

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced Subsidiary GCE

INFORMATION AND COMMUNICATIONS TECHNOLOGY



2512

Information Systems and Communications

Friday **13 JANUARY 2006** Afternoon 1 hour 30 minutes

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

Candidate Name

Centre Number

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Candidate Number

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TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name in the space above.
- Write your Centre number and Candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers, in blue or black ink, in the spaces on the question paper.
- 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 in the grey area between the pages.
- **DO NOT WRITE IN THE AREA OUTSIDE THE BOX BORDERING EACH PAGE. ANY WRITING IN THIS AREA 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		19
2		11
3		3
4		6
5		3
6		6
7		19
8		6
9		6
10		7
WC		4
TOTAL		90

This question paper consists of 13 printed pages and 3 blank pages.

Answer all the questions.

1 A local council is collecting information on the houses in its area that recycle rubbish.

(a) (i) Describe what is meant by information.

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

(ii) Using an example related to recycling show how data can be changed into information.

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

(b) Describe **two** effects of the quality of the data source that can affect the quality of the information produced.

Effect 1
.....
.....
.....

Effect 2
.....
.....
.....[4]

(c) A leaflet is to be delivered to every home in the council's area.

Describe **three** different costs associated with producing the leaflet.

Cost 1

.....

.....

.....

Cost 2

.....

.....

.....

Cost 3

.....

.....

.....

.....[6]

(d) A local manufacturer is looking into the use of symbols to convey information on how to recycle its products.

Identify **two** advantages and **two** disadvantages of using symbols to convey information.

Advantage 1

.....

Advantage 2

.....

Disadvantage 1

.....

Disadvantage 2

.....[4]

2 Mrs Alan runs a computer business. Most of the problems that she deals with are either hardware or software related.

(a) Using examples, describe the difference between hardware and software.

.....
.....
.....
.....
.....
.....
.....
.....
.....[4]

(b) Many of her customers complain that their computers are too slow. In most cases this is attributable to the speed of the machine cycle.

Explain how the speed of the machine cycle affects the overall performance of the computer.

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

- (c) Most of the software and hardware that Mrs Alan provides comes with a user guide and supplementary user documentation.

Identify and give the purpose of **two** items of supplementary user documentation that would be received with a new computer system.

Item 1

.....

.....

.....

Item 2

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.....

.....[4]

- 3 Computer systems require an operating system before they will work. One type of operating system is single-user.

Identify **three** other types of operating system.

Type 1

.....

Type 2

.....

Type 3

.....[3]

4 Three of the methods a bank uses to access data are serial, sequential and random.

For each of the applications below, identify the most suitable method to use to access the data and give a reason for your choice.

(i) Accessing a bank customer file from an ATM
.....
.....
.....[2]

(ii) Accessing a transaction log from an ATM
.....
.....
.....[2]

(iii) Accessing the customer file to provide monthly statements for all customers
.....
.....
.....[2]

5 A driving school stores data about its customers.

For each field name given below, give an appropriate data type.

Telephone Number
Address Line 1
Passed Theory Test?[3]

6 There are many different types of user interface that can be provided with software applications.

For each of the following types of user interface identify an appropriate use and give an input device that could be used.

(i) Natural Language

Use
.....
Input Device
.....[2]

(ii) Forms

Use
.....
Input Device
.....[2]

(iii) Command Line

Use
.....
Input Device
.....[2]

7 A health club has three fitness centres within the same town. Each fitness centre has its own internal network.

The management of the health club want to link the computers in the three fitness centres together using a Wide Area Network (WAN).

(a) Why is it necessary for all the computers to use a protocol?

.....
.....[1]

(b) Identify **three** characteristics of a WAN.

Characteristic 1
.....
Characteristic 2
.....
Characteristic 3
.....[3]

(c) Describe **three** advantages to the **management** of the health club of connecting the computers together.

Advantage 1
.....
.....
.....
Advantage 2
.....
.....
.....
Advantage 3
.....
.....
.....[6]

(d) Each user is given a User ID and password to access the system.

Identify **three** rules that the user should follow when choosing a password.

Rule 1

.....

Rule 2

.....

Rule 3

.....[3]

(e) The management of the health club communicates with its staff by email.

Describe **three** facilities of email that would be useful to the management of the health club when communicating with their staff.

Facility 1

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.....

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Facility 2

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Facility 3

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.....[6]

8 A network manager has joined the British Computer Society (BCS).

Describe **three** services that would be provided by the BCS for the network manager.

Service 1

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Service 2

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Service 3

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[6]

9 A company is updating its Health and Safety policy.

Identify **three** health issues related to working with ICT. For each health issue give a different solution.

Health Issue 1

Solution

Health Issue 2

Solution

Health Issue 3

Solution

[6]

.....[7]

Quality of Written Communication [4]

Total [90]

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