

Monday 21 January 2013 – Morning

A2 GCE INFORMATION AND COMMUNICATION TECHNOLOGY

G063/01 Systems, Applications and Implications

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 2 hours



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|-----------------------|--|----------------------|--|
| Candidate forename | | Candidate surname | |
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

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. These questions are marked with an asterisk (*).
- This document consists of **20** pages. Any blank pages are indicated.

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SECTION A

Answer **all** questions

- 1 (a) Describe the implementation and installation stages of the systems life cycle.

Implementation

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..... [2]

Installation

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- (b) Describe the role of a systems analyst in a project team.

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2 Compare an interactive processing system and a real time processing system.

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3 Describe **two** internal hardware resources of an ICT system in a school.

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- 4 (a) Explain why it is important to consider the complexity of language when designing a Human-Computer Interface (HCI).

..... [4]

- (b) Explain one feature of an HCI that makes it easier to learn how to use.

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Question 5 begins on page 6

5 Explain the advantages of using an expert system to diagnose faults on a central heating system.

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6 Describe **two** advantages of using observation during the analysis and investigation stage of the systems life cycle.

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7 Explain **two** advantages of using Critical Path Analysis (CPA) when developing a system.

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[4]

8 Explain **two** responsibilities of an organisation to prevent health problems when employees use computers.

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[4]

Section B begins on page 8

SECTION B

Answer **all** questions

Questions 9–16 concern an estate agency which sells and rents property. The estate agency has a head office and branches in the centre of a large town, and branches in other towns.

The staff in the branches use computers in different departments, such as valuations, sales, rentals and publicity.

9 (a) (i) Explain why the computers in each branch should be connected together to create a LAN.

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(ii) Identify and describe **one** item of hardware required to create the LAN in the branches.

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(b) Describe **two** ways the estate agency could make use of a virtual network.

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[4]

(c) The head office is investigating how to link the branches together.

(i) Explain **two disadvantages** to the estate agency of using a satellite broadband connection to link the branches together.

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[4]

(ii) Recommend a suitable type of broadband connection and explain **two** reasons for your choice.

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10 (a) Compare the use of email with the use of fax by the estate agency to send client details to a mortgage company.

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(b) Explain **one** advantage and **one** disadvantage of the estate agency encrypting data.

Advantage

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Disadvantage

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[4]

The employees use Global Positioning Systems (GPS) to navigate to the customers' properties.

11 Describe how satellites are used in GPS.

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[4]

Question 12 begins on page 12

12

12 The estate agency requires a new ICT system to be developed.

(a) Create a data flow diagram to show the process below.

- A customer contacts the estate agency either by telephone or in person.
- An employee uses a form to record the customer details and the details of the property and places in a folder.
- The employee makes arrangements to visit the property to photograph it and take details and measurements.
- Whilst at the property the employee completes the form.
- On returning to the office the employee transfers all the details from the form onto a web page and uploads it to the website.

[6]

(b) Compare the use of information and knowledge when developing a new system.

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(c) The interface for the new system could be WIMP or command line.

Justify the use of a WIMP interface for the new system.

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13 The new system is to be reviewed during its development.

Identify **four** factors that should be taken into account when planning a review meeting.

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[4]

14 Several types of maintenance are used during the life of the system.

Identify and describe **two** different types of maintenance, giving an example for each.

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[6]

Question 15 begins on page 16

15* Explain why it is important to manage change in an organisation.

The quality of written communication will be assessed in the answer to this question. [11]

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Question 16 begins on page 18

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END OF QUESTION PAPER

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