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**INFORMATION AND COMMUNICATION TECHNOLOGY**

**0417/02**

Paper 2 Practical Test A

**October/November 2019**

MARK SCHEME

Maximum Mark: 80

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**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 October/November 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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This document consists of **15** 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.

Header Automated page numbers left aligned, automated date field right aligned 1 mark

02/12/2019

# The World of Digital Books

Report by: Candidate name

DB-Title modification correct in EV3 with attributes applied - sans-serif 32pt, centre aligned, bold, underline, 6pt after (0pt before)

1 mark

of our reading culture and changed the publishing over recent years, mainly due to increased content

An e-reader is a mobile electronic device that displays digital magazines. It is small and portable publication made available in digital form. It is an electronic version of a printed book but without a printed equivalent.

Subtitle entered accurately with candidate name

1 mark

DB-Subtitle seen in EV4 list and applied

1 mark

(sans-serif, 16pt, italic, right aligned, 0pt before and after)

## HISTORY OF DIGITAL BOOKS

The first electronic book document was produced in 1971 by Michael S. Hart who is thought by many to be the inventor of the electronic book. He adapted the United States Declaration of

### Columns

Section break, correct position, applied to correct text

1 mark

2 columns, 1 cm column spacing

1 mark

### Subheadings (7)

DB-Subhead style matches style defined in EV2, applied consistently to all

1 mark

Online publishing became a cheaper option than printed books for educational, academic and scientific publications. It also enabled regular updates to include the latest information without waiting for a new printed edition. Some universities began to create their own textbooks online with papers and comments from professors.

## DIGITAL READING

The emerging market of online bookstores selling only digital books took off in 2003. It took a while to convince publishers that books should be simultaneously published as a print book and a digital book. For the first time last year publishers reported more digital book sales than from

### Table

Complete table imported in correct position, no changes to data

1 mark

Maxi Reader row deleted

1 mark

Sorted ascending on Year

1 mark

New row in correct position (above Knook)

1 mark

Correct data entry – Tawara Phablet | Digital Tawara | 2007

1 mark

Top row merged, centred

1 mark

Top row text bold, light grey shading applied

1 mark

All fits within column, data on one line, gridlines printed

1 mark

DB-table style seen in EV4 list, applied to complete table

1 mark

(serif, 11pt, italic, left, no space after each row)

1 mark

Gutenberg had 1,000 e-books with an average output of 36 books per month. Ten years later it had over 20,000 e-books in 50 languages with a production rate of 340 new books each month, 40 mirror sites worldwide, and tens of thousands of books being downloaded every day.

The first electronic versions of print newspapers and magazines began to appear in 1996 with partial or full versions of the latest issues available freely or through subscription. Online versions provided a wealth of additional information to help readers understand the issues with links to maps, political and economic data, photographs, and

The following table shows the release of e-reader devices over the years:

e-Readers		
Reader	Company	Year
RockICT e-book	DecoMedia	1998
CloseBook	CloseBook	1999
Pearlstar e-book	Pearlstar	2000
Litre 1500-EP	Sonny	2004
Sonny Reader	Sonny	2006
Tawara Phablet	Digital Tawara	2007

### Footer

Name, centre number, candidate number right aligned

1 mark

<i>Knook</i>	<i>Bambi Publishing</i>	2009
<i>Cabbage Notepad</i>	<i>Cabbage</i>	2010
<i>Hobo e-reader</i>	<i>Rasputen Hobo</i>	2010

Following the successive failures of first generation e-readers, the devices were expected to disappear from the market. However, the advent of E-ink technology transformed the quality of the reading screens. New generation e-readers were released with improved E-ink technology screens which provided a reading experience similar to the traditional printed book. With the price of reading devices and e-books significantly reduced, more content available and better retail distribution, the e-reader was given a new lease of life.

In 2007 Tawara launched a dedicated e-reader called the Phablet which became the most successful electronic reading device and transformed this digital market. The Phablet had long battery life, built-in memory and an SD card providing plenty of book storage, a screen using the E-ink technology, and page-turning buttons. Unlike the Sonny Reader there was no need for a computer as books were purchased online and downloaded via a 3G wireless connection. The Phablet release sold out in less than six hours and the sales of e-books doubled between 2007 and 2008.

