Cambridge Assessment International Education

Cambridge IGCSE™

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/21**

Paper 2 Document Production, Data Manipulation and Presentations **February/March 2022**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the February/March 2022 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

This document consists of **16** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Name, centre number, candidate number right aligned
No other placeholders 1 mark

...ame, Centre number, Candidate number

Upgrade your data storage

There are two good reasons to upgrad... hard disk drive. You may need more storage capacity ...nical drive to a solid state drive

Title entered accurately 1 mark
HD-title style applied - matches style defined in EV 2 1 mark
(serif 28pt, centre, bold, italic, 0pt before 0pt after)

If you can physically upgrade the storage on your computer, ...e

Text box:
Text box placed correctly, no hidden text, aligned to top of text and right margin 1 mark
Contents of text file located, copied, fully visible and formatted to HD-body style and bold 1 mark
Grey background applied to text box 1 mark
3-4pt thickness line around text box 1 mark

Once you are sure you can upgrade, find out which of ... technologies and formats are compatible with your system.

...or ...e ...e This will restrict the type of storage that

WHICH DRIVE WORKS FOR YOU?

If you can upgrade, then you need to find out which sort of drive is compatible with your machine. It is w... storage devices are ... of the current sorts ...

Columns:
Section break – applied to correct text 1 mark
2 columns, 1.5 cm column spacing 1 mark

- Mechanical hard drives
- Solid state drives
- SATA connected SSDs
- M.2 format SSDs

MEC...ANICAL HARD DRIVES

These ha...ives offer reliable performance at reaso...prices per gigabyte. They are much ... than SSDs and provide econon...lutions to large capacity second...ge where speed is not at a premi...re not recommended as the main ... where a smaller SSD will ...

Bullets:
Square shaped bullet selected and applied to correct text 1 mark
Bullets indented 1.5 cm from left margin 1 mark
Text in single line spacing with 6 pt after 1 mark

format stick. The SATA connected drive will fit in most desk-top computers, while the newer M.2 format requires a special slot to be ... is becoming available ... light-weight laptop ...

... effectively a miniature PCI-Express socket with a theoretical maximum bandwi... of 32 Gbits/second compared with 6... ...d

Image:
Image inserted in correct paragraph 1 mark
Aligned to top of text, right of column, text wrapped 1 mark
Rotated through 180 degrees 1 mark
Resized to half column width, aspect ratio maintained 1 mark

thicknesses of SATA drives – 7 mm or 9.5 mm. You may need to check on your laptop computer whether it is limited to the thinner size. The use of a spacer can pad the thickness of a slimmer drive in a 9.5 mm space.

CAPACITY OR SPEED?

The performance difference between an SSD and a mechan...l drive is not only about data transfer speed, but also on seek time. On a mechanical hard disk th...d has to physically move between different areas of the disk surface as it fetches bits of data ...ent programs or processes. On an SSD all locations are instantly addressable so performa...smooth and responsive.

HD-subhead seen modified (EV3); all formatting correct (Serif, 12pt, italic, bold, all capitals, centre, 9pt after, 0pt before, single line spacing) 1 mark

Footer:
Page number centre aligned and
no other placeholders or field codes 1 mark

1

Candidate name, Centre number, Candidate number

Type of Storage	*Benefits*	*Disadvantages*
Mechanical hard disk drive	*Large capacity at relatively low price per GB*	*Slow, not so good as system drive*
Solid state drive (SATA)	*Fast with commonly available 2.5 inch slots*	*Quite expensive especially for large capacity drives*
Solid state drive (M.2 format)	*Small but very fast*	*Need specialised slot and expensive*
Cloud storage	*Unlimited storage*	*Not under personal control*

A large capacity (up to several terabytes) hard
economical storage is. Mechanical hard drives
inch size. For a primary drive SSD, a capacity
affordable. Similarly an M.2 format drive may
secondary storage.

