



Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

Forename(s)

Candidate signature

GCSE

INFORMATION AND COMMUNICATION

TECHNOLOGY

Unit 1 Systems and Applications in ICT

Wednesday 18 May 2016

Morning

Time allowed: 1 hour 30minutes

Materials

- You may use a calculator.

Instructions

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **fourteen** questions in total.
- Answer **all** questions in Sections A and B. In Section C answer **either** Question 14 **or** Question 15, which should be answered in continuous prose. In this question you will be marked on your ability to use good English, organise information clearly, and to use specialist vocabulary where appropriate.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 120.



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IB/M/Jun16/E6

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Section A

Answer **all** questions in the spaces provided.

- 1 (a)** Ann has bought a new desktop computer. Ann has been told by the computer shop manager that she also needs some of the following devices.

- A** Digital projector
- B** Keyboard
- C** Microphone
- D** Mouse
- E** Printer
- F** Speakers

Give **three** of the above that are input devices.

[3 marks]

Write the letters for your answers in the boxes provided.

Answers

- 1 (b)** Which **one** of the following is **not** a type of storage media?

[1 mark]

- A** Actuator
- B** DVD-R
- C** Memory stick
- D** Portable hard disk

Write the letter for your answer in the box provided.

Answer

- 1 (c)** Describe the difference between hardware and software.

[2 marks]



1 (d) Which **one** of the following is **not** a type of applications software?

[1 mark]

- A Disk defragmentation software
- B Graphics software
- C Spreadsheet software
- D Web design software

Write the letter for your answer in the box provided.

Answer

1 (e) State what is meant by the term 'e-book'.

[1 mark]

8

Turn over for the next question



2 (a) The list below shows a range of audio/video software features. For each part of this question give the software feature that **best** matches the definition given.

- | | |
|-----------------------|--------------------|
| A Aspect ratio | F Rendering |
| B Backward | G Start |
| C Forward | H Subtitles |
| D Mute | I Zoom |
| E Playlist | |

Choose your answers from the **list given above**. Write the letter for your answer in the box provided.

2 (a) (i) A feature that translates or transcribes the dialogue and displays captions at the bottom of a screen.

[1 mark]

Answer

2 (a) (ii) A feature that contains music or videos selected by a user to be played in a particular order.

[1 mark]

Answer

2 (a) (iii) A feature that stops any sound from being heard.

[1 mark]

Answer

2 (b) (i) Give **one** advantage of downloading music compared to streaming music.

[1 mark]

2 (b) (ii) Give **two** disadvantages of downloading music compared to streaming music.

[2 marks]

