



**ADVANCED GCE**  
**INFORMATION AND COMMUNICATION TECHNOLOGY** **G063**  
 Systems, Applications and Implications



Candidates answer on the Question Paper

**OCR Supplied Materials:**

None

**Other Materials Required:**

None

**Wednesday 27 January 2010**  
**Afternoon**

**Duration: 2 hours**



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 **120**, of which marks are allocated to the assessment of the quality of written communication where an answer requires a piece of extended writing.
- No marks will be awarded for using brand names of software packages or hardware.
- This document consists of **20** pages. Any blank pages are indicated.

**Section A**

Attempt **all** the questions in this section.

- 1 (a) Describe the following stages of the systems life cycle.

- (i) Investigation and analysis

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[2]

- (ii) Design

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[2]

- (b) Describe rapid application development (RAD).

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[2]

- (c) State **two** methods used for installing a new computer-based information system.

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[2]

- 2 (a)** Identify **three** characteristics of a wide area network (WAN).

Characteristic 1 .....

#### **Characteristic 2**

### **Characteristic 3** .....

[3]

- (b)** Describe a single-user operating system.

[4]

- (c) Describe two disadvantages of using a peer-to-peer network in a school.

- 3 State **two** purposes for each of the following network components:

(a) Switch

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..... [2]

(b) Network interface card

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..... [2]

(c) Repeater

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.....  
..... [2]

- 4 Describe **three disadvantages** of using fibre optic cable to connect two buildings for a small business.

[6]

- [6]

- 5 Compare the use of email **and** fax for a car dealership sending clients' details to a finance company.

. [3]

- 6** Describe **two** advantages for a network manager of joining a professional body such as the British Computer Society (BCS).

[4]

- [4]

## **Section B**

Attempt **all** the questions in this section.

**Questions 7-12 concern an airline company which specialises in journeys to Europe.**

The management of the airline needs to update the check-in system to deal with passengers more efficiently. They have employed a consultancy firm to investigate the current system and design the updates.

- 7 (a) Describe the role and responsibilities of a project manager.

[4]

[4]

- (b) Describe **three** different methods a systems analyst might use when investigating the current system.

... [6]

- (c) Explain why the check-in system will have to use real-time processing.

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[4]

- (d) Explain why the check-in system is networked.

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[4]

- 8** Describe the internal resources of the airline company.

16

- [6]

10

- 9 (a) At check-in, passengers are asked for details which are entered on screen by an airline employee.

- (i) Describe a mental model.

[2]

. [2]

- (ii) Describe how a mental model can be applied to the design of a user interface.

[4]

. [4]

- (b)** Describe and give examples of **two** different methods of validation which may be used in the check-in system.

[6]

. [6]

- (c) (i) Compare the use of command line and forms as methods of dialogue that the employees might use to interact with the check-in system.

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[3]

- (ii) Describe **one disadvantage** of using speech as a method of input for the check-in system.

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[2]

- (iii) Give **one** other method of dialogue that could be used to interact with the check-in system.

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[1]

- (d) Describe how data entered onto the system can be kept confidential.

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[4]

- (e) Describe the role of reviews during the life of this system.

[6]

[6]

- (f)** Describe perfective maintenance.

[2]

[2]

- 10** The management of the airline wants to introduce new working practices and has asked the consultancy firm to create custom-written software-based training for employees.

Explain the advantages of selecting a custom-written solution.

[6]

[6]

- 11** Discuss how the software-based training system will help the employees adapt to new ways of working.

The quality of written communication will be assessed in your answer to this question.

**PLEASE TURN OVER FOR THE LAST QUESTION**

[11]

- ## **12** Discuss the importance of consultation when managing change.

The quality of written communication will be assessed in the answer to this question.

. [11]

**END OF QUESTION PAPER**

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