

Centre Number						Candidate Number				
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For Examiner's Use	
Examiner's Initials	
Question	Mark
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TOTAL	



General Certificate of Secondary Education
June 2014

Information and Communication Technology (Full Course)

45201

Unit 1 Systems and Applications in ICT

Wednesday 14 May 2014 9.00 am to 10.30 am

You will need no other materials.
You may use a calculator.

Time allowed

- 1 hour 30 minutes

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
 - 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.



J U N 1 4 4 5 2 0 1 0 1

Section A

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

1 For each part, write the letter or letters for your answers in the boxes given.

1 (a) Which **two** of the following are common input devices used with home computers?

- A** Digital projector
- B** Joystick
- C** Keyboard
- D** Plotter
- E** Solid state disk

[2 marks]

Answers

1 (b) Which **one** of the following is an input device that is usually used to scan details of items being purchased at the checkout tills in supermarkets?

- A** Bar-code reader
- B** MIDI instrument
- C** OCR reader
- D** RFID reader

[1 mark]

Answer

1 (c) Which **one** of the following is a common output device used with business computers to produce hard copies?

- A** Graphics tablet
- B** Interactive whiteboard
- C** Laser printer
- D** Monitor

[1 mark]

Answer



1 (d) Which **one** of the following is a common output device used with VoIP/Internet telephone systems such as Skype to communicate with friends and family?

- A** GPS
- B** Speakers
- C** Web cam
- D** Wireless card

[1 mark]

Answer

1 (e) Which **one** of the following is a common backing storage medium used with home computers to store backup data?

- A** Dongle
- B** Trackball
- C** USB memory stick
- D** Video card

[1 mark]

Answer

1 (f) Which **one** of the following is a non-volatile type of computer memory?

- A** PIN
- B** ROM
- C** RAM
- D** WAP

[1 mark]

Answer

1 (g) Which **one** of the following is a mobile digital device?

- A** Desktop computer
- B** File server
- C** Netbook
- D** URL

[1 mark]

Answer

Turn over ►



1 (h) Which **one** of the following is the main internal component of a computer where most calculations take place?

- A Actuator
- B Central Processing Unit
- C Internal memory
- D Operating system

[1 mark]

Answer

9

2 The FonezStorz is a shop selling mobile phones. The manager has decided to create a flyer using Desktop Publishing software. The flyer will be given out to customers when they come into the shop. The first attempt is shown below.

The FonezStorz
 Want a knew phone but have no money to buy one?
 Want a modern, fast 4G smartphone?
 Want a flexible, low monthly contract with a national company?
 Want you knew phone quickly?
 Then either,
 talk to one of our instore sales team
 phone us on 0798989898
 visit our website www.FonezStoze.co.uk

2 (a) Tick **two** boxes to show which features of Desktop Publishing software would be the best to use to improve the **layout** of the flyer.

[2 marks]

	Tick two boxes only
Bullets	
Coloured text	
Line spacing	
Print screen	
Search and replace	



2 (b) Without using any of the options given in the table in part (a) give **two** features of Desktop Publishing software that could be used to improve the **presentation** of the flyer and make it fit for purpose.

[2 marks]

Feature 1

Feature 2

2 (c) At present the flyer contains some errors. Give **two** ways the manager could check the accuracy of the flyer and help reduce mistakes.

[2 marks]

Way 1.....

Way 2.....

6

Turn over for the next question

Turn over ▶



3 Alan Johnson is a student who has recently bought a new computer and several software packages.

3 (a) (i) Alan needs a suitable password to use with some documents and when accessing some web sites.

Tick **one** box to show which of the following passwords would be the most secure.

[1 mark]

	Tick one box only
Aj1996	
Alanjohnson	
JoHnSoN123	
Qz6&iP23M?jn49	
1996AIAAn	

3 (a) (ii) Give **one** reason why the password you have chosen would be the most secure.

