

Unit 4 – Mark scheme

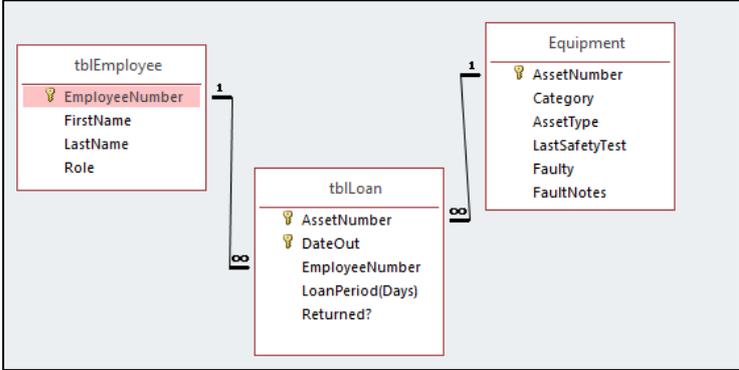
Note to examiners

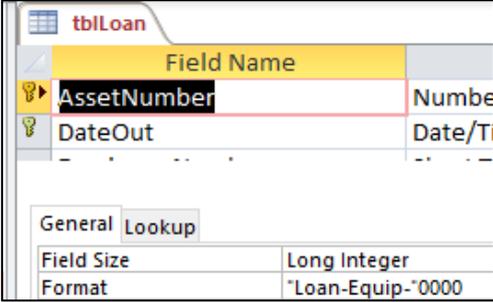
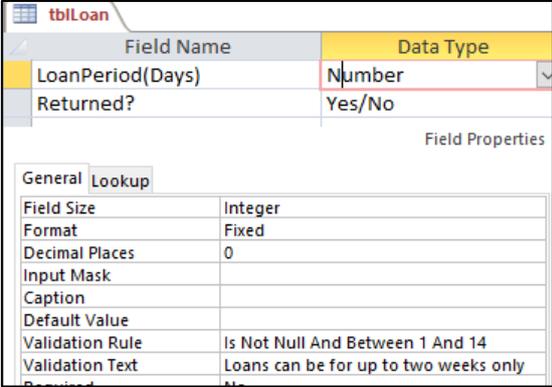
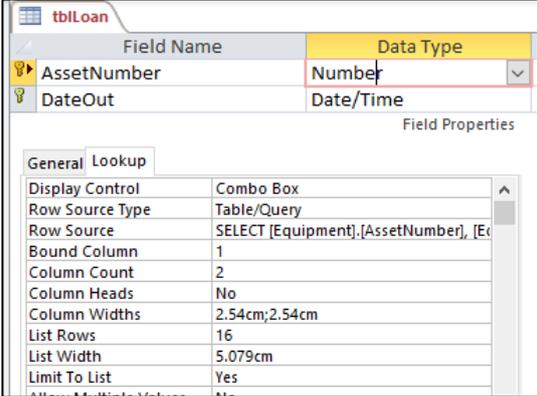
Where example screenshots are included, these are indicative content only and not a definitive answer. Students should receive credit based on the marking instructions in the answer column.

Question number	Answer	Mark
1(a)(i)	Award one mark for: Suitable data type for 'Faulty' field, e.g. Yes/No	1

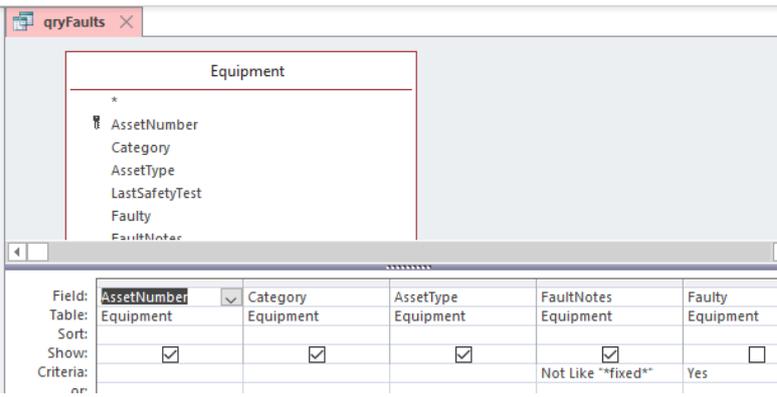
Question number	Answer	Mark
1(a)(ii)	Award one mark for each of the following up to a maximum of three marks. <ul style="list-style-type: none"> • Lookup added to category field (1) • Lookup contains four correct entries only ("Display";"Computer";"Sound";"Storage") (1) • Data entry is limited to items in the list only (1) 	3

