

**ADVANCED GCE****INFORMATION AND COMMUNICATION TECHNOLOGY****2515**

Communications Technology and its Application

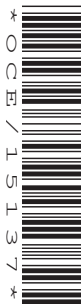
Candidates answer on the Question Paper

OCR Supplied Materials:

None

Other Materials Required:

None

Monday 14 June 2010**Afternoon****Duration:** 1 hour 30 minutes

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **90**, of which 4 marks are allocated to the assessment of the quality of written communication.
- No marks will be awarded for using brand names of software packages or hardware.
- This document consists of **12** pages. Any blank pages are indicated.

Examiner's Use Only:		
1		27
2		18
3		22
4		10
5		9
QWC		4
Total		90

A café specialises in the sale of Italian coffee and hand-made pastries. The staff use computers for accounting, ordering and producing publicity material. These are connected to a local area network (LAN) with internet access.

- 1 (a) Give **two** benefits and **two** drawbacks of having a bus network.

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..... [4]

- (b) Explain the purpose of each of the following network components:

- (i) Network Interface Card

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..... [2]

- (ii) Gateway

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..... [2]

- (c) The café's owners have installed a firewall.

Explain why the owners have installed a firewall.

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..... [4]

- (d) Describe how access to data on the network can be restricted.

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..... [4]

- (e)** Describe methods that could be used to detect errors during data transmission.

..... [6]

- (f)** Explain the role of layering when connecting computer systems.

[4]

- (g)** State **one** advantage to the owners of using optical communications in their network.

..... [1]

2 The owners of the café have decided to offer live televised football to their customers.

(a) Explain the importance of bandwidth when showing live TV programmes.

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..... [4]

(b) Explain why the transmitted data may need to be encrypted.

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..... [6]

- (d) Explain how information and communication technologies may be used in making a telephone directory enquiry.

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3 The computers used by the staff in the café will eventually need to be replaced with new ones.

(a) Explain the importance of standards when connecting computer systems.

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(b) (i) Staff at the café use a graphical user interface (GUI).

Describe **three** features of a GUI.

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- (ii) Computer systems benefit from suitable human-computer interfaces.

Describe how a computer can give feedback to the user.

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- (c)** Describe, using examples, the purpose of **three** different input devices that could be used by the staff at the café.

[6]

- 4 One of the café's owners has returned to the UK after a trip to Italy. At the airport, biometric technology is used to capture physical data to identify a person uniquely.

One example of such data is retina patterns.

- (a) State **two** other pieces of physical data which can be used for identification purposes.

..... [2]

- (b)** Limitations on the use of biometric data include:

- storage space requirements
- speed of data transmission
- time taken to collect and analyse data from the individual
- security of the data.

Explain how advances in technology may overcome these limitations.

[8]

5 Discuss the development of networking.

This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dashed lines, providing a guide for letter height and placement. The lines are evenly spaced across the entire page, leaving ample room for writing practice. There is no text or other markings on the page.

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