So far we have talked about internal stora
also a possibili any of the drive types di
portability of and can take it from o
choose to s on a server in the cloud and have it accessible from anywhere that you

Table:
1pt internal and external gridlines printed 1 mark
Notes column only deleted with contents 1 mark
HD-table style applied to text 1 mark
Table 15 cm wide and centred on the page, no split words 1 mark
6pt space after the table 1 mark

Page break removed maintaining paragraphs and spacing, after … *secondary storage.* 1 mark

DISK

There are several options to transferring the contents of the old disk onto the new disk. One method is to make a clean install using a version of the operating system on disk. This method will remove all existing programs you have. These will need to be reinstalled after the new disk is operating. An alternative method which will preserve your existing programs is to use cloning software (often supplied with a new disk drive) and make an exact copy of the current disk. This can be quite straightforward, but if the new disk is a smaller capacity than the one it is replacing may involve you in deciding what to keep and what to leave out. A third route is to make a virtual image of the source disk and copy it onto external media, then boot from a disk containing the imaging software choosing which files to keep.

Good luck if you decide to upgrade your storage.

Presentation:
Styles applied consistently with consistent spacing – no changes to body text (Arial 11pt, justified, 0 space before, 6pt after) 1 mark
Doc complete/paras intact, portrait, cols and pages aligned at top, no widows/orphans, lists and table not split, no blank pages 1 mark

Title, fully visible and accurate 1 mark

Drives for Gamers or Creative Work

New field **Retail** same currency format as Price 1 mark
Retail calculated (*Price* *1.2) 1 mark

Drive_Code	Model_Code	Model	Maker	Country	Suitability	Form_Factor	Read	Capacity _TB	Price	Retail
DD66	M280C3030500	XLR8 CS3030	Pliny	Indonesia	Gaming	M.2	3500	0.500	£76.00	£91.20
DD88	TDMX2000NV	Attack Pro	TData	Japan	Enterprise Creative	M.2	4950	2.000	£450.00	£540.00
DD55	LRD10Z002TG8	Excel Plus	Kyoto	Japan	Gaming	M.2	3400	2.000	£400.49	£480.59
DD60	CSSDF1000MP600	Forza MP600	Corsir	Japan	Creative Professional	M.2	4950	1.000	£202.99	£243.59
DD51	CSSDF2000MP600	Forza MP600	Corsir	Japan	Creative Professional	M.2	4950	2.000	£389.99	£467.99
DD59	ZP2000GM31011	Firacude 510	Seemore	USA	Gaming	M.2	3450	2.000	£322.99	£387.59
DD50	ZP1000GM31011	Firacude 510	Seemore	USA	Gaming	M.2	3450	1.000	£166.44	£199.73
DD49	ZP2000GM31002	Firacude 520	Seemore	USA	Creative Professional	M.2	5000	2.000	£357.28	£428.74
DD48	ZP500GM31002	Firacude 520	Seemore	USA	Creative Professional	M.2	5000	0.500	£113.06	£135.67
DD46	ZP1000GM31002	Firacude 520	Seemore	USA	Creative Professional	M.2	5000	1.000	£206.77	£248.12
DD64	PEKKW256G8XT	760p series	Ibstock	USA	Gaming	M.2	3210	0.256	£63.98	£76.78

Amended record DD88 1 mark

Sorted ascending by Country 1 mark

Capacity 3dp 1 mark

Record DD65 deleted 1 mark

Select records
Suitability *Gaming* or contains *Creative* 1 mark
Read >*2200* 1 mark

Price currency sign, 2dp 1 mark

21 September 2020

Name, centre number, candidate number

Specified fields and data, correct order 1 mark
Landscape, no truncation, single page wide, no page numbers 1 mark

Labels report

Candidate details at bottom of every label	1 mark
Title top of all labels, 100% accurate, larger, bold	1 mark
Sorted ascending by *Price*	1 mark
Two labels side by side, portrait, 8 labels to page	1 mark

Large capacity drives for home use

Seemore Swordfish 120
Richmond USA
Home
SATA 6Gb/s SSD
£57.32

Name, centre number, candidate number

Large capacity drives for home use

Seemore Swordfish 120
Richmond USA
Home
SATA 6Gb/s SSD
£100.70

Name, centre number, candidate number

Large capacity drives for home use

WestPoint WP Red SA500
Richmond USA
SOHO SMB
SATA 6Gb/s SSD
£109.44

Name, centre number, candidate number

Large capacity drives for home use

Samsing 860 Evo
Seoul Korea
SOHO SMB
SATA 6Gb/s SSD
£109.44

Name, centre number, candidate number

Large capacity drives for home use

Crux MX500
Kuala Lumpur Malaysia
SOHO SMB
SATA 6Gb/s SSD
£109.98

Name, centre number, candidate number

Large capacity drives for home use

WestPoint WP Blue
Richmond USA
SOHO SMB
SATA 6Gb/s SSD
£111.98

Name, centre number, candidate number

Large capacity drives for home use

WestPoint WP Blue
Richmond USA
SOHO SMB
PCIe gen3 NVMe SSD
£124.99

Name, centre number, candidate number

Labels selection

Suitability contains Home or SOHO	1 mark
Format is SSD	1 mark
Price <130 and *Capacity* 1 or more	1 mark