Disadvantage 1 _____

Disadvantage 2 _____



Turn over for the next question

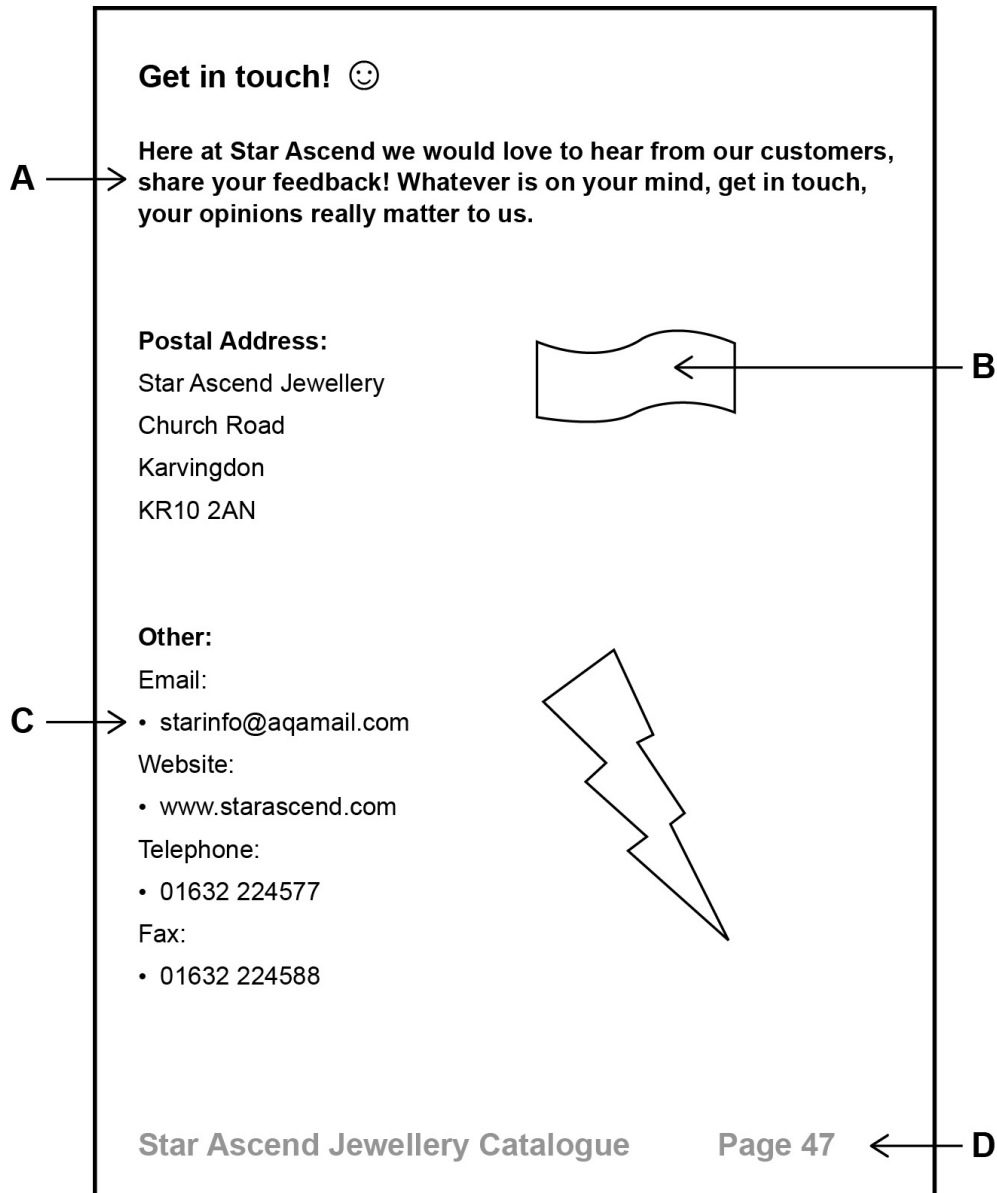
**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



Turn over ►

- 3 Star Ascend is a company that sells jewellery. Star Ascend uses desktop publishing software to produce a catalogue for customers. **Figure 1** shows the final page of the printed catalogue.

Figure 1



- 3 (a) Tick **one** box to show which of the following **best** describes the feature applied to the section of the catalogue page labelled **A** in **Figure 1**.

[1 mark]

	Tick one box only
Bold and left justification	
Bold and right justification	
Bold and centre	
Underline and columns	



- 3 (b)** Tick **one** box to show which of the following **best** describes the feature applied to the section of the catalogue page labelled **B** in **Figure 1**.

[1 mark]

	Tick one box only
Autoshape	
Font size	
Italics	
Shading	

- 3 (c)** Tick **one** box to show which of the following **best** describes the feature applied to the section of the catalogue page labelled **C** in **Figure 1**.

[1 mark]

	Tick one box only
Bullets	
Sub numbering	
Ungrouping	
Word count	

- 3 (d)** Tick **one** box to show which of the following **best** describes the feature applied to the section of the catalogue page labelled **D** in **Figure 1**.

[1 mark]

	Tick one box only
Drag and drop	
Footer	
Sub heading	
Tabs	

- 3 (e)** Describe the difference between word processing and desktop publishing software.

[2 marks]



- 4 The Eastmond Cricket Club secretary uses a data capture form to collect information from members. Some of the field names are missing from the incomplete design shown below.

