	1 mark for each definition Entity: • A real-life object that is represented as a table Attribute: • An item of data about an entity
4(e)	1 mark for each bullet point each (max 3) • Referential integrity is enforced • ... such as cascade update/delete // if the data is changed in one place it is updated in every other place • ... and ensures each foreign key has a corresponding primary key