Large capacity drives for home use

Samsing 860 Evo series 1
Seoul Korea
SOHO SMB
SATA 6Gb/s SSD
£129.77

Maker and *Model* on same line	1 mark
City and *Country* on same line	1 mark
Connection and *Format* on same line	1 mark
Correct label layout with min 1 space between fields	1 mark
Suitability and *Price* present on correct lines	1 mark

Tawara Computer Supplies
The Wharfage
Tawara Bay
Main Island

02 February 2022

Delivery Note

Deliver to:

«Title» «First_Name» «Last_Name»
«Address_1»
«Town»
«Post_Code»

Our Product Code	Model	Make	Connection	Form Factor	Capacity	Price
«Drive_Code»	«Model»	«Make»	«Connection»	«Form_Factor»	«Capacity» Terabytes	£«Price»

Order prepared by: Candidate Name

Name ZZ999 9999

Mailmerge master

Candidate details in footer of master document and Name replaces *Candidate Name*	1 mark
Address block	
Chevrons <> replaced by correct fields	1 mark
Correct position and original spacing maintained	1 mark
Product table	
Chevrons <> replaced by merge fields with correct spacing for *Capacity* and *Price*	1 mark
Master document printed	1 mark

Tawara Computer Supplies
The Wharfage
Tawara Bay
Main Island

02 February 2022

Mailmerge delivery notes
Correct 4 delivery notes printed 1 mark

Delivery Note

Deliver to:

Ms Katherine Griffin
96 Scrimshire Lane
Alfreton
NN7 3OO

Our Product Code	Model	Make	Connection	Form Factor	Capacity	Price
DD11	Nitra 3731	Seemore	SAS 12Gb/s	2.5 inch	3.2 Terabytes	£1993.55

Order prepared by: Candidate Name

Name ZZ999 9999

Tawara Computer Supplies
The Wharfage
Tawara Bay
Main Island

02 February 2022

Delivery Note

Deliver to:

Mr Jake Abbott
39 Vicar Lane
Edingley
NN15 6QL

Our Product Code	Model	Make	Connection	Form Factor	Capacity	Price
DD59	Firacude 510	Seemore	PCIe gen3 NVMe	M.2	2 Terabytes	£322.99

Order prepared by: Candidate Name

Name ZZ999 9999

Tawara Computer Supplies
The Wharfage
Tawara Bay
Main Island

02 February 2022

Delivery Note

Deliver to:

Mrs Ella McKenzie
63 Thames Street
Sutton-in-Asfield
NN7 4TW

Our Product Code	Model	Make	Connection	Form Factor	Capacity	Price
DD14	Nitra 3331	Seemore	SAS 12Gb/s	2.5 inch	1.92 Terabytes	£494.75

Order prepared by: Candidate Name

Name ZZ999 9999

Tawara Computer Supplies
The Wharfage
Tawara Bay
Main Island

02 February 2022

Delivery Note

Deliver to:

Mr Charlie Simmons
59 Warren St
Rufford
NN11 0AU

Our Product Code	Model	Make	Connection	Form Factor	Capacity	Price
DD51	Forza MP600	Corsir	PCIe gen4 NVMe	M.2	2 Terabytes	£389.99

Order prepared by: Candidate Name

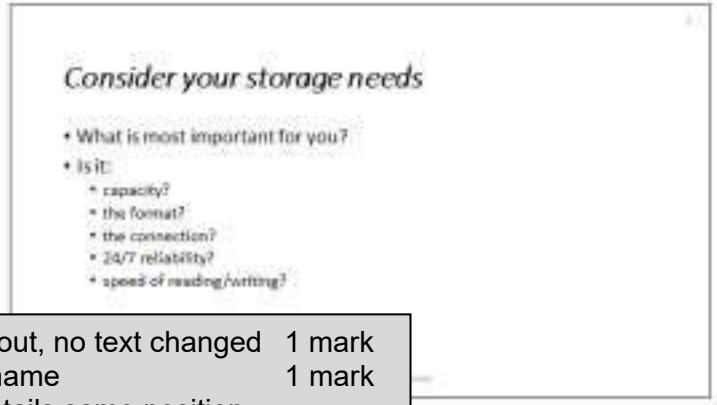
Name ZZ999 9999

M.2 drives have solid state memory chips on a small 'stick'

