OCR
RECOGNISING ACHIEVEMENT

ADVANCED GCE UNIT   **2515**

INFORMATION AND COMMUNICATION TECHNOLOGY
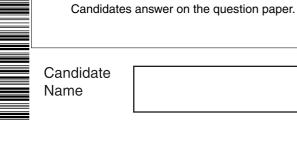
Communications Technology and its Application

FRIDAY 15 JUNE 2007   Afternoon

Time: 1 hour 30 minutes

Additional materials: No additional materials are required.
Candidates answer on the question paper.

Candidate Name

Centre Number

Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and Candidate number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

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 90, of which 4 marks are allocated to the assessment of the quality of written communication.
- You will be awarded marks for 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.

For Examiner's Use		
1		22
2		22
3		12
4		12
5		8
6		10
QWC		4
Total		90

This document consists of **12** printed pages.

1   A large national retail company sells electrical goods. Customers can check availability of items using a centralised telephone system.

   (a) Two facilities available on the telephone system are voicemail and ringback.

   Describe how the company would use these facilities.

   Voicemail ....

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   Ringback ....

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   ....[6]

(b) Paul looks at a copy of the company's catalogue which he has at home and decides to telephone the company to check on the availability of a particular kettle he intends to buy. The company operates an automated telephone answering system.

Describe the facilities of the automated telephone system which would enable Paul to check on the availability of the kettle.

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(c) Explain why people often find automated telephone answering systems frustrating.

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[Turn over

(d) The company also has on-line ordering and payment facilities.

Explain the purpose of encryption and authentication if Paul pays for his kettle on-line using his credit card. Give an example of how each would be used.

(i) Encryption ....

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Example ....

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....[3]

(ii) Authentication ....

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Example ....

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2 An insurance company allows some of its employees to work from home.
The company has an intranet which is used by its employees.

(a) Describe the characteristics and purpose of the company intranet.

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(b) The employees that work from home are provided with a broadband connection.

(i) Describe **two** advantages of using broadband rather than a dial-up connection.

Advantage 1 ....

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Advantage 2 ....

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[Turn over

(ii) ADSL is a type of broadband.

Explain the **drawbacks** of ADSL.

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(c) The employees enter details of insurance claims using a forms interface.

Describe **two** features of a forms interface, giving examples of how each would be used for entering details of insurance claims.

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(d) A command line interface (CLI) is another type of interface.

Describe **one** advantage of using a CLI.

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3 A Global Positioning System (GPS) is one application of satellite technology.

(a) Describe **three** other applications of satellite technology.

Application 1 ....

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Application 2 ....

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Application 3 ....

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[Turn over

(b) Describe the **disadvantages** of satellites.

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4 (a) Two stages in the system life cycle are:
   - definition of the problem
   - investigation and analysis

   State **three** other stages in the system life cycle.

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(b) State **three** items that should be included in a design specification. .

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A health centre has decided to computerise its paper-based appointments system.

(c) Describe how a user-centered approach could be followed throughout the life cycle of the new system.

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5 (a) State **four** services provided to the viewer by interactive television.

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[Turn over

(b) Describe **one** advantage and **one** limitation to the viewer of using interactive television.

Advantage ....

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Limitation ....

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6 Biometrics is the technology of using physical data to identify a person uniquely.
One example of such data is retina patterns.

(a) State **two** other pieces of physical data which can be used for identification purposes.

Example 1 ....

Example 2 ....[2]

(b) Limitations on the use of biometric data include:
- storage space requirements
- speed of data transmission
- time taken to collect and analyse data from the individual
- security of the data.

Explain how advances in technology may overcome these limitations.

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PLEASE DO NOT WRITE ON THIS PAGE