Eastmond Cricket Club	
Last name
First name
Address 1
Address 2
(i)	<u>E</u> <u>A</u> _ _ _ _
(ii)	(<u>0</u> <u>1</u> <u>6</u> <u>3</u> <u>2</u>) _ _ _ _
(iii)	_ _ / _ _ / _ _

- 4 (a) Give the most suitable field **names** for each of the three fields below.

[3 marks]

Field (i) _____

Field (ii) _____

Field (iii) _____

- 4 (b) Name **two** types of data collection/capture methods, other than a data capture form.

[2 marks]

Method 1 _____

Method 2 _____

- 4 (c) The Eastmond Cricket Club secretary enters the data from a data capture form into a database of members. He uses this database to produce reports which are sent to members. Give **one** advantage of producing reports in this way.

[1 mark]



- 5 A group of Year 11 students are planning to give a presentation to Year 7 students as part of a project on Internet safety. One of their slides is shown below.

The Golden Rules of Internet Safety

- Don't meet up with strangers you have chatted with online
- Don't use your real name
- Don't tell people which school you go to
- Use strong passwords for your social networking accounts
- Don't make inappropriate comments

- 5 (a) Give **three** features that could be included on the slide to improve the presentation for Year 7 students.

[3 marks]

Feature 1 _____

Feature 2 _____

Feature 3 _____

- 5 (b) The Year 11 students are keen to make sure the Year 7 presentation is fit for purpose. Describe what is meant by the term 'fit for purpose'.

[2 marks]



6 A team of office employees are working together on a project but are using different ICT tools.

6 (a) (i) Tick **two** boxes that **best** show the limitations of using copy and paste to transfer information between software.

[2 marks]

	Tick two boxes only
A computer virus may be shared with other users	
Features such as video may not be transferred	
The printer may be offline	
Text formatting features may be lost	
A web browser might not be available	

6 (a) (ii) Describe what is meant by importing files.

[1 mark]

6 (a) (iii) Describe what is meant by exporting files.

[1 mark]

6 (b) Which type of information is **best** associated with the file type of 'jpg'?

[1 mark]

6 (c) The office has a fast Internet connection for transferring information. However employees sometimes complain that the Internet is running slowly. Give **two** reasons why this could be the case.

[2 marks]

Reason 1 _____

Reason 2 _____

7



7 When software is created by a developer it is protected by copyright law. Software licences are also used to set conditions for the use of the software.

The list below shows a range of software licence types. For each part of this question, give the software licence type that **best** matches the definition provided.

- A** Multi-user
- B** Shareware
- C** Single-user
- D** Site

Choose your answers from the **list given above**.

Write the letter for your answer in the box given.

7 (a) (i) Where any number of computers at a particular location may use the software.

[1 mark]

Answer

7 (a) (ii) Allows the software to be installed without charge for a short period of time. If the user wants to keep the software beyond that time a fee must be paid.

[1 mark]

Answer

7 (b) Describe what is meant by copyright.

[2 marks]

7 (c) Internet Service Providers (ISPs) have been asked by businesses and software authors to help prevent illegal downloading. Give **two** methods ISPs can use to prevent illegal downloading and file sharing.

[2 marks]

Method 1 _____

Method 2 _____



7 (d)

Online programs can be used in education to check for plagiarism in work completed by students. Give **two** methods students can use to avoid committing plagiarism when completing essays and other assignments.

[2 marks]

Method 1 _____

Method 2 _____

8



8 To ensure a computer system runs efficiently, the computer's memory needs to be carefully managed.

8 (a) From the following list of units of memory, name the smallest and largest in terms of size.

Gigabyte (Gb), Byte (B), Kilobyte (Kb), Terabyte (Tb), Megabyte (Mb)

[2 marks]

Smallest unit of memory _____

Largest unit of memory _____

8 (b) 'Printer buffers' are a common use of computer memory. Describe the functions of a printer buffer.

[2 marks]

8 (c) (i) Describe the features or uses of RAM in a computer system.