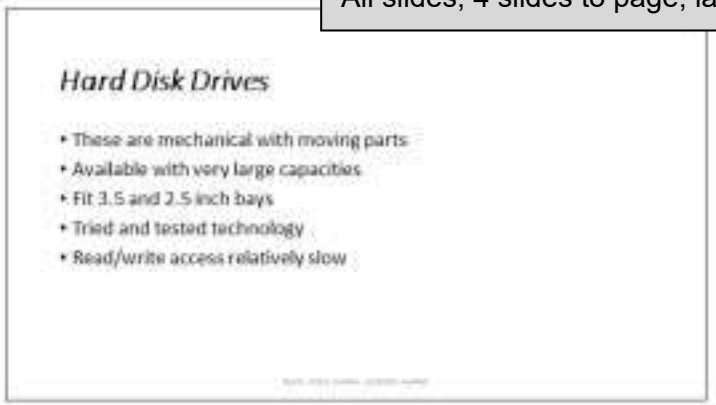
Chart	
Vertical bar chart (correct data) with correct category labels present	1 mark
Chart title 100% accurate	1 mark
Axis titles 100% accurate	1 mark
Values displayed for all bars	1 mark
Display a legend showing the years 2020 and 2021	1 mark
In correct place on correct slide	1 mark
Sales analysis slide printed with presenter notes	1 mark
… Presenter notes as given	1 mark

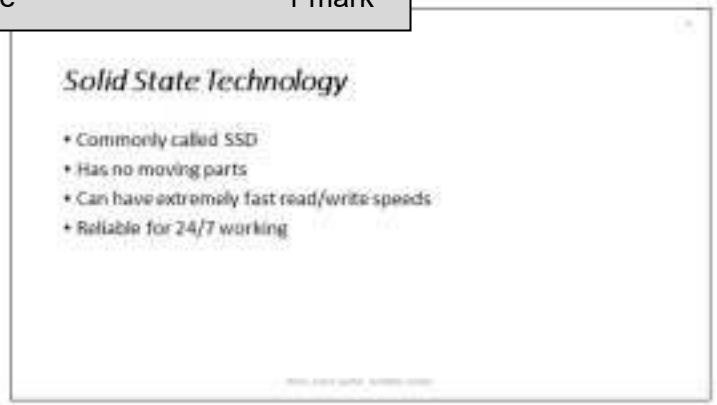
8

09/07/2021



Slides imported in title and bullet layout, no text changed	1 mark
Slide 1 a title layout with candidate name	1 mark
Slide no's top right and candidate details same position on every slide with no overlap on any slide	1 mark
All 5 bullet points demoted	1 mark
Slide *Suitable applications for HDDs* deleted	1 mark
All slides, 4 slides to page, landscape	1 mark





09/07/2021

SSD formats

- SATA connections will fit in 2.5 inch bays and are used in desktop or laptop computers
- PCIe NVMe M.2 format needs special connections
- M.2 slots becoming available in high end laptops

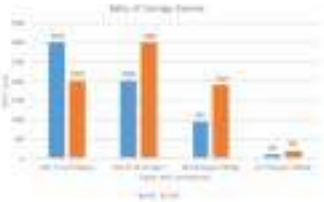
Need for speed

- SATA connected 2.5 inch disk drives usually have similar read/write speeds to HDDs
- PCIe connected M.2 drives can reach much higher speeds
- Fourth generation PCIe drives take read/write speeds up even further

Suitable applications for SSD storage

- Home office
- Small business environment
- Enterprise businesses
- Data centres
- DVR

