IB13 11_0417_12/3RP

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This document consists of 14 printed pages and 2 blank pages.
1. Name the storage media A, B, C and D using words from the list.

   - blu-ray disc
   - chip
   - flash memory card
   - hard disc
   - magnetic stripe
   - magnetic tape
   - pen drive
   - touch pad

   A ..............................................................
   B ..............................................................
   C ..............................................................
   D ..............................................................

   [4]

2. Ring two items which are output devices.

   - disc drive
   - laser printer
   - light pen
   - microphone
   - TFT monitor
   - web cam

   [2]
3  Tick **hardware** or **software** next to each item as appropriate.

<table>
<thead>
<tr>
<th>Item</th>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>virus checker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>keyboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mobile phone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4  Complete the following sentences using the **most appropriate** device from this list.

- A graphics tablet
- A dot matrix printer
- An inkjet printer
- A joystick
- A keypad
- A multimedia projector

(a) .............................................. is used to print high quality photographs.
(b) .............................................. is used to input freehand drawings.
(c) .............................................. is used to input preset values into control systems.
(d) .............................................. is used to show slides.
(e) .............................................. is used to control a flight simulator.
5 Name and describe three ICT methods which could be used to help prevent illegal access to computer networks.

1 ........................................................................................................................................

2 ........................................................................................................................................

3 ........................................................................................................................................

6 Describe three features of a social network site.

1 ........................................................................................................................................

2 ........................................................................................................................................

3 ........................................................................................................................................ [3]
A floor turtle can use the following instructions:

<table>
<thead>
<tr>
<th>INSTRUCTION</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORWARD $n$</td>
<td>Move $n$ mm forward</td>
</tr>
<tr>
<td>BACKWARD $n$</td>
<td>Move $n$ mm backward</td>
</tr>
<tr>
<td>LEFT $t$</td>
<td>Turn left $t$ degrees</td>
</tr>
<tr>
<td>RIGHT $t$</td>
<td>Turn right $t$ degrees</td>
</tr>
<tr>
<td>PENUP</td>
<td>Lift the pen</td>
</tr>
<tr>
<td>PENDOWN</td>
<td>Lower the pen</td>
</tr>
<tr>
<td>REPEAT $n$</td>
<td>Repeat the following instructions $n$ times</td>
</tr>
<tr>
<td>END REPEAT</td>
<td>Finish the REPEAT loop</td>
</tr>
</tbody>
</table>

Complete the set of instructions to draw this shape by filling in the blank lines provided. Do **not** use additional lines.

PENDOWN

FORWARD 70

FORWARD 80

Finish

NOT TO SCALE
8 There is a public library in New York. The librarian uses a computer to keep records of borrowers as well as records of the books in the library.

(a) The borrower file is stored on a hard disc.

State the type of access needed to retrieve a single record quickly.

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

(b) When a borrower comes in for a book they show their membership card.

Give a method of data input which could be used instead of typing in the borrower’s membership number.

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

(c) Give two reasons why your method in (b) is better than typing in the membership number.

1 ........................................................................................................................................

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

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

(d) Describe how the librarian could create a relational database using the data already held in the borrower file and the book file.

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

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

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

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

........................................................................................................................................ [3]
9 Describe, including the uses of the hardware and software, what is meant by video conferencing.

[5]

10 There are many safety issues associated with the use of computers.

Tick three of these issues.

Back ache from bad posture [✓]
Electrocution from touching bare wires
Fire from overloading electric sockets
Headaches from staring at the screen continuously
Injury caused by tripping over trailing wires
RSI in the fingers

[3]
11 A greenhouse is controlled by a computer.

(a) Other than a temperature sensor name two sensors used in the greenhouse.

1 ........................................................................................................................................... 

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

(b) Explain why computers are unable to read the data directly from these sensors.

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

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

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

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

(c) Describe what is meant by a pre-set value and how it is used by the computer to help it control the temperature of the greenhouse.

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

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

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

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

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

................................................................................................................................................ [4]
12 A store uses EFTPOS terminals at all of its checkouts.

(a) Identify two input devices which would be used at each EFTPOS.

1 ................................................................................................................................. [2]

2 .................................................................................................................................

(b) Describe the computer processing which takes place in order to determine if a product needs re-ordering.

........................................................................................................................................ [4]
Abdul owns a large factory. He has asked Imran, a systems analyst, to create a new database system for keeping records of his workers and their pay.

(a) Imran will collect information about the existing system.

Identify **three** methods he would use to do this.

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

After collecting information, Imran found that each worker has an ID which consists of one letter followed by five digits. He also found that no worker earns more than $500.

He wrote down two of the questions that Abdul might ask when using the database, such as:

What is the phone number of the worker whose ID is L67123?
How much does Sunil Kapoor earn?

(b) Complete the data dictionary table below giving the field names which would be used in the database in order to answer these questions. State the data types which would be used for each field.

<table>
<thead>
<tr>
<th>Field name</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>First_name</td>
<td>Text</td>
</tr>
<tr>
<td>Phone_number</td>
<td></td>
</tr>
</tbody>
</table>
| Worker_ID        |           | [6]
(c) Identify three items of test data which could be used