**READING DEVICES**

Commercially produced and sold e-books are usually intended to be read on a dedicated e-reader device. However many people now read e-books on their mobile devices preferring multifunctional devices over dedicated e-reader brands. In 2016 surveys showed that mobile phones and tablets overtook e-readers as the most common electronic reading devices. Depending on the format of the book, almost any computer device that features a controllable viewing screen can be used to read e-books including:

- dedicated e-readers including the Sonny, Knook, Hobo
- netbooks and laptops
- personal computers
- smartphones
- tablet computers including the Notepad

There are many e-reader applications freely available which allow the reading of e-books on mobile devices independently of a dedicated e-book device.

**DIGITAL BOOK FORMATS**

for all e-books so that a wide range of reading devices could display the same publication.

**THE EPUB FORMAT**

In September 1999 the first version of Open e-book (OeB) was released with the aim of providing a single source document which all book-reading software and hardware platforms could handle. In April 2005 OeB format was replaced with ePub (electronic publication format). The ePub format makes the text adapt to the screen size so it is easier for a range of devices to display readable text. Books in e-pub format can be downloaded to a computer, phone, tablet, e-reader or read in a web browser and is becoming the publishing industry standard format for e-books.

**PDF FORMAT**

PDF (Portable Document Format) was launched in June 1993 and became the global standard for the distribution and viewing of documents. A free reader was needed to read these files. Until

**Image**

- Image inserted in correct position (below subhead) 1 mark
- Image flipped so e-reader on right 1 mark
- Aligned to top of text, left margin, text wrapped 1 mark
- Resized to 3 cm wide, aspect ratio maintained 1 mark

the standard format for e-books.

**THE FUTURE**



Many consumers have embraced digital reading but the e-reader market is changing and is set to face fierce competition from tablets and smartphones. Evidence suggests that people are switching to reading content on their

**Bullets**

- Square shaped bullets applied to correct text 1 mark
- Bullets indented 1 cm from left margin, single line space 1 mark

genre of tablet-based books are released with multimedia and hypermedia content. Research does suggest that older readers will continue with e-readers, whilst younger readers are increasingly using tablets. However laptops, tablets and phones do not replicate any of the unique selling points of the e-reader which include very long battery life, the ability to read in bright light, and no eye strain when reading for prolonged periods.

In recent years Tawara has released one of the thinnest e-readers in the world which comes with a

**Page layout**

- DB-Body style seen in EV4 list and applied consistently (sans-serif, 10pt, justified, single line, 0pt before, 6pt space after) 1 mark
- Doc complete/paras intact, A4, portrait, no large gaps, columns aligned at top, no widows/orphans, split lists/tables, no blank pages, 6pt after bullet list, 6pt after table 1 mark

developments in technology to take e-readers to a next level.

Future advances could include a new processor which enables animations and videos to be played. It is expected that more companies will produce waterproof e-readers and a high resolution colour E-ink reader display is also on the horizon. Some companies believe bigger screens are the way forward and are bucking the six inch trend.

**Title**  
Correct, 100% accurate 1 mark

Specified fields (5), correct order, 1 mark  
Sort descending order of *Price* 1 mark  
Portrait, all fields present, no truncation, fits single page 1 mark