Sales analysis 2020 - 2021

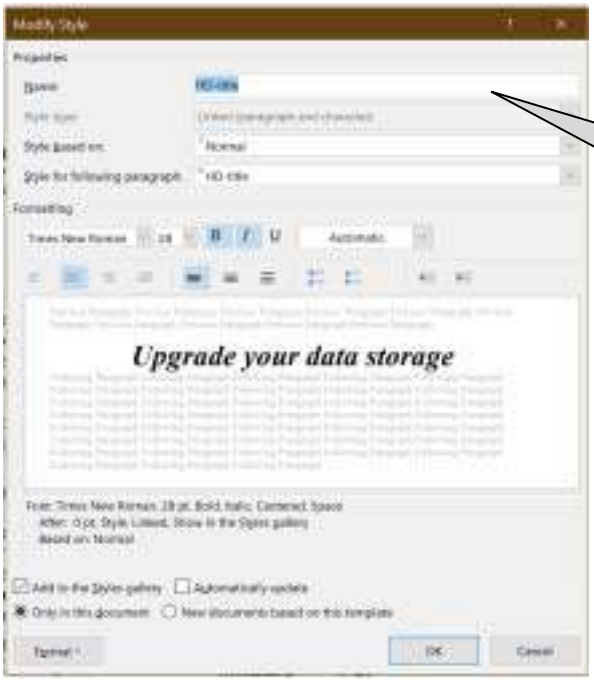


- HDD sales are going down
- SSD sales are increasing
- New, specialised formats growing in popularity

Step 1 – **EVIDENCE 1 here:**

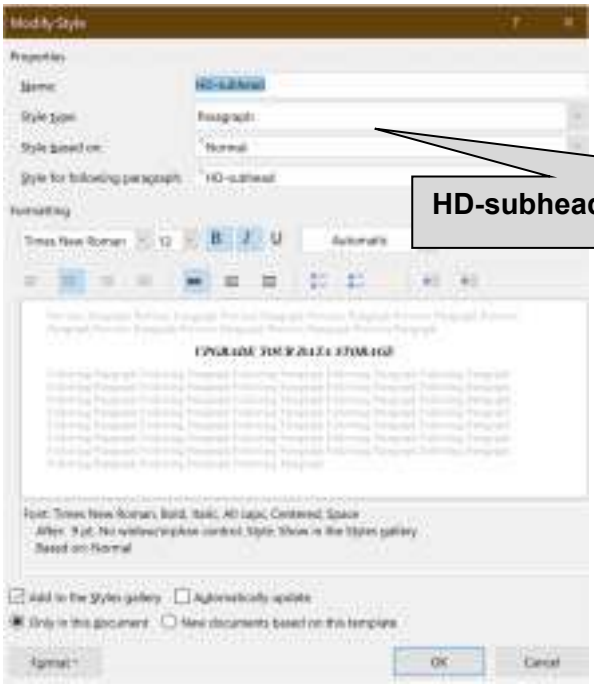
File saved as UPGRADE in format of software 1 mark

Step 4 – **EVIDENCE 2 here:**



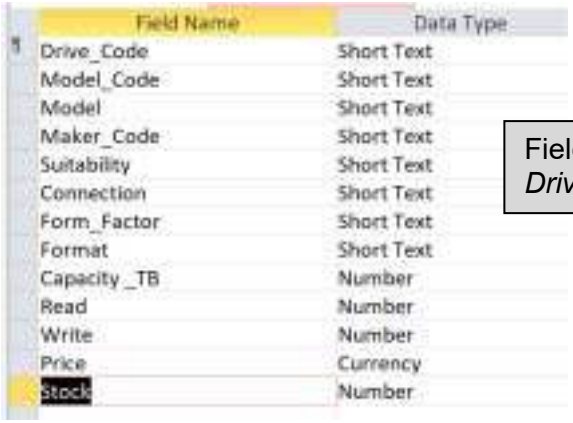
HD-title
Style correctly named based on normal 1 mark
Serif 28pt, centre, bold, italic,
single, 0pt before and after 1 mark

Step 8 – **EVIDENCE 3 here:**



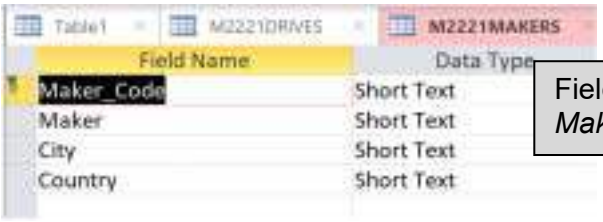
HD-subhead style modified and based on normal 1 mark