Question number	Answer	Mark
1(b)	Award one mark for each of the following up to a maximum of six marks. <ul style="list-style-type: none"> • Correct fields from Equipment table included in Form must either show that data entry for AssetNumber field is restricted or field should be excluded from the form (1) • Form labels, titles are appropriate and Entry boxes are sized appropriately to reflect the data that will be entered, e.g. not default field names or names generated by wizard (1) • Suitable query used to append data entered to the equipment table (or code equivalent) (1) • Default value of 'last Safety Test' set to today's date, e.g. =now() (1) • Combo box or similar used for Category (1) • Button present and code/macro to save valid data to the table (1) 	6

Question number	Answer	Mark																						
1(c)	<div style="text-align: center;">  </div> <div style="text-align: center;"> <table border="1" data-bbox="603 728 1098 952"> <thead> <tr> <th>Field Name</th> <th>Data Type</th> </tr> </thead> <tbody> <tr> <td>AssetNumber</td> <td>Number</td> </tr> <tr> <td>DateOut</td> <td>Date/Time</td> </tr> <tr> <td>EmployeeNumber</td> <td>Short Text</td> </tr> <tr> <td>LoanPeriod(Days)</td> <td>Number</td> </tr> <tr> <td>Returned?</td> <td>Yes/No</td> </tr> </tbody> </table> </div> <div style="text-align: center;"> <table border="1" data-bbox="622 1030 1061 1086"> <tr> <td>LoanPeriod(Days)</td> <td>Number</td> </tr> </table> </div> <div style="text-align: center;"> <table border="1" data-bbox="635 1120 1061 1220"> <thead> <tr> <th colspan="2">General</th> </tr> </thead> <tbody> <tr> <td>Field Size</td> <td>Integer</td> </tr> <tr> <td>Format</td> <td>Fixed</td> </tr> <tr> <td>Decimal Places</td> <td>0</td> </tr> </tbody> </table> </div> <p data-bbox="316 1321 1276 1400">Award one mark for each of the following components shown in the screen prints up to a maximum of eight marks.</p> <ul data-bbox="406 1422 1348 1825" style="list-style-type: none"> • Use of appropriate field names and naming conventions (1) • Employee table is present (1) • Loan table is present (1) • 1:M relationship between Equipment – Loan (1) • 1:M relationship between Employee – Loan (1) • Appropriate primary key used, in Employee table – EmployeeNumber (1) • Appropriate composite key used in Loan table – AssetNumber, DateOut (1) • Date/Time is used for DateOut / Yes/No is used for Returned? (1) • Any integer data type is used for LoanPeriod (Days) (1) 	Field Name	Data Type	AssetNumber	Number	DateOut	Date/Time	EmployeeNumber	Short Text	LoanPeriod(Days)	Number	Returned?	Yes/No	LoanPeriod(Days)	Number	General		Field Size	Integer	Format	Fixed	Decimal Places	0	9
Field Name	Data Type																							
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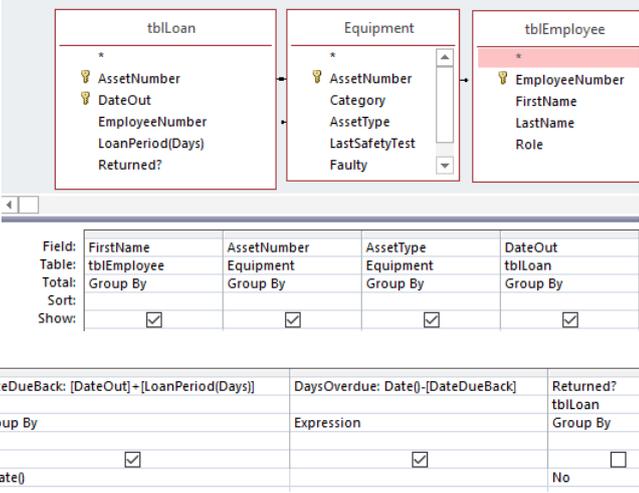
Question number	Answer	Mark
1(d)	<p>AssetNumber format</p>  <p>LoanPeriod(Days)</p>  <p>AssetNumber table lookup</p>  <p>Award one mark for each of the following components shown in the screen prints up to a maximum of three marks.</p> <ul style="list-style-type: none"> • Correct format applied to AssetNumber (1) • Correct range on LoanPeriod(Days) – from 1 to 14 inclusive (1) • Correct table lookup on AssetNumber – must have limit to list set to yes (1) 	3