### Book Releases 2014/2015

Title	Author	Price	Release_Year	Available
<b>Locked On</b>	<b>Tom Clancy</b>	<b>£37.54</b>	2015	Yes
Steve Jobs	Walter Isaacson	£25.01	2015	Yes
Notes From A Small Island	Bill Bryson	£24.98	2015	Yes
Desolation Island	Patrick OBrian	£22.98	2015	Yes
Shadowfever	Karen Marie Moning	£22.53	2015	Yes
Never Let Me Go	Kazuo Ishiguro	£19.99	2014	Yes
Night Road	Kristin Hannah	£18.78	2015	Yes
Obamas A Missed Marriage	Jodi Kantor	£18.78	2014	Yes
Island Of The Blue Dolphins	Scott OBasil	£18.36	2015	Yes
Unbroken	Laura Hillenbrand	£17.99	2014	Yes
Stay Close	Harlan Coben	£17.50	2014	Yes
Angels And Demons	Dan Brown	£16.99	2014	Yes
Scotland Highlands A Guide	Neil Wilson	£10.49	2015	Yes
Chile And Easter Island A Guide	Carolyn McCarthy	£10.35	2015	Yes
Harry Potter And Chamber Of Secrets Book 2	J K Rowling	£9.99	2014	Yes
Now You See Her	James Patterson	£9.39	2014	Yes
Harry Potter			2014	Yes
Harry Potter			2014	Yes
Butterfly Island			2015	Yes
Defending Jacob	William Landay	£8.75	2015	Yes
<b>Wolf Gift</b>	<b>Anne Rice</b>	<b>£8.49</b>	<b>2015</b>	<b>Yes</b>
Harry Potter And Order Of Phoenix Book 5	J K Rowling	£7.99	2014	Yes
1105 Yakima Street	Debbie Macomber	£7.99	2014	Yes
No Time For Goodbye	Linwood Barclay	£7.99	2015	Yes
Home Front	Kristin Hannah	£7.99	2014	Yes
Camel Creek Demons	Patsy Fletcher	£7.85	2014	Yes
Harry Potter And Philosophers Stone Book 1	J K Rowling	£6.99	2014	Yes
Spider Bones	Kathy Reichs	£6.67	2015	Yes
An Engagement In Seattle	Debbie Macomber	£6.50	2015	Yes
Inner Circle	Brad Meltzer	£6.25	2015	Yes
The Island Of Adventure	Eni d Blyton	£5.94	2014	Yes
Redwood Bend	Ron Carr	£5.39	2015	Yes
Killing Tide	P J Alderman	£5.10	2014	Yes
Invisible Roses	Rita Sams	£5.00	2014	Yes
Harry Potter And The Deathly Hallows Book 7	J K Rowling	£5.00	2015	Yes

New record *Wolf Gift* added accurately and 1st record *Locked On*, £37.54 still present 1 mark

**Name, centre number, candidate number** Average book price £12.53

Calculates correct average *Price* 1 mark  
Average under *Price* column, accurate label entered to left 1 mark  
Average and *Price* display same currency symbol, 2dp, *Available* displays Yes/No 1 mark

Name, centre number, candidate number displays at bottom, no page number displayed. 1 mark

**Select records (35):**  
*Release\_year* is 2014 or 2015 1 mark  
*Price* is >=£5.00, *Available* is Yes 1 mark

**PUBLISHED**

# Digital Publishing

**Title**  
Correct, 100% accurate 1 mark

**Calculated field**  
Heading **Book\_Tax** 100% accurate 1 mark  
Price plus 10% calculated - correct values 1 mark  
Same currency symbol and 2dp as *Price* field 1 mark