[1 mark]

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3 (b) (i) Alan uses emails but is worried about the number of junk emails and phishing emails he receives. State what is meant by junk emails.

[1 mark]

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3 (b) (ii) Give **one** reason why people send phishing emails.

[1 mark]

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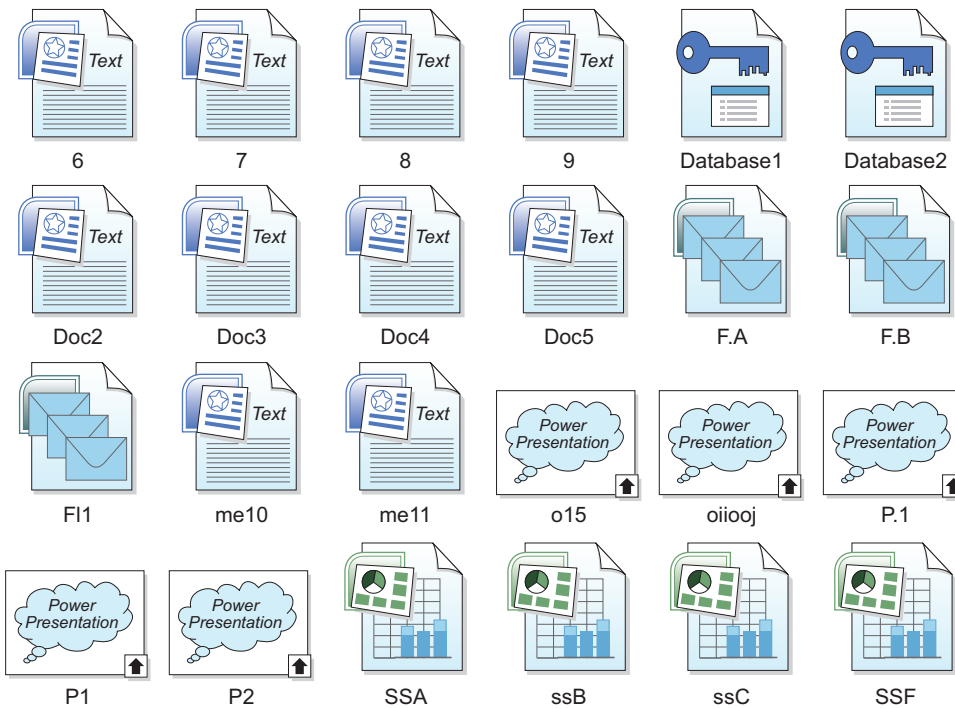
- 3 (c) After only a few weeks, the hard disk on Alan’s new computer has become quite full. Tick **one** box to show which of the following is most likely to have the largest file size when stored on his computer.

[1 mark]

	Tick one box only
Details of the top twenty albums downloaded from the Internet	
Films downloaded from the Internet	
A database of the music he has downloaded from the Internet	
His word processed essays and assignments for college	

- 3 (d) Alan is finding it increasingly difficult to find files (see screenshot below). Give **two** pieces of advice to help him organise his files.

[2 marks]



Advice 1

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Advice 2

.....

7

Turn over ▶



4 For each of the following, choose the letter from **A**, **B**, **C** or **D** which **best** matches the description of the given source of information.

4 (a) (i) **Description**

Distribution of multimedia files over the Internet for playback on a mobile device or a personal computer.

- A DVD-ROM
- B Online database
- C Podcast
- D Social networking

[1 mark]

Answer

4 (a) (ii) **Description**

A website that displays, in date order, the postings by one or more individuals and usually has links to comments on specific postings.

- A E-book
- B Online newspaper
- C SMS (text messaging)
- D Web log (Blog)

[1 mark]

Answer

4 (a) (iii) **Description**

A website which allows users to add, modify, or delete its contents.

- A Bulletin board
- B Forum
- C Instant messaging
- D Wiki

[1 mark]

Answer



4 (b) Describe what is meant by an Internet search engine.