Step 13 – **EVIDENCE 4 here:**



Field Name	Data Type
Drive_Code	Short Text
Model_Code	Short Text
Model	Short Text
Maker_Code	Short Text
Suitability	Short Text
Connection	Short Text
Form_Factor	Short Text
Format	Short Text
Capacity _TB	Number
Read	Number
Write	Number
Price	Currency
Stock	Number

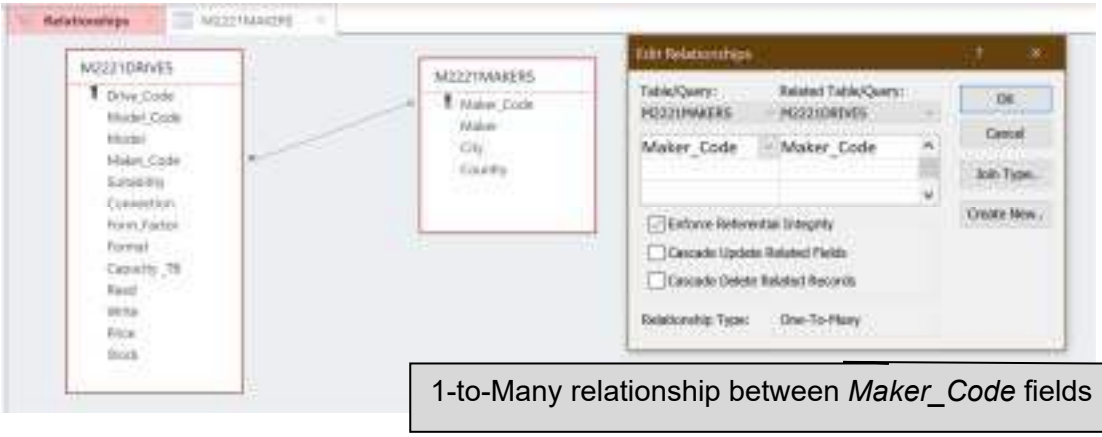
Field names as given, correct data types,
Drive_Code field as primary key, no ID field 1 mark



Field Name	Data Type
Maker_Code	Short Text
Maker	Short Text
City	Short Text
Country	Short Text

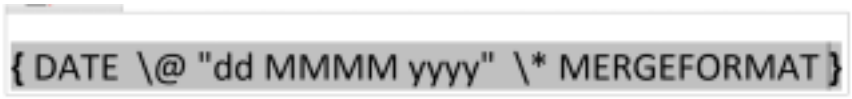
Field names as given, correct data types, no ID field 1 mark
Maker_Code as a primary key 1 mark

Step 14 – **EVIDENCE 5 here:**



1-to-Many relationship between *Maker_Code* fields 1 mark

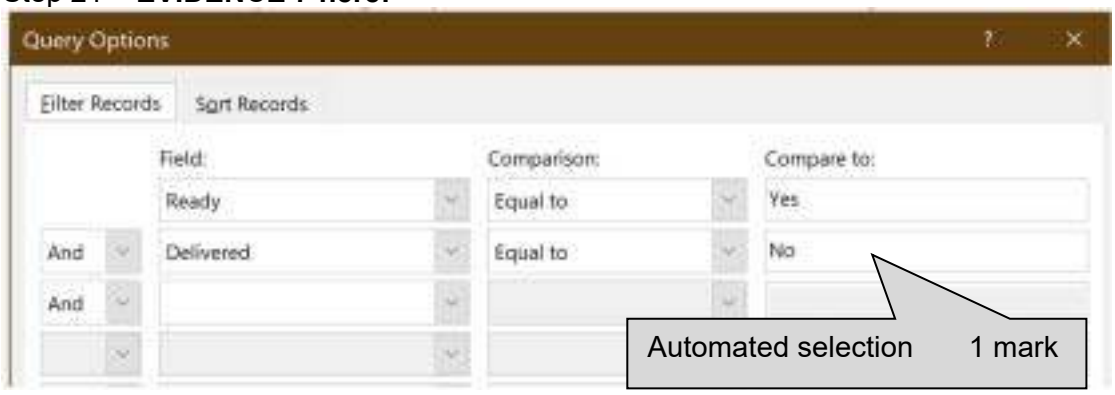
Step 20 – **EVIDENCE 6 here:**



{ DATE \@ "dd MMMM yyyy" * MERGEFORMAT }

Today's date in this format 1 mark

Step 21 – **EVIDENCE 7 here:**



Automated selection 1 mark