Book_Ref	Publisher	Title	Author	Book_Type	Release_Year	Price	Book_Tax
A0010	Digital Tawara	Tales Of Talskiddy Treacle Mine	Benson McChris	Audio	2018	£7.99	£8.79
A0177	Digital Tawara	Dunes Of Dreams	Margery Vadson	Audio	2017	£6.23	£6.85
A0144	Digital Tawara	Long Beach	Maria Mathson	Audio	2016	£4.99	£5.49
A0068	Digital Tawara	Silken Valley	Joceline Redington	Audio	2016	£5.49	£6.04
A0183	Digital Tawara	Honeycomb Village	Maria Mathson	Audio	2015	£6.45	£7.10
A0182	Digital Tawara	Camel Creek Demons	Patsy Fletcher	Audio	2014	£7.85	£8.64
A0120	Digital Tawara	Invisible Roses	Rita Sams	Audio	2014	£5.00	£5.50
A0086	Digital Tawara	Mutant Blue	Jeffrey Reeves	Audio	2014	£4.49	£4.94
A0024	Millen Digital Audio	Bridget Jones Edge Of Reason	Helen Fielding	Audio	2013	£11.22	£12.34
A0112	Millen Digital Audio	Room	Emma Donoghue	Audio	2012	£18.98	£20.88
A0023	Millen Digital Audio	Bridget Jones Diary	Helen Fielding	Audio	2012	£13.27	£14.60
E0504	Harley Quinn Digital	Glass Castle	Jeannette Walls	eBook	2016	£4.99	£5.49
E0727	Digital Press	Killing Tide	P J Alderman	eBook	2015	£1.99	£2.19
E0252	Antique Digital	Spider Bones	Kathy Reichs	eBook	2015	£6.67	£7.34
E0062	Digital Tawara	Rebels Of Power	Stevie Hilliard	eBook	2015	£4.50	£4.95
E0047	Harley Quinn Digital	Chasing Fire	Nora Roberts	eBook	2015	£3.99	£4.39
E0236	Transformation Digital	Digital Fortress	Dan Brown	eBook	2014	£4.93	£5.42
E0239	LLSB Digital	Something Blue	Emily Giffin	eBook	2013	£3.96	£4.36
E0607	Antique Digital	Why Me	Sarah Burleton	eBook	2013	£1.92	£2.11
E0658	Digital Tawara	Night Battleship	Charlie Dawson	eBook	2013	£12.55	£13.81
E0144	Digital Tawara	The Liliac Sky	Gregory Brooklin	eBook	2013	£8.99	£9.89
E0412	Quoin Digital	Fate Of The Jedi Apocalypse	Troy Denning	eBook	2012	£15.85	£17.44

**Select records (39):**  
*Publisher* contains Digital 1 mark  
*Release\_Year* is >2011 1 mark

Specified fields (7 base fields), correct order 1 mark  
Sort ascending on *Book\_Type*, descending *Release\_Year* 1 mark  
Landscape, one page wide, all base fields present, data fully visible 1 mark

Name, centre number, candidate number Name, centre number, candidate number displays in report footer, on every page 1 mark

<b>Book_Ref</b>	<b>Publisher</b>	<b>Title</b>	<b>Author</b>	<b>Book_Type</b>	<b>Release_Year</b>	<b>Price</b>	<b>Book_Tax</b>
E0885	Quoin Digital	Once Upon A Secret	Mimi Alford	eBook	2012	£9.99	£10.99
E0934	Quoin Digital	Private Games	James Patterson	eBook	2012	£9.99	£10.99
E0933	Quoin Digital	Private 1 Suspect	James Patterson	eBook	2012	£9.49	£10.44
E0924	Quoin Digital	Power Of Habit	Charles Duhigg	eBook	2012	£10.85	£11.94
E0126	Digital Tawara	Legacy Of The Androids	Sam Fernleigh	eBook	2012	£9.99	£10.99
E0326	Quoin Digital	Drop Dead Healthy	A J Jacobs	eBook	2012	£10.85	£11.94
E0579	Ebony Digital	Welcome To Your Brain	Sandra Aamodt	eBook	2012	£10.85	£11.94
E0631	Antique Digital	Wolf Gift	Anne Rice	eBook	2012	£9.99	£10.99
E0043	Harley Quinn Digital	Celebrity In Death	J D Robb	eBook	2012	£8.99	£9.89
E0625	Harley Quinn Digital	Witness	Nora Roberts	eBook	2012	£9.49	£10.44
E0816	Harley Quinn Digital	Mill River Recluse	Darcie Chan	eBook	2012	£1.99	£2.19
E0409	HMI Digital	Boy In Striped Pyjamas	John Boyne	eBook	2012	£4.99	£5.49
E0179	Transformation Digital	Deception Point	Dan Brown	eBook	2012	£5.49	£6.04
E0424	Transformation Digital	Brick Lane	Monica Ali	eBook	2012	£5.49	£6.04
E0654	Transformation Digital	I Got Your Number	Sophie Kinsella	eBook	2012	£9.99	£10.99
E0927	Transformation Digital	Prayer For Owen Meany	John Irving	eBook	2012	£6.49	£7.14
E0947	Digital Tawara	Dragons Of Sorcerers	Christian Jennings	eBook	2012	£6.99	£7.69