[2 marks]

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.....

4 (c) Give **two** reasons why information found on the Internet may not be reliable.

[2 marks]

Reason 1

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Reason 2

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7

Turn over for the next question

Turn over ▶



5 For each of the following, choose the letter from **A, B, C** or **D** which **best** matches the description given.

5 (a) Description

A worldwide network such as the Internet.

- A** ISP
- B** LAN
- C** WAN
- D** WAP

[1 mark]

Answer

5 (b) Description

The stage of the systems life cycle where the plans for the construction and testing of a new system are created.

- A** Analysis
- B** Design
- C** Feasibility study
- D** Testing

[1 mark]

Answer

5 (c) Description

An integrated circuit where the components of the central processing unit, excluding the main memory, are combined as a single unit.

- A** Flash memory
- B** Hardware
- C** Kilobytes
- D** Microprocessor

[1 mark]

Answer



5 (d)**Description**

Inserting fields from a data file into a standard letter to produce personalised letters.

- A** Database query
- B** Data capture form
- C** Data verification
- D** Mail merging

[1 mark]

Answer

5 (e)**Description**

The collection and storage of data at regular, fixed intervals over a period of time.

- A** Data collection
- B** Data logging
- C** Logging interval
- D** Period of logging

[1 mark]

Answer

5

Turn over for the next question**Turn over ▶**

6 Some hospitals are changing the way that patients' appointments with a specialist doctor are arranged. Previously, staff at the hospital would choose the time and date of the appointment and post these details to the patient. Now, using their home computer and an Internet connection, patients are able to book the date and time of their own appointment.

6 (a) (i) Give **two** possible advantages for patients, who wish to use this method, of booking the time and date of their own appointments.

[2 marks]

Advantage 1.....

.....

Advantage 2.....

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6 (a) (ii) Give **one** possible disadvantage for patients, who wish to use this method, of booking the time and date of their own appointments.

[1 mark]

.....

.....

6 (b) A GUI [Graphical User Interface] is used to make booking appointments as easy as possible.

Give **three** features of a GUI.

[3 marks]

Feature 1

Feature 2

Feature 3

6



7 People use a wide range of communication devices and media to communicate with each other.

7 (a) Outline the **use** of the following communication devices.

[2 marks]

Sat Nav

Online bulletin boards

7 (b) Emails are another way in which people communicate with each other. Explain the difference between 'cc' and 'bcc' which are common features of emails.

[2 marks]

.....

7 (c) (i) Social networking sites have become an important way for people to communicate with each other. Describe what is meant by a social networking site.

[3 marks]

.....

7 (c) (ii) Give **two** possible disadvantages of using social networking sites to communicate with other people.

[2 marks]

Disadvantage 1

Disadvantage 2

9

Turn over ▶



8 Autoz4U2 is a nationwide company that sells cars. The staff at Autoz4U2 are affected by several legal issues.

8 (a) (i) Tick **one** box to show which of the following is a responsibility placed on Autoz4U2 staff as data users by the Data Protection Act.

[1 mark]

	Tick one box only
Data must be kept secure	
Data must never be changed under any circumstances	
Data must never be transferred outside of the UK	
Pictures must never be copied from the Internet	

8 (a) (ii) Give **two** other responsibilities placed on Autoz4U2 staff as data users by the Data Protection Act.

[2 marks]

Responsibility 1.....
.....
Responsibility 2.....
.....

8 (b) (i) Tick **one** box to show which of the following was introduced as part of the Computer Misuse Act.

[1 mark]

	Tick one box only
Breaking copyright was made illegal	
Hacking was made illegal	
Social network sites were made legal	
Spreading viruses was made legal	



8 (b) (ii) Give **one** punishment that could be given for breaking the Computer Misuse Act.

[1 mark]

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8 (b) (iii) Explain what is meant by a computer virus.

[2 marks]

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8 (c) The security of computer systems is very important.

