



Oxford Cambridge and RSA

Wednesday 22 June 2016 – Morning

A2 GCE INFORMATION AND COMMUNICATION TECHNOLOGY

G063/01 ICT Systems, Applications and Implications



Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:
None

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, 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**.
- Quality of written communication will be assessed in questions marked with an asterisk (*).
- This document consists of **20** pages. Any blank pages are indicated.

SECTION A

Answer **all** the questions.

- 1** Identify **two** items of documentation produced during the documentation stage of the systems life cycle and describe the purpose of each.

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Purpose

2

Purpose

[6]

- 2** Describe how prototyping could be used to develop an application.

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3 Describe **two** characteristics of a real time operating system that make it suitable for controlling an aeroplane's autopilot system.

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4 Compare the use of a cellular mobile phone with the use of a satellite mobile phone.

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5 Justify the use of a proxy server within a company's network.

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6 Describe the purpose of the **three components** of an expert system.

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7 Describe **two disadvantages** of using a parallel changeover strategy for installing a new reporting system in a school.

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8 Evaluate the effectiveness of hardware and software standards when using the internet.

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SECTION B

Answer **all** the questions.

Questions 9 to 14 concern ABC Homes which is a large company that specialises in building luxury homes.

- 9 ABC Homes has a headquarters in London. The headquarters is based in several different buildings. ABC Homes also has a number of regional offices throughout the UK.
 - (a) ABC Homes runs both Local Area Networks (LANs) and virtual networks.

Compare the characteristics of a LAN with the characteristics of a virtual network.

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(b) ABC Homes has fibre optic connections between the different buildings at its headquarters. It also has wireless access points installed in each building.

(i) Describe **two** advantages of using fibre optics to connect the different buildings together.

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(ii) Describe **two** advantages of using wireless communication within each building.

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(c) ABC Homes plans to host its own website from its headquarters.

Describe **two** advantages to ABC Homes of having a leased line internet connection.

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(c) Explain why the designer should consider a user's mental model when designing the application.

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(d) Describe how a tester in the project team tests the application.

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11 ABC Homes operates a distributed database across its regional offices throughout the UK.

(a) Evaluate the choice of using a central database with remote local indexes across the regional offices.

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(b) Identify **two different security** issues relating to distributed databases. Describe how **each** issue can be overcome.

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12 ABC Homes uses an off-the-shelf package to design new homes for its customers.

(a) Describe **two** ways in which a computer model of the house could be used by the company.

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(b) Describe **two disadvantages** to ABC Homes of using an off-the-shelf package.

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Question 14 begins on page 16

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END OF QUESTION PAPER

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