[2 marks]

8 (c) (ii) Describe the features or uses of ROM in a computer system.

[2 marks]

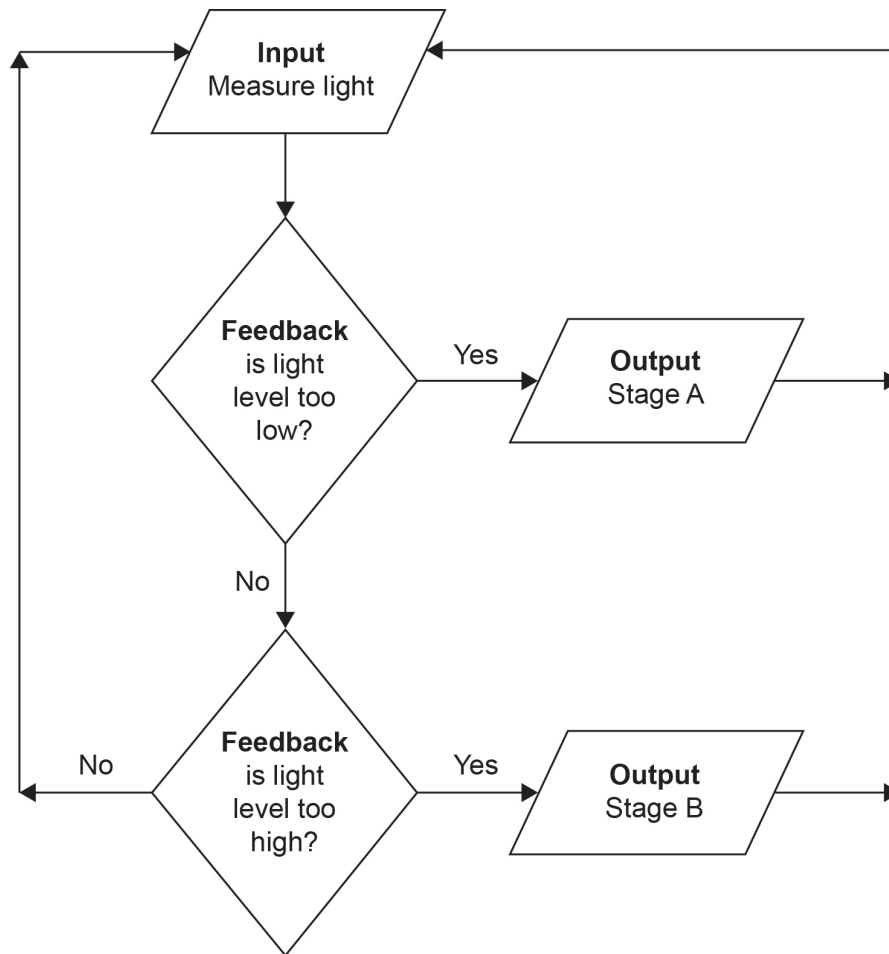
8



9

Citra is a company that grows fruit in large greenhouses. Each greenhouse uses a control-feedback loop system. A simplified version of this system is shown in **Figure 2**.

Figure 2



9 (a)

What is the purpose of the control-feedback loop system in **Figure 2**?

[1 mark]



- 9 (b)** Tick **one** box that shows the **best** definition of the term 'feedback' used in control-feedback loop systems.

[1 mark]

	Tick one box only
The use of joysticks to capture input to the controlling program	
The use of printers to generate output from the controlling program	
The use of sensors to capture input to the controlling program	
The use of sensors to generate output from the controlling program	

- 9 (c)** **Output** Stage A and **Output** Stage B are shown in **Figure 2**.

- 9 (c) (i)** Name **one** action that could be taken in **Output** Stage A.

[1 mark]

- 9 (c) (ii)** Name **one** action that could be taken in **Output** Stage B.

[1 mark]

- 9 (d) (i)** Give **two** advantages of using control-feedback loop systems compared with manual monitoring systems.