Name, centre number, candidate number



## Task 4 – Mail merge

Merge Fields inserted (&lt;text&gt; correctly replaced)

«Group» | «Month» | «Book», | «Author». correct position, spacing & punctuation retained 1 mark  
 «Day», «Date» | «Time» correct position, spacing, punctuation and centre alignment retained 1 mark  
 «Venue». | «Month» | «Notes». correct position, spacing, punctuation retained 1 mark

MM\_Master.docx

## Tawara Book Club

C/o Community Library  
 120 Gonville Square  
 CAMBRIDGE  
 CB1 3JC

25-Oct-19

Dear «Group» Book Club Member

**Tawara Book Club – Winter Reading**

Tawara Book Club is pleased to confirm details of the reading material selected for the coming quarter. These books have been chosen based on reviews from newspapers and magazines, recommendations from other reading clubs and prize-winning book lists. If you wish to nominate a book for the group to read in the future, please bring your suggestions to the meeting.

The book chosen for «Month» is «Book», by «Author». I hope you will find this a stimulating and enjoyable read. You may find it useful to make short notes on a postcard, or use post-it notes to identify sections of the book you think are worthy of group discussion. If you are reading on an e-book, use the highlighter or note function to record your thoughts to share with the group.

Our next meeting is arranged for:

«Day», «Date» at «Time» hours.

The meeting will be held at «Venue». Please try to finish the «Months» book before we meet.

Other meeting business: «Notes».

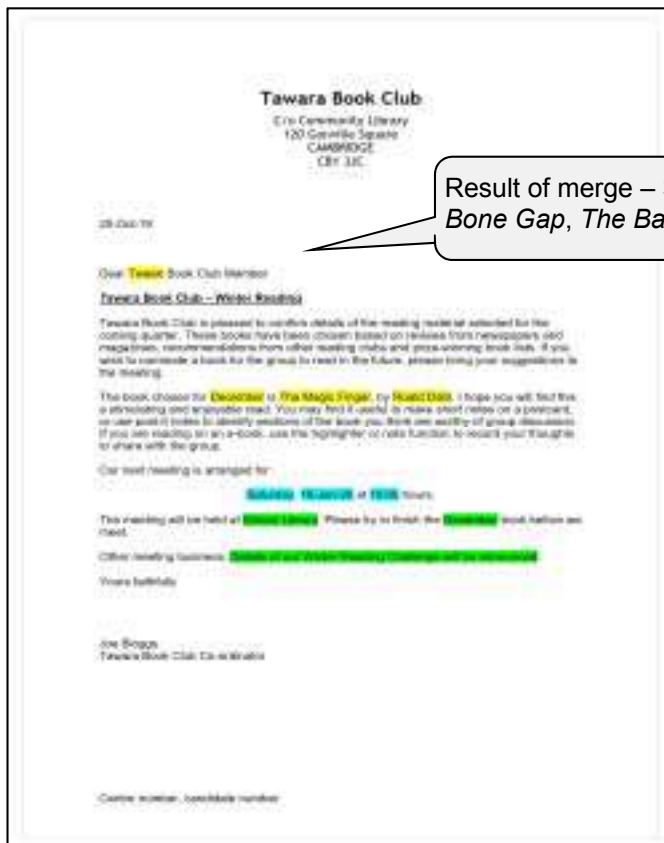
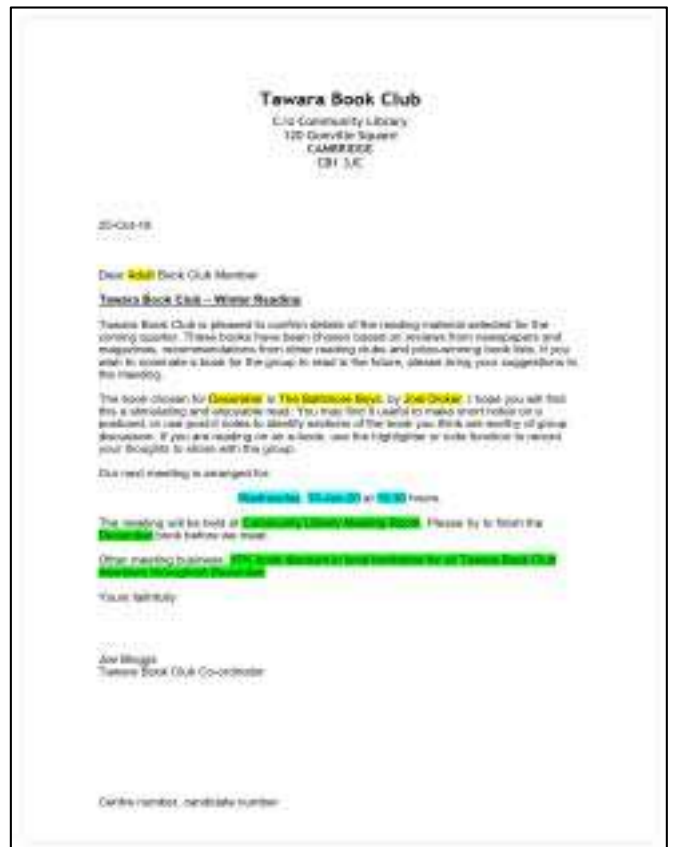
Yours faithfully