Question number	Answer	Mark
1(e)	<p>Award one mark for each of the following up to a maximum of two marks.</p> <ul style="list-style-type: none"> Employee table – 6 records (1) Loans Table – 26 Records (1) 	2

Question number	Answer	Mark
2(a)	 <p>Award one mark for each of the following components correctly shown in the screen prints up to a maximum of four marks.</p> <ul style="list-style-type: none"> Correct Table and appropriate fields ONLY included in query (AssetNumber, AssetType, Faulty, FaultNotes – allow Category) (1) Wildcard or similar used to exclude equipment containing 'fixed' in FaultNotes field (1) Faulty field uses correct criteria (yes) (1) All fields apart from Faulty are set to display (1) 	4

Question number	Answer	Mark
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2(b)(i)



The screenshot shows an Access query design grid with three tables: tblLoan, Equipment, and tblEmployee. The design grid shows relationships between AssetNumber in tblLoan and Equipment, and EmployeeNumber in tblEmployee. Below the design grid is a table with the following fields and criteria:

Field:	AssetNumber	AssetType	DateOut
Table:	Equipment	Equipment	tblLoan
Total:	Group By	Group By	Group By
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

DateDueBack: [DateOut]+[LoanPeriod(Days)]	DaysOverdue: Date()-[DateDueBack]	Returned?
Group By	Expression	Group By
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<Date()		No

9

Award **one** mark for each of the following components correctly shown in the screen prints up to a maximum of **nine** marks.

- Correct related tables added, e.g. EquipmentList, Loans and Staff (1)
- Correct fields included in query (AssetType, EmployeeName, FirstName, LastName, DateDueBack, Returned (1)
- 'Returned' uses correct Criteria, e.g. 'No' (1)
- All fields apart from Returned are set to display (1)
- Calculated field added for DateDueBack and DaysOverdue (1)
- Calculated fields have sensible names (1)
- Correct calculation for 'date due back' [DateOut] + [LoanPeriod] (1)
- Correct criteria for DateDueBack e.g. <Date() or a parameter from the user to establish current date (1)
- Correct calculation for 'days overdue' Date()-generated field for 'date due back' (1)

