GCSE
4333/01
INFORMATION AND COMMUNICATION TECHNOLOGY
UNIT 3: ICT in Organisations

P.M. WEDNESDAY, 12 June 2013
1½ hours
Suitable for Modified Language Candidates

INSTRUCTIONS TO CANDIDATES
Use black ink or black ball-point pen. Do not use pencil or gel pen. Do not use correction fluid.
Write your name, centre number and candidate number in the spaces at the top of this page.
Answer all questions.
Write your answers in the spaces provided in this booklet.
If you run out of space use the continuation pages at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES
The number of marks is given in brackets at the end of each question or part-question.
Quality of written communication will be assessed in question 11.
1. Complete the following table by **naming** each device. **Tick (✓) the correct box to show whether the device is used for either Input or Output.**

The first row has been completed for you.

<table>
<thead>
<tr>
<th>Device</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanner</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
2. ICT systems use different Human-Computer Interfaces (HCI).

(a) (i) State the type of HCI shown below. [1]

(ii) Give four features of this type of HCI. [4]

Feature 1: ..........................................................................................................................................................................................

Feature 2: ..........................................................................................................................................................................................

Feature 3: ..........................................................................................................................................................................................

Feature 4: ..........................................................................................................................................................................................

(b) State two other different types of HCI. Give one different advantage of each. [4]

HCI Type 1: .......................................................................................................................................................................................

Advantage: ....................................................................................................................................................................................... 

HCI Type 2: .......................................................................................................................................................................................

Advantage: ....................................................................................................................................................................................... 

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3. (a) Name the topologies of the networks shown below. [3]

Topology: .......................................  Topology: .......................................  Topology: .......................................  

(b) Many different components *parts* are used to create a computer network. 
Describe the purpose of each of the following devices. [3]

(i) Switch ........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
(ii) Gateway ...................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
(iii) Bridge ...................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
(c) Computer network systems have many advantages and disadvantages over standalone computers.

(i) Give two advantages of a network over standalone computers. [2]

Advantage 1: ...................................................................................................................................................................................
...................................................................................................................................................................................................

Advantage 2: ...................................................................................................................................................................................................
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(ii) Give one disadvantage of a network over standalone computers. [1]
...................................................................................................................................................................................................
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(d) (i) Many organisations use an Intranet. State what is meant by an Intranet. [1]
...................................................................................................................................................................................................
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(ii) Many organisations use an Extranet. State what is meant by an Extranet. [1]
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4. (a) Which of the following are advantages or disadvantages of computerised data logging. Tick (√) the correct boxes.

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Disadvantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate readings</td>
<td></td>
</tr>
<tr>
<td>Initial cost of the data logging equipment</td>
<td></td>
</tr>
<tr>
<td>Data can be collected automatically</td>
<td></td>
</tr>
<tr>
<td>Can be used in dangerous situations</td>
<td></td>
</tr>
</tbody>
</table>

(b) The diagram below shows a general ICT control system.
Name an ICT control (feedback) system of your choice. Answer the following questions based on your choice.

**ICT Control System:** ...............................................................................................................................................................

(i) Name a sensor and an output device used in your chosen control system. [2]

**Sensor:** .....................................................................................................................................................................................

**Output device:** ...........................................................................................................................................................................

(ii) Complete the following table for the ICT control system of your choice. Give a suitable process for the letters A, B and C labelled in the diagram opposite. [3]
5. *Expert systems* are widely used in medicine.

(a) State **one** purpose of an expert system in medicine. [1]

(b) Give **two** advantages of using an expert system in medicine. [2]

   Advantage 1:

   Advantage 2:

(c) Give **one** disadvantage of using an expert system in medicine. [1]
6. *Robots* are widely used by organisations.

(a) Name **three** tasks that could be carried out by robots. [3]

Task 1: 

Task 2: 

Task 3: 

(b) Give **two advantages** of using robots instead of humans. [2]

Advantage 1: 

Advantage 2: 

(c) Give **one disadvantage** of using robots instead of humans. [1]
7. All computers have an *Operating System*.

(a) Describe what is meant by the term *Operating System*.

(b) Give **three** functions of an *Operating System*.

**Function 1:** ...........................................................................................................................................................................

**Function 2:** ...........................................................................................................................................................................

**Function 3:** ...........................................................................................................................................................................
8. *Smash Hits* is a brand new online store that sells DVDs, Blu-ray, games and music downloads. The company has just launched its new website. The *home page* can be seen below.

(a) State what is meant by a *Home Page*. [1]

(b) The size of the banner labelled A above is 728 × 90 pixels. It is placed in a premium location at the top of the webpage. State the name given to this type of banner. [1]

(c) Look at B, C and D shown in the webpage above. Match B, C and D with the website features listed below. [3]

<table>
<thead>
<tr>
<th>Website feature</th>
<th>Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperlink</td>
<td></td>
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<tr>
<td>Web Icons</td>
<td></td>
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<tr>
<td>Search Box</td>
<td></td>
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</tbody>
</table>
(d) *Smash Hits* have paid to have a sponsored link to their website appear in the *Golden Triangle*.

(i) Describe what is meant by the term *Golden Triangle*. [2]

(ii) Give one reason why *Smash Hits* want to make sure that a link to their website appears within the *Golden Triangle*. [1]
9. A bitmap graphic of the Smash Hits logo is shown below.

(a) Name one device that could be used to draw an image on a computer. [1]

(b) Which of the following are standard tools that could be used when producing a still digital image? Tick (√) the correct box. [3]

<table>
<thead>
<tr>
<th>Standard tools</th>
<th>Tick (√)</th>
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<tr>
<td>Transition</td>
<td>1</td>
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<td>Cloning</td>
<td>2</td>
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<tr>
<td>Tweening</td>
<td>3</td>
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<td>Layering</td>
<td>4</td>
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<tr>
<td>Distortion</td>
<td>5</td>
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<tr>
<td>Pivot tables</td>
<td>6</td>
</tr>
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</table>

(c) Describe what is meant by a Bitmap Graphic. [1]

(d) State a problem with enlarging bitmap graphics. Suggest a different graphic type that will overcome this problem. [2]

Problem: ...........................................................................................................................................................................................

Suggested graphic type: ...........................................................................................................................................................................
(e) When *Smash Hits* publish their logo on a web page, the image is *optimised*.

State what is meant by *optimisation of images* for the web. Give one advantage of optimising images. [2]

10. *Smash Hits* also sell music downloads.

(a) Name a suitable *file format* for downloading music from the Internet. [1]

(b) Give one advantage of using this format. [1]

(c) Give one disadvantage of using this format. [1]
11. The Smash Hits website uses an e-commerce (online shopping) system. Discuss the advantages and disadvantages of an e-commerce system to the Customer and to Smash Hits.
<table>
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<tr>
<th>Question number</th>
<th>Additional page, if required. Write the question numbers in the left-hand margin.</th>
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