Name replaces *Candidate Name*  
 centre no & candidate no in the footer

1 mark

Joe Bloggs  
 Tawara Book Club Co-ordinator

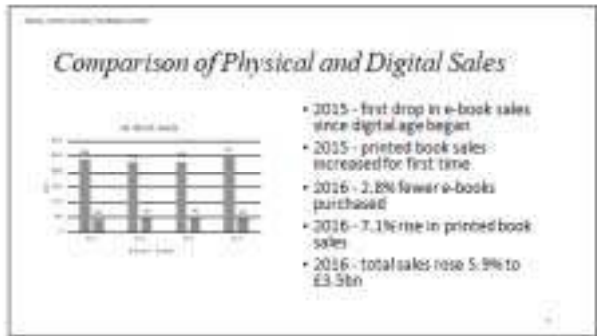
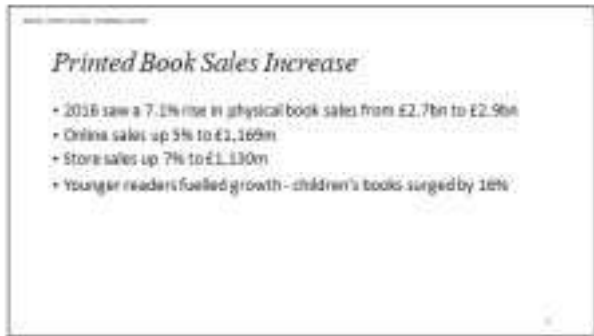
Centre number, candidate number



Result of merge – 3 full-page letters printed –  
*Bone Gap, The Baltimore Boys, The Magic Finger* only 1 mark

**Task 5 – Presentation**

6 slides imported, title and bullet layout, no changes, no blank slides, no overlap of items 1 mark  
 Slide 1 changed to title layout with title/subtitle centred middle of slide, name entered after colon 1 mark  
 Master slide used for *name, centre number, candidate number*, slide numbers appear consistently on all slides, same position and size 1 mark



Name, Centre number, Candidate number

## Comparison of Physical and Digital Sales



- 2015 - first drop in e-book sales since digital age began
- 2015 - printed book sales increased for first time
- 2016 - 2.8% fewer e-books purchased
- 2016 - 7.1% rise in printed book sales

total sales rose 5.9% to

- |   |        |
|---|--------|
| Vertical comparative bar chart created using correct data, year labels present  | 1 mark |
| Chart on correct slide, left of bullets, all data fully visible   | 1 mark |
| Chart title <b>UK BOOK SALES</b> and value axis title <b>£M</b> entered accurately  | 1 mark |
| Value data labels display on each bar and correct legend for data   | 1 mark |
| Value axis displays minimum 0, maximum 3600   | 1 mark |
| Value axis increments set at 600  | 1 mark |
| Print 6 slides to page as a handout and full page, single, landscape slide with title <i>Comparison of Physical and Digital Sales</i> | 1 mark |