Question number	Answer	Mark																																																												
2(b)(ii)	<div data-bbox="555 365 1054 551" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Report ▼</p> <p>Format Data Event Other All</p> <p>Record Source qryOverdue ▼ ...</p> <p>Filter</p> </div> <div data-bbox="389 575 1230 788" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Report Header</p> <p>="Weekly Overdue Equipment Report " & Date()</p> <p>Page Header</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>First name</td> <td>Asset Type</td> <td>Asset Number</td> <td>Date Out</td> <td>Date Due Back</td> <td>Days Overdue</td> </tr> </table> <p>Detail</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>FirstName</td> <td>AssetType</td> <td>AssetNumber</td> <td>DateOut</td> <td>DateDueBack</td> <td>DaysOverdue</td> </tr> </table> <p>Page Footer</p> <p>Report Footer</p> </div> <div data-bbox="402 826 1222 1144" style="border: 1px solid black; padding: 5px;"> <p>Weekly Overdue Equipment Report 15/10/2018</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>First name</th> <th>Asset Type</th> <th>Asset Number</th> <th>Date Out</th> <th>Date Due Back</th> <th>Days Overdue</th> </tr> </thead> <tbody> <tr> <td>Oliver</td> <td>LCD Projector</td> <td>Loan-Equip-0002</td> <td>01/10/2017</td> <td>15/10/2017</td> <td>365</td> </tr> <tr> <td>Haroon</td> <td>10" Tablet</td> <td>Loan-Equip-0011</td> <td>05/10/2017</td> <td>15/10/2017</td> <td>365</td> </tr> <tr> <td>Daniel</td> <td>10" Tablet</td> <td>Loan-Equip-0010</td> <td>05/10/2017</td> <td>19/10/2017</td> <td>361</td> </tr> <tr> <td>Aqjib</td> <td>Headset</td> <td>Loan-Equip-0015</td> <td>13/11/2017</td> <td>16/11/2017</td> <td>333</td> </tr> <tr> <td>Sohia</td> <td>300 GB USB Hard Drive</td> <td>Loan-Equip-0017</td> <td>15/11/2017</td> <td>20/11/2017</td> <td>329</td> </tr> <tr> <td>Oliver</td> <td>10" Tablet</td> <td>Loan-Equip-0011</td> <td>08/12/2017</td> <td>12/12/2017</td> <td>307</td> </tr> <tr> <td>Aqjib</td> <td>LCD Projector</td> <td>Loan-Equip-0001</td> <td>08/12/2017</td> <td>22/12/2017</td> <td>297</td> </tr> </tbody> </table> </div> <p>Award one mark for each of the following components correctly shown in the screen prints up to a maximum of seven marks.</p> <ul style="list-style-type: none"> • Report is linked to query (1) • A calculated/automatic field used to add date to report (1) • Appropriate and meaningful title and labels included on report (i.e. changed from default field names generated by wizard) (1) • The date generated on the report is placed in a sensible location with a meaningful label/heading, e.g. at bottom of page with label, integrated into report title, and appropriate date format used (1) • Appropriate layout and alignment used throughout the report (1) • Data is sorted in descending order based on days overdue (1) • Data is complete and not truncated (1) 	First name	Asset Type	Asset Number	Date Out	Date Due Back	Days Overdue	FirstName	AssetType	AssetNumber	DateOut	DateDueBack	DaysOverdue	First name	Asset Type	Asset Number	Date Out	Date Due Back	Days Overdue	Oliver	LCD Projector	Loan-Equip-0002	01/10/2017	15/10/2017	365	Haroon	10" Tablet	Loan-Equip-0011	05/10/2017	15/10/2017	365	Daniel	10" Tablet	Loan-Equip-0010	05/10/2017	19/10/2017	361	Aqjib	Headset	Loan-Equip-0015	13/11/2017	16/11/2017	333	Sohia	300 GB USB Hard Drive	Loan-Equip-0017	15/11/2017	20/11/2017	329	Oliver	10" Tablet	Loan-Equip-0011	08/12/2017	12/12/2017	307	Aqjib	LCD Projector	Loan-Equip-0001	08/12/2017	22/12/2017	297	7
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2(c)	<p>Indicative content</p> <p><i>Inconsistent information</i></p> <ul style="list-style-type: none"> • Loan-Equip-0004 Faulty = Yes yet FaultNotes say fixed • Does this mean it is faulty or not • Could it be a new fault but FaultNotes have not been updated <p><i>How structure allows inconsistencies</i></p> <ul style="list-style-type: none"> • FaultNotes field is not atomic (being used for more than one purpose) • Information not normalised correctly • Equipment can have many faults • Structure only allows for one fault • Have to delete the fault information and replace when a new fault is added. <p><i>Recommend structure</i></p> <ul style="list-style-type: none"> • New table for faults • Identification of suitable primary key • Identification of foreign key for link • Identification of better method of recording faulty/fixed eg two dates 	9

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Analysis is flawed or superficial, containing simple statements that show limited understanding of the subject matter. • Solution may contain some aspects that are appropriate, but is generally ineffective.
Level 2	4–6	<ul style="list-style-type: none"> • Analysis is sound, containing minor inaccuracies or omissions, showing some understanding of the given issue. • Solution is workable but may have minor issues.
Level 3	7–9	<ul style="list-style-type: none"> • Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. • Solution is appropriate and workable.

