

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced Subsidiary GCE

INFORMATION AND COMMUNICATIONS TECHNOLOGY



2512

Information Systems and Communications

Thursday

8 JUNE 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		15
2		9
3		10
4		10
5		4
6		12
7		6
8		3
9		6
10		4
11		7
WC		4
TOTAL		90

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

Answer **all** the questions.

A local cinema has recently employed an ICT consultant to improve the service it offers to its customers.

1 The cinema has collected information on the popularity of the films shown in order to know how to improve audience figures.

(a) Describe, using examples related to the cinema, the difference between information and knowledge.

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

(b) The cinema could collect information from direct or indirect sources.

Give **one** example of a direct source of data and **one** example of an indirect source of data that the cinema could use.

Direct source

.....

Indirect source

.....[2]

(c) Once collected, the data will be put into a database.

Identify suitable data types for the following fields:

Certificate rating

Number of performances

Price of ticket[3]

(d) Data will be coded before being entered into the database.

Describe **three** advantages of coding data.

Advantage 1

.....

.....

.....

Advantage 2

.....

.....

.....

Advantage 3

.....

.....

..... [6]

2 The cinema requires some new computer hardware.

(a) The following are components of a general purpose computer.

For each one, give its purpose.

RAM
.....
ALU
.....
Control Unit
.....[3]

(b) Apart from a keyboard and a mouse, identify **three** other input devices the cinema staff may use when selling tickets.

Device 1
.....
Device 2
.....
Device 3
.....[3]

(c) The cinema will need to back up and archive data from the computer system.

Describe the difference between backing up and archiving of data.

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

(d) Identify **one** storage device which can archive 30 GB of data.

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

4 The cinema requires a new customer booking system. The new system will use a relational database with variable length records.

(a) Describe **two** benefits of using variable length records.

Benefit 1
.....
.....
.....

Benefit 2
.....
.....
.....[4]

(b) Describe **one** benefit of using a relational database.

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

(c) Identify **one** other type of database structure the cinema could use.

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

(d) Different access rights will need to be applied to the database. One access right is read-only. Identify **three** other different access rights that could be applied to the database.

Access right 1
.....

Access right 2
.....

Access right 3
.....[3]

5 After the database has been created, but before it is used, it must be tested.

A test plan is created before testing begins.

(a) Give **two** reasons why a test plan is required.

Reason 1

.....

Reason 2

.....[2]

(b) Give **two** reasons why the database must be tested.

Reason 1

.....

Reason 2

.....[2]

6 (a) The cinema is considering networking its computers and must decide on an appropriate topology.

(i) Draw and label a bus topology including the flow of data.

[3]

(ii) Draw and label a ring topology including the flow of data.

[3]

(b) Describe **two** items of hardware required to network stand-alone computers.

Item 1

.....

.....

.....

.....

Item 2

.....

.....

.....

.....[4]

(c) The cinema is introducing User IDs and passwords on its new network.

(i) What is the purpose of the User ID?

.....

.....[1]

(ii) What is the purpose of the password?

.....

.....[1]

7 The cinema could send its sales figures to its head office by fax or email.

Compare the use of fax and email for sending sales figures to head office.

Comparison 1

.....
.....
.....

Comparison 2

.....
.....
.....

Comparison 3

.....
.....
.....

[6]

8 The management of the cinema are aware that any individual who hacks into its network can be prosecuted under the Computer Misuse Act (1990)

State the **three** crimes identified by the Computer Misuse Act (1990)

Crime 1

.....

Crime 2

.....

Crime 3

.....

[3]

9 The cinema is updating its Health and Safety policy.

(a) Identify **three** safety issues related to working with ICT.

Safety issue 1

.....

Safety issue 2

.....

Safety issue 3

.....[3]

(b) For each health problem below, give an appropriate different solution which minimises the risk to computer users.

Ulnar neuritis

.....

Deep vein thrombosis

.....

Eyesight defects

.....[3]

10 The management of the cinema is concerned that its employees are stealing software.

Describe **two** measures that could be introduced to prevent software theft.

Measure 1

.....

.....

.....

Measure 2

.....

.....

.....[4]

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