**EVIDENCE DOCUMENT**

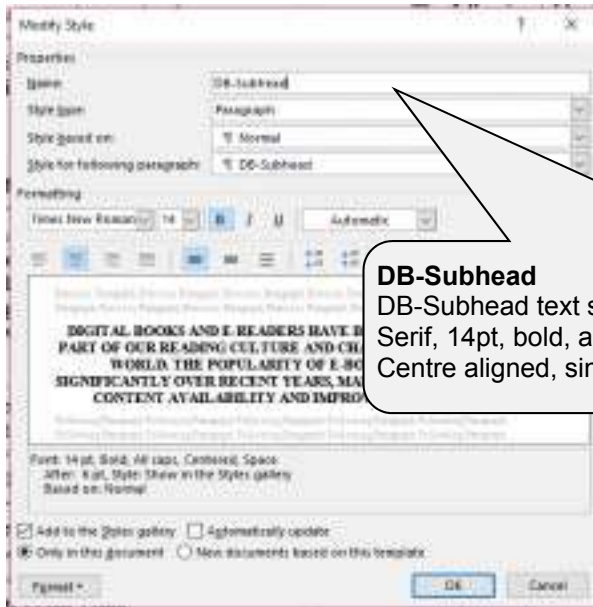
**Step 1 - EVIDENCE 1**

File saved as EBOOKS with correct file type

1 mark

EBOOKS.docx 18/08/2017 10:28 Microsoft Word Document 12 KB

**Step 3 – EVIDENCE 2**



**DB-Subhead**

DB-Subhead text style created and named correctly

1 mark

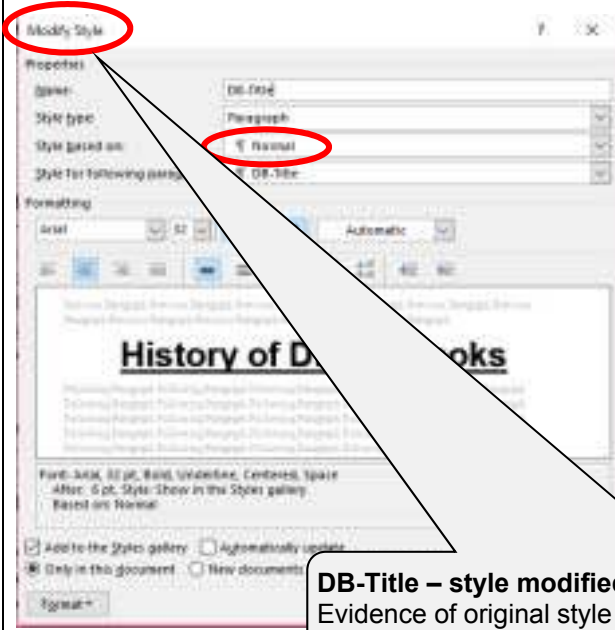
Serif, 14pt, bold, all capitals

1 mark

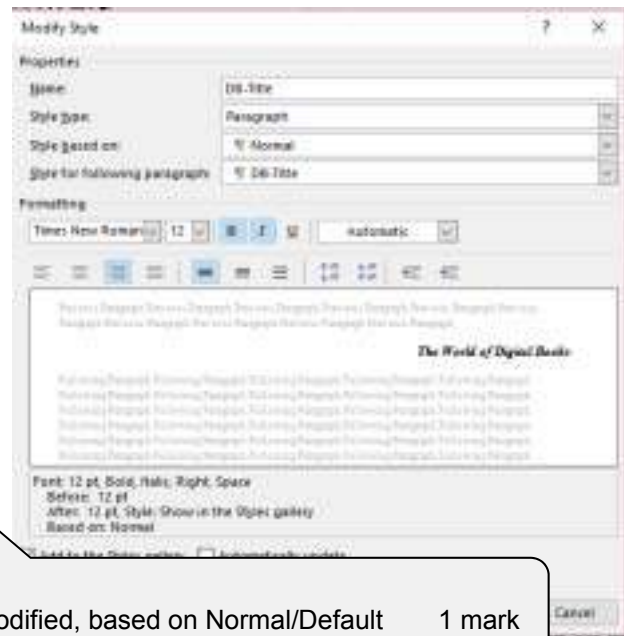
Centre aligned, single line, 0pt space before, 6pt after

