ADVANCED GCE

INFORMATION AND COMMUNICATION TECHNOLOGY   **G063**

Systems, Applications and Implications

Wednesday 26 January 2011
Afternoon

Duration: 2 hours

Candidate forename		Candidate surname	

Centre number						Candidate number				

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 **20** pages. Any blank pages are indicated.

OCR is an exempt Charity

Turn over

Section A

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

1 **(a)** Describe the role of a personnel system in a company.

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(b) Identify **four** documents that an analyst might examine when investigating a personnel system.

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2 **(a)** State the purpose of a hub in a network.

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(b) State the purpose of a bridge.

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3 Explain **three** limitations, for a candidate, of using a computer to answer examination questions.

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Turn over

4 (a) (i) Describe what is meant by a protocol.

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(ii) Describe how protocols are used within a network.

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(b) Describe **one** advantage and **one** disadvantage of encrypting data.

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5 **(a)** Give a situation where an individual might be prosecuted under the Computer Misuse Act (CMA) (1990) and state the provision of the CMA under which the prosecution would take place.

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(b) Describe **two** problems of enforcing the Computer Misuse Act (1990).

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6 A restaurant books tables for customers using a database. The restaurant has more than one table.

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┌─────────┐  ┌──────────┐
│  TABLE  │──>──<──│ CUSTOMER │
└─────────┘  └──────────┘
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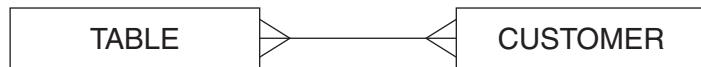
(a) Resolve the many to many relationship between TABLE and CUSTOMER.

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.... **[2]**

(b) The restaurant provides a takeaway service. The process for placing orders is:

- A customer telephones to give details of the order.
- A member of staff writes down the details of each item ordered on a notepad.
- The member of staff then looks up the prices for each item ordered on a menu.
- The prices are written down on the notepad.
- On completion of the order, the prices of all items on the notepad are added together to give the total price of the order.
- The total price of the order is given to the customer.

Using the following symbols, place the order process into a data flow diagram.

external entity   data flow   process   data store

[6]

     Turn over
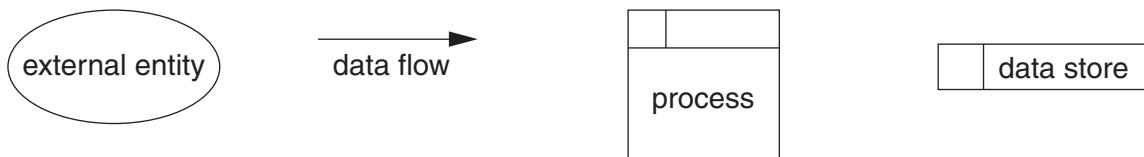
Section B

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

Questions 7–14 concern a wedding outfitter which specialises in bridal dresses, bridesmaids' dresses and gentlemen's formal wear.

The business is located in a re-furbished Victorian house, located in a small country village. The staff use computers for accounting, ordering stock and producing publicity material. The business wants to set up a wireless local area network (LAN) with internet access.

7 Describe **three** possible limitations of wireless networking for the wedding outfitter.

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8 Many of the wedding outfitter's clients live abroad and place orders online.

(a) Explain the importance of matching the online ordering interface to the user's mental model.

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(b) Compare email and video conferencing for giving progress reports on the making of a dress.

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9   The wedding outfitter uses batch processing to create invoices.

   (a) Describe batch processing.

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   (b) Explain why the wedding outfitter uses batch processing to create invoices.

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10 To help run the business, a management information system (MIS) is to be installed.

   (a) Describe what is meant by a MIS.

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   (b) Pilot is one method of changeover which could be used when installing the MIS.

   (i) Describe this method of changeover.

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   (ii) Explain why the pilot method of changeover is **not** suitable for the installation of the MIS.

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11 A new stock control system will be implemented throughout the wedding outfitter's business.

(a) Compare the use of custom written and off-the-shelf solutions for the new stock control system.

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(b) Explain why the font size and the font style are important considerations when designing the interface of the new stock control system.

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(c) Describe **three** factors that must be considered when managing the change to the new stock control system.

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Turn over for the next question

Turn over

(d) Identify and describe **three** different types of maintenance that can be used during the life of the stock control system.

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12 The wedding outfitter wants to move the gentlemen's section into a separate building across the road.

The computers in this second building must still be part of the LAN.

(a) Describe **three** advantages for the wedding outfitter of using fibre optic cable to connect the two buildings.

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(b) Describe how the wedding outfitter could use a virtual network within their LAN.

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(c) A network manager, who is a member of the British Computing Society (BCS), has been employed by the wedding outfitter.

Describe how the BCS could support the network manager.

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13 All staff in the wedding outfitter's business need to undergo training in the use of the new stock control system.

Discuss the use of software based training for this purpose.

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

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14 The wedding outfitter uses an international courier service to send their goods abroad. The wedding outfitter needs to know where the goods and delivery vehicles are located at any given time.

Discuss hardware and software developments that will enable the wedding outfitter to do this.

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

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END OF QUESTION PAPER