Cambridge International AS & A Level

**Cambridge International Examinations**
Cambridge International Advanced Subsidiary and Advanced Level

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**APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY** **9713/13**

Paper 1 **May/June 2017**

**1 hour 15 minutes**

Candidates answer on the Question Paper.

No Additional Materials are required.

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
Do not use staples, paper clips, glue or correction fluid.
You may use an HB pencil for any diagrams, graphs or rough working.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

The businesses described in this paper are entirely fictitious.

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


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**Scenario 1**

**Questions 1, 2 and 3**

International Computers Lesotho is a rapidly expanding computer manufacturer based in Africa. They are currently considering the various ways ICT could be used to advertise their latest computer.

Jacob is the manager of the advertising department. Jacob has agreed to let his employees work compressed hours.

**1** Tick the **four** most accurate statements about the use of ICT in advertising.

| | ✓ |
|---|---|
| Customers have to have a computer and be connected to the internet to view posters on billboards. | |
| A website can be expensive to maintain compared to other methods. | |
| Posters/presentations can only be seen in a limited number of places. | |
| Posters cannot be defaced as easily as presentations in shopping malls. | |
| Hard copy flyers are interactive. | |
| Printed posters have multimedia features. | |
| Websites and presentations are easier to update as you do not have to reprint many copies. | |
| A much wider area or potential customer base is covered cheaply by using flyers. | |
| Emailed advertisements may be mistaken for spam. | |
| It is difficult to send the same message to many people at the same time if using email. | |

[4]

**2** Tick the **four** most accurate statements about a company using someone else's website to advertise their products.

| | ✓ |
|---|---|
| It is cheaper than employing a programmer to create and maintain it. | |
| Pop-ups may create unhappy customers who may avoid that company in future. | |
| Customers will use pop-up blocking software which does not allow pop-unders to appear. | |
| A pop-up does not appear to users until they close the page they are working on. | |
| The company's own website has a longer delay in updating or improving the advertising material. | |
| The customer regards pop-unders as less of an inconvenience than pop-ups. | |
| There is no way of linking pop-ups and pop-unders to the company's own website. | |
| The company has more control over the host's website than it would over its own. | |
| There may be so many other companies advertising on the host's website that the company's advertising has less space available. | |
| Fewer people may see it if it's on someone else's website. | |

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**3** **(a)** Describe what is meant by working compressed hours.

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**(b)** Discuss the benefits and drawbacks to the company and its workers of working compressed hours.

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**Scenario 2**

**Questions 4, 5 and 6**

Maharashtra Fashions is a very large mail order catalogue company which sells a variety of clothes. They have recently changed to using the internet as their only method of selling goods.

In order to help their customers with any technical problems, Maharashtra Fashions is going to set up a call centre.

Davindra, a member of the ICT department, has been asked to create a simple spreadsheet. This will convert the customer's waist size from cm to the garment size Small, Medium or Large. A waist size that is less than 75 cm will cause "Small" to be displayed. A waist size between 75 cm and 95 cm will cause "Medium" to be displayed. A waist size greater than 95 cm will cause "Large" to be displayed.

**4** **(a)** Apart from security issues, discuss the advantages and disadvantages to the **customer** of using online shopping.

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**(b)** Apart from security issues, discuss the advantages and disadvantages to the **company** of online shopping.

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**5** **(a)** Apart from Computer Telephony Integration (CTI) software, describe **three** different types of software, including their use, which each telephony operator at the call centre may need to help them with their work.

Type 1: .....

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Type 2: .....

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Type 3: .....

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**(b)** Describe the differences between the **two** types of call control used with CTI software.

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**6** **(a)** Below is part of the spreadsheet Davindra has created:

| | A | B | C | D |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | Waist size | | Garment size |
| 4 | | | | |
| 5 | | | | |
| 6 | Raymond Barrington | 74 | | Small |
| 7 | Paula Wilkinson | 77 | | Medium |
| 8 | Gustav Larson | 98 | | Large |
| 9 | | | | |

Complete the following formula which should go in cell D6 such that it can be replicated easily.

=IF(B6<75, .....

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Here is a space for you to use for any working out you need.

**(b)** Davindra wishes to develop her spreadsheet so that waist sizes with decimal values can be entered. These will then be rounded to become an integer.

Explain how she will use the spreadsheet to allow this to happen. Include in your explanation the change that will need to be made to the formula in D6.

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**Scenario 3**

**Questions 7, 8, 9, 10 and 11**

Queen Mary's Hospital has recently decided to upgrade its patient records system. One of the uses of the new system will be to provide the patient's family doctor with information about the treatment received by the patient.

Jasvir, a systems analyst, has been asked to collect information about the current system and to develop a new improved system.

Jasvir has a team of programmers that he meets with regularly to discuss the progress of the project.

The data held about patients is personal and employees in the hospital are required to respect the confidentiality of the patients' data.

**7** Apart from observation, describe **three** methods of researching the current system and for each give a benefit of using it.

Method 1 .....

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Benefit .....

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Method 2 .....

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Benefit .....

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Method 3 .....

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Benefit .....

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**8** After the data has been collected a data flow diagram will be produced. Using examples from the scenario, name and describe, including their use, the components of this data flow diagram.

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**9** Explain the social and ethical implications of hospital workers being able to access patients' personal information.

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**10** Describe a suitable test plan that Jasvir could use to test the developed system.

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**11** **(a)** Describe Jasvir's use of **calendars** in time management software when arranging a new meeting with the programmers.

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**(b)** Describe how **other** features of time management software would help to ensure the project is completed successfully.

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