1 mark

**Step 4 – EVIDENCE 3**



**Original - prior to changes:**



**DB-Title – style modified**

Evidence of original style modified, based on Normal/Default

1 mark

Step 5 – **EVIDENCE 4**



**Style list**

Includes DB-Subtitle, DB-Body, DB-Table

1 mark

Step 22 - **EVIDENCE 5** – Discuss the advantages and disadvantages to customers of buying books through internet shopping.

Advantages to customers

- Customers can buy anytime/can shop when shops are closed
- Customers can buy from any location where there is internet access
- Wider range of books available to customers
- Customer can benefit from lower/cheaper prices when compared to shop prices
- Customer does not have to waste time travelling/queuing
- Customer does not have to spend money on travelling to shops
- Easier to search and find what the customer is looking for
- Online reviews of books help the customer with making choices
- Websites may recommend books that match the customer's search history

Disadvantages to customers

- Hackers may intercept data and defraud the customer
- The customer may find it difficult/expensive to return books purchased online
- The customer must know how to use the computer/device to buy the book
- The customer must have access to a (internet) connection
- The customer cannot physically hold books
- The customer needs a payment card/online payment method/cannot pay by cash
- Goods take time to be delivered/sometimes don't arrive/may be delivered to wrong address/can be damaged in transit
- There may be shipping/extra charges

Must have at least one advantage and one disadvantage to get full marks

Allow 1 mark for a detailed reasoned conclusion

[4 marks]

Step 23 - **EVIDENCE 6**

Field Name	Data Type
Author	Short Text
Title	Short Text
Book_Ref	Short Text
Publisher	Short Text
Format_Code	Short Text
Release_Year	Number
Price	Currency
No_Items	Number
Pages	Number
Available	Yes/No

**DB Structure**

Field names as given, correct data types,  
*Book\_Ref* as primary key

1 mark

Step 24 - **EVIDENCE 7**

1-to-Many relationship between  
*Format\_Code/Type\_Code* fields

1 mark

Step 26 - **EVIDENCE 8**

Average book price	=Avg([Price])
--------------------	---------------

Database formula for calculated *Average* 1 mark

Step 28 - **EVIDENCE 9**

(a) Describe the difference between hardware and software:

Hardware refers to physical devices/components

Software is a general term for the programs that control the computer system

[2 marks]

(b) Give one example of hardware

Hardware devices such as: monitor, keyboard, mouse, printer, storage devices, processor, motherboard, random access memory (RAM), read-only memory (ROM), video card, sound card.

[1 mark]

(c) Give one example of software

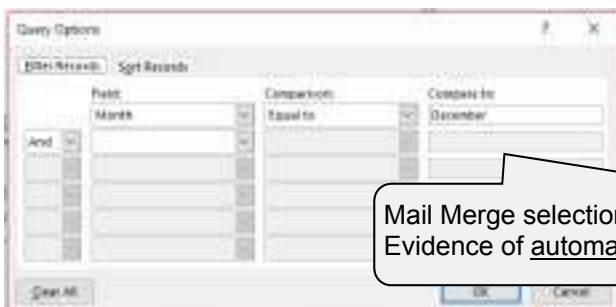
Software such as word processing, spreadsheet, database management systems/DBMS, desktop publishing, control software, measuring software, applets and apps, photo-editing software, video-editing software, graphics manipulation software, compilers, linkers, device drivers, operating systems and utilities.

[1 mark]

Step 29 - **EVIDENCE 10**

Field used to insert correct (today's) date in correct format dd-*MMM*-yy 1 mark

{ DATE \@ "dd-*MMM*-yy" \\* MERGEFORMAT }

Step 32 - **EVIDENCE 11**

Mail Merge selection  
Evidence of automated filter to select **December** 1 mark