

ADVANCED GCE

INFORMATION AND COMMUNICATION TECHNOLOGY G063

Systems, Applications and Implications

**Thursday 23 June 2011
Morning**

Duration: 2 hours

Candidates answer on the question paper.

OCR supplied materials:

None

Other materials required:

None



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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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. Pencil may be used for graphs and diagrams only.
- 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).
- Answer **all** the questions.
- 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.
- This document consists of **24** pages. Any blank pages are indicated.

Section A

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

1 State **four** items that should be included in a design specification.

- 1.
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 - 2.
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 - 3.
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 - 4.
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- [4]

2 Identify **two** members of a project team and describe the role of each.

- 1.
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 - 2.
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- [6]

3 (a) Identify **one** characteristic of a single-user operating system.

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..... [1]

(b) Identify **three** characteristics of a multi-tasking operating system.

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2.
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3.
..... [3]

4 Describe how colour should be considered when designing a Human Computer Interface (HCI).

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..... [4]

8 It is important that information is exchanged accurately and in a timely manner between departments in a business.

(i) Using an example, explain why it is important that information is exchanged **accurately**.

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..... [2]

(ii) Using an example, explain why it is important that information is exchanged in a **timely manner**.

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..... [2]

10 (a) The Mountain Rescue Team's emergency vehicles are to have a satellite tracking system installed in them.

Describe **two** advantages of tracking its vehicles in this way.

- 1.
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 - 2.
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- [4]

The vehicles have also been equipped with satellite navigation systems.

(b) (i) Explain why the Mountain Rescue Team has done this.

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- [4]

(b) The Mountain Rescue Team is going to offer internet tuition for members via a website.

Describe **three** advantages of using a graphical user interface (GUI) on the website.

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 - 2.
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 - 3.
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- [6]

13 The Mountain Rescue team is part of a regional Mountain Rescue Organisation which holds details of all its members in a regional database. This database needs to be distributed to each Mountain Rescue Team.

(a) Explain an advantage to the regional Mountain Rescue Organisation of using a central database with remote local indexes.

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(b) Explain how the regional Mountain Rescue Organisation could make use of vertical partitioning.

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14 The Mountain Rescue Teams use an expert system to forecast the weather.

(a) Identify **three** components of an expert system.

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- 2.
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- 3.
..... [3]

(b) Explain **two** advantages for the Mountain Rescue Teams of using an expert system to forecast the weather.

- 1.
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- 2.
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..... [4]

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PLEASE TURN OVER FOR QUESTION 15

15 The regional Mountain Rescue Organisation requires a software application to store details of the equipment held by each team.

(a) Create a Critical Path Analysis diagram for the development of this software application using the data in the table below.

Task	Description	Order	Time
A	Initial interview	complete first	1 week
B	Definition of problem	start when A is complete	1 week
C	Investigation	start when A is complete	1 week
D	Analysis	start when B and C are complete	2 weeks
E	Nature of Solution	start when D is complete	2 weeks
F	Project Plan	start when E is complete	1 week
G	Software development	start when F is complete	3 weeks
H	Testing	start when G is complete	1 week
I	Re-testing	start when H is complete	1 week
J	Write User Guide	start when H and I are complete	2 weeks
K	Write Training documents	start when J is complete	2 weeks
L	Installation	start when J and K are complete	1 week

(b) Describe **three** implications for the regional Mountain Rescue Organisation of the software application not meeting their requirements.

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- 2.
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- 3.
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[6]

- 16 The regional Mountain Rescue Organisation often sends members to assist in international relief operations.

Discuss the implications for members of the regional Mountain Rescue Organisation of being able to communicate using mobile technology whilst assisting with international relief operations.

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

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- 17 Members of the regional Mountain Rescue Organisation purchase their own personal equipment at a variety of outlets.

Discuss hardware and software developments that are changing or might change the way members of the Organisation find and purchase equipment.

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

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