Give **one** reason why employees need to log on before they can gain access to the Autoz4U2 computer network.

[1 mark]

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8 (d) Give **two physical** methods that could be used to prevent unauthorised access to the Autoz4U2 computer system.

[2 marks]

Method 1.....

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Method 2.....

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10

Turn over for the next question

Turn over ▶



9 Many schools use web design software to create their own websites, rather than hiring a company to produce the website for them.

9 (a) Give **one** advantage to a school of creating their own website. **[1 mark]**

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9 (b) Tick **one** box to show which of the following you would **not** expect to be a standard feature of web design software. **[1 mark]**

	Tick one box only
Hotspot	
Master page	
Playlist	
RSS feed	

9 (c) Describe briefly why the following features of a website might be used.

9 (c) (i) Counters

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[1 mark]

9 (c) (ii) Hyperlinks

.....

[1 mark]

9 (c) (iii) Marquees

.....

[1 mark]

5



10 Today most companies use a range of applications software.

10 (a) What is meant by the term *applications software*?

[1 mark]

.....

10 (b) (i) Companies can use hosted applications or locally installed applications.
 What is meant by the term *hosted application*?

[2 marks]

.....

10 (b) (ii) Give **one** advantage and **one** disadvantage of using hosted applications compared with locally installed applications.

[2 marks]

Advantage.....

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Disadvantage.....

.....

10 (c) (i) Tick **two** boxes to show which of the following are **advantages** to companies of using **open source** software compared with using proprietary software.

[2 marks]

	Tick two boxes only
It is always produced by one reliable company	
It is more likely to be free or purchased at a low cost	
It is more reliable as updates are never produced	
It is more secure as users cannot access the source code	
Users have the ability to access the source code and modify it	

Turn over ►



10 (c) (ii) Give **one** disadvantage to companies of using open source software compared to using proprietary software.

[1 mark]

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8



Section B

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

- 11** Eastmond School uses a spreadsheet to help calculate the number of reward points collected by the students in different year groups.

	A	B	C	D	E	F	G
1	Reward Points						
2		Reward	Year 7	Year 8	Year 9	Year 10	Year 11
3		Attendance	67	59	68	86	44
4		Behaviour	43	54	77	46	65
5		Uniform	31	12	34	43	27
6		Punctuality	85	63	37	38	41
7	Sub Total		226	188	216	213	177
8	(If over 75 for attendance add 25 bonus points)		0	0	0	25	0
9	Final total		226	188	216	238	177

- 11 (a)** What data type has been used in cell D7?

[1 mark]

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- 11 (b) (i)** The data in cell C2 has been centre aligned. Tick **one** box to show the alignment of the data in A8.

[1 mark]

	Tick one box only
Orientation	<input type="checkbox"/>
Right	<input type="checkbox"/>
Wrap	<input type="checkbox"/>
Justified	<input type="checkbox"/>

Turn over ▶



11 (b) (ii) Give **one** feature, other than alignment, that has been used to improve the appearance of the spreadsheet.

[1 mark]

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11 (c) (i) Tick **one** box to show which formula has been used in the cell C7 to give the correct total.

[1 mark]

	Tick one box only
=SUM(C3:C9)	<input type="checkbox"/>
=SUM(C3-C9)	<input type="checkbox"/>
=SUM(C3+C6)	<input type="checkbox"/>
=SUM(C3:C6)	<input type="checkbox"/>

11 (c) (ii) Tick **one** box to show which formula has been used in the cell C8.

[1 mark]

	Tick one box only
=IF(C3>75,25,0)	<input type="checkbox"/>
=IF(C3<75,25,0)	<input type="checkbox"/>
=IF(C3>75,0,25)	<input type="checkbox"/>
=IF(C3>75,0,0)	<input type="checkbox"/>

11 (c) (iii) Explain why the IF function has been used in this cell.