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3	<div data-bbox="507 324 1141 795" data-label="Image"> </div> <div data-bbox="438 833 1204 1243" data-label="Figure"> <table border="1"> <caption>Equipment Loans Data</caption> <thead> <tr> <th>Equipment</th> <th>Number of Loans</th> </tr> </thead> <tbody> <tr><td>10" Tablet</td><td>4</td></tr> <tr><td>14" Laptop</td><td>2</td></tr> <tr><td>15" Laptop</td><td>5</td></tr> <tr><td>300 GB USB Hard Drive</td><td>0</td></tr> <tr><td>DUP Projector</td><td>1</td></tr> <tr><td>External DVD drive</td><td>3</td></tr> <tr><td>Headphones</td><td>1</td></tr> <tr><td>Headset</td><td>2</td></tr> <tr><td>LCD Projector</td><td>5</td></tr> <tr><td>Speakers</td><td>2</td></tr> </tbody> </table> </div> <p data-bbox="311 1281 1260 1355">Award one mark for each of the following components correctly shown in the screen prints up to a maximum of twelve marks.</p> <p data-bbox="311 1388 399 1422">Query</p> <ul data-bbox="343 1422 1117 1568" style="list-style-type: none"> • includes AssetType and Category (1) • Only AssetType, Category and Count appear (1) • Count generated correctly(1) • Appropriate name for count (1) <p data-bbox="311 1568 414 1601">Report</p> <ul data-bbox="343 1601 933 1892" style="list-style-type: none"> • Bar/column chart created (1) • Appropriate and meaningful title (1) • X axis has appropriate title (1) • X axis uses asset type for labels (1) • Y axis has appropriate title (1) • Y axis has appropriate scale (1) • Cateogry used for legend (1) • No truncation of data or labels (1) 	Equipment	Number of Loans	10" Tablet	4	14" Laptop	2	15" Laptop	5	300 GB USB Hard Drive	0	DUP Projector	1	External DVD drive	3	Headphones	1	Headset	2	LCD Projector	5	Speakers	2	12
Equipment	Number of Loans																							
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Speakers	2																							

Question number	Answer	Mark
4	<p>Award one mark for each of the following components correctly shown in the screen prints up to a maximum of six marks.</p> <ul style="list-style-type: none"> • An appropriate heading title for the dashboard (1) • Three appropriately labelled buttons (1) • Layout of dashboard is consistent (1) • Suitable method applied to launch data entry form ready for data input, assigned to one button (1) • Suitable method to launch a query and display the results on- screen, assigned to one button (1) • Suitable method to launch one report and provide user with option to either print or view, assigned to one button (1) 	6

Question number	Answer	Mark
5	<p>Indicative content</p> <p><i>Factors</i> Should be relevant to the stem of the question.</p> <ol style="list-style-type: none"> 1) safety tests due need to be found 2) safety tests need to be recorded 3) faulty equipment or equipment overdue a safety check should not be allowed out on loan <p><i>Consideration of factors and significance</i> Factors identified should be considered including whether they can be carried out with the current structure and any problems that would occur. There should be comments about how significant the candidate thinks the problems are.</p> <ol style="list-style-type: none"> 1) safety tests due need to be found <ul style="list-style-type: none"> ○ safety tests that are due to be found can be found ○ Equipment table has a field called LastSafetyTest ○ can query the date in the LastSafetyTest to find those that are over two years old ○ problems with it identified e.g. no validation to prevent the user from inputting dates that are not correct 2) safety tests need to be recorded <ul style="list-style-type: none"> ○ safety tests can be recorded. ○ equipment table has AssetNumber, LastSafetyTest, Faulty and FaultNotes fields. ○ problems with it identified e.g. <ul style="list-style-type: none"> ▪ direct input via table ▪ no consideration of user interface ▪ Accidental change or deletion of records ▪ lack of validation ▪ has not been normalised correctly does not cater for 1:M between equipment and fault 3) faulty equipment or equipment overdue a safety check should not be allowed out on loan <ul style="list-style-type: none"> ○ this can take place though would be very difficult even though tables are linked through a foreign key ○ problems with it identified e.g. <ul style="list-style-type: none"> ▪ direct input via table ▪ no consideration of user interface ▪ same problem of accidentally changing or deleting records ▪ nothing preventing user adding a record for equipment with a fault or overdue a test 	9

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Applies understanding with limited coherence, showing limited understanding of the given issue. • Assessment of solution is superficial or unbalanced, and judgements lack support from evidence.
Level 2	4–6	<ul style="list-style-type: none"> • Applies understanding to make some coherent connections, showing some understanding of the given issue. • Assessment of solution is partially developed, but this may be unbalanced, using evidence to support some judgements.
Level 3	7–9	<ul style="list-style-type: none"> • Applies understanding coherently, showing a thorough understanding of the given issue. • Assessment of solution is balanced and developed, using evidence to support judgements throughout.