[2 marks]

Advantage 1 _____

Advantage 2 _____

- 9 (d) (ii)** Give **one** disadvantage of using control-feedback loop systems compared with manual monitoring systems.

[1 mark]



10 ICT continues to have a big impact within communities and the workplace.

10 (a) (i) To handle goods in a warehouse, an online retail business is switching to using computer-controlled robots instead of using human workers. Describe how this would affect the local community.

[2 marks]

10 (a) (ii) Give **two** advantages to a business of using robots instead of human workers.

[2 marks]

Advantage 1 _____

Advantage 2 _____

10 (b) Describe what is meant by the term 'hot desking' in organisations.

[2 marks]

10 (c) (i) Tick **one** box that shows the **best** definition of the term 'teleworking' in organisations.

[1 mark]

	Tick one box only
Allowing people to work at home while still being able to contact the office easily	
Allowing people to work at home without being able to contact the office easily	
Allowing people to work at the office while still being able to contact home easily	
Allowing people to work at the office without being able to contact home easily	



10 (c) (ii) Give **one** advantage of teleworking to a business.

[1 mark]

10 (c) (iii) Give **one** disadvantage of teleworking to a business.

[1 mark]

10 (c) (iv) Give **one** advantage of teleworking to an employee.

[1 mark]

10 (c) (v) Give **one** disadvantage of teleworking to an employee.

[1 mark]

11

Turn over for Section B



Section B

Answer **all** questions in the spaces provided.

11 Arkpool District Council is looking to reduce the harmful effects on the environment of using ICT in local authority offices.

11 (a) Give **two** pieces of advice Arkpool District Council could follow to reduce the amount of electricity used in offices containing computer equipment.

[2 marks]

Advice 1 _____

Advice 2 _____

11 (b) Give **two** pieces of advice Arkpool District Council could follow to reduce waste and energy use when printing documents.

[2 marks]

Advice 1 _____

Advice 2 _____



- 11 (c)** Arkpool District Council is planning to introduce smart waste bins. Residents' bins will use sensors to detect when the bins are full. Tick **two** boxes to show the most likely advantages of using smart waste bins in this way.

[2 marks]

	Tick two boxes only
Fewer bin lorries will be needed	
Less fuel will be used by bin lorries	
Less waste will be recycled	
More waste collecting staff will be needed	
Waste bins containing very little waste will be emptied	

- 11 (d)** Arkpool District Council has installed smart meters for monitoring electricity and gas usage in council housing. Tick **one** box to show the most likely advantage of using smart meters in this way.

[1 mark]

	Tick one box only
All bills will be paid on time	
Heating can be left on longer	
There will be fewer power cuts	
Usage can be viewed online	

Question 11 continues on the next page



11 (e)

Staff at Arkpool District Council use the Internet to carry out research. Describe the ways in which staff could evaluate whether any information gathered is reliable.

[5 marks]

12



12

PlasticStyle is a global online shopping website selling clothing for children aged 3–16 years. PlasticStyle staff use database software to manage stock sold through the online catalogue. **Figure 3** is an example of an input form used by PlasticStyle.

Figure 3

PlasticStyle Products	
Item Code	101
Colour	Tan
Item Name	Chinos
Size	16
Price	£ 10.00
Number in Stock	38

Record: 1 of 10 No Filter Search

12 (a)

One common feature of database software is a 'switchboard'. Explain what is meant by the database term 'switchboard'.

[2 marks]

12 (b)

Give **two** advantages to PlasticStyle staff of using input forms to enter and edit data, rather than entering data directly into a database table.

[2 marks]

Advantage 1 _____

Advantage 2 _____



- 12 (c) (i)** Give **two** advantages to PlasticStyle staff of using a mail merging process to output invoices for customers.

[2 marks]

Advantage 1 _____

Advantage 2 _____

- 12 (c) (ii)** Tick **one** box to show a disadvantage to PlasticStyle staff of using a mail merging process to output invoices for customers.