[2 marks]

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11 (d) The school is thinking about possible backing/secondary storage for important data. Discuss the advantages and disadvantages of devices and media that could be used to safely back up data.

[5 marks]

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Turn over for the next question

Turn over ▶



- 12** e2meBooks is an online company selling e-books. A data table is used to store information about the e-books for sale. Part of the data table is shown below.

E-book ID	Category	Author First Name	Author Second Name	Price	Book Title	Date Published
EB102261	Children	Ben	Chan	£1.99	Amazing Danger Squid	03/04/2012
EB202538	Fiction	Tom	Webb	£6.99	Dreamtime Forever	06/08/2010
EB305874	Humour	Donal	Kleypas	£1.49	Watch This Catastrophe	11/01/2011
EB519538	Science Fiction	Shelley	Robinson	£4.49	Werewolves of Olympus Mons	05/10/2011
EB655199	Crime	Armin	Rieff	£1.99	Moonlight Conspiracy: Book One	23/05/2012
EB673512	Horror	Coco	Simmons	£4.49	Graveyard Walls	12/11/2011
EB703111	Fiction	Miranda	Meyers	£4.99	Below The Beneath	09/04/2010
EB835010	Children	Daisy	Scott	£0.99	Soup City Radio	19/09/2012
EB900038	History	Ana	Kosminen	£1.99	The Military Campaigns of Genghis Khan	26/07/2010

- 12 (a) (i)** How many fields are shown in this part of the data table?

[1 mark]

- 12 (a) (ii)** How many records are shown in this part of the data table?

[1 mark]



12 (b) A search produces the following output:

EB102261	Ben	Chan	£1.99	Amazing Danger Squid
EB835010	Daisy	Scott	£0.99	Soup City Radio

What criterion for the search was used in the Category field?

[1 mark]

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12 (c) (i) Data validation is used by e2meBooks to make sure the data in the data table is reasonable.

Tick **two** boxes which show common methods of data validation.

[2 marks]

	Tick two boxes only
Range check	<input type="checkbox"/>
Heading check	<input type="checkbox"/>
Sort check	<input type="checkbox"/>
Report check	<input type="checkbox"/>
Presence check	<input type="checkbox"/>

12 (c) (ii) Describe the problems for e2meBooks or a customer that could result from having inaccurate data in the Price field.

[2 marks]

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Question 12 continues on the next page

Turn over ▶



12 (d) e2meBooks uses a database with three data tables to store information. These tables are titled E-books, Downloads and Customers. The three data tables are linked together. Describe the advantages of linking data tables together.

[5 marks]

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13 Many people today have wireless networks in their homes. WiFi is a common method of wireless communication.

13 (a) Tick **two** boxes to show which devices are most likely to use WiFi technology.

[2 marks]

	Tick two boxes only
Tablet	
USB flash drive	
Microwave oven	
Computer monitor	
Laptop	

13 (b) Explain what is meant by a WiFi hotspot.

[2 marks]

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13 (c) Apart from WiFi, give another type of wireless network connection.

[1 mark]

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13 (d) Tick **two** boxes to show the advantages of WiFi technology in the home.

[2 marks]

	Tick two boxes only
No risk of a hacker stealing data from the system	
Access the Internet from any room within range	
Download speeds are always fast	
No need to have wires running round the house	
Connection between devices will never be lost	

Turn over ▶



13 (e) WiFi is an example of how technology has changed the way people communicate in the home. Describe how people use a range of entertainment systems and technologies that are now also available in the home.

[5 marks]

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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.

14 Many companies use video conferencing to work collaboratively on projects.
Discuss the advantages and disadvantages of this approach.

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

[12 marks]

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Turn over ▶



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A large rectangular box containing 28 horizontal dotted lines for writing.

12

Turn over ▶



15 Discuss and compare the advantages and disadvantages of a range of different ICT data collection methods.

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

[12 marks]

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Turn over ▶



Area with horizontal dotted lines for writing.

12

END OF QUESTIONS