[1 mark]

	Tick one box only
Customer must own credit card	
Internet must be available	
May seem impersonal	
Products bought by customers must be expensive	



12 (d)

The growth in the use of ICT has made business globalisation possible. Describe the advantages to society from the development of globalised business activity.

[5 marks]

12

Turn over for the next question



Turn over ►

- 13 Students at a school are carrying out a project on the use of mobile computing. The students are using linked worksheets within a spreadsheet to record which use is the most common.

Figure 4 shows the overall use by six anonymous students.

Figure 4

	A	B	C	D	E	F	G
1	Use of Mobile Computing	Time Spent (%)					
2		Student A	Student B	Student C	Student D	Student E	Student F
3	Social Networking	26	37	20	22	15	41
4	Communication	23	14	16	13	17	12
5	Productivity	17	7	6	10	4	8
6	Games	11	21	30	18	43	6
7	Entertainment	11	14	15	21	10	16
8	Shopping	6	7	3	5	7	14
9	News	6	0	10	11	4	3
10							

- 13 (a) (i) In Figure 4, give the cell range of the time spent by Student B on the use of mobile computing.

[1 mark]

Figure 5 shows Student B's worksheet linked to the Overall sheet.

Figure 5

	A	B	C	D	E	F
1	Total Mobile Computing Hours					
2		7				
3						
4		Hours	Percentage %			
5	Social Networking	2.6	37			
6	Communication	1	14			
7	Productivity	0.5	7			
8	Games	1.5	21			
9	Entertainment	1	14			
10	Shopping	0.5	7			
11	News	0	0			
12						



- 13 (a) (ii)** Tick **one** box to show the formula that has been used in cell C3 in **Figure 4** to link the Social Networking percentage time for Student B shown in **Figure 5**.

[1 mark]

	Tick one box only
=Student B!C4	
=Student B!C5	
=Student B!D5	
=Student C!C5	

- 13 (b)** Describe what the term 'automatic recalculation' means when using spreadsheets.

[2 marks]

- 13 (c)** Give **one** advantage of linking worksheets together in a spreadsheet.

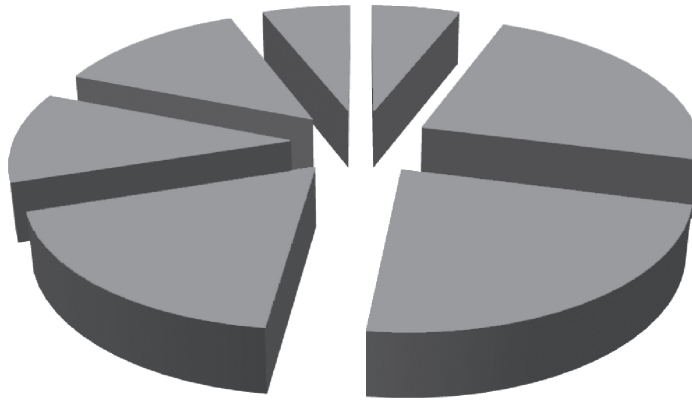
[1 mark]

Question 13 continues on the next page



- 13 (d) **Figure 6** shows a breakdown of the uses of mobile computing.

Figure 6



- 13 (d) (i) Name the type of chart shown in **Figure 6**.

[1 mark]

- 13 (d) (ii) Give **one** feature that could be used to improve the understanding of the information displayed in the chart shown in **Figure 6**.

[1 mark]



13 (e)

Describe the advantages to a user of creating their own personal website rather than using websites within social networking accounts.

[5 marks]

12

Turn over for Section C



Section C

You should answer **either** Question 14 **or** Question 15, but **not** both.

You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.

Either

- 14** Discuss the advantages and disadvantages to a business of using automated stock control.

[12 marks]

This space is available for planning your answer, if you wish to use it.



Lined writing area with 25 horizontal lines.



Lined writing area with 25 horizontal lines.

12



Turn over ►

Or

15 Discuss how potential health problems, related to prolonged use of ICT in the workplace, can be minimised.

[12 marks]

This space is available for planning your answer, if you wish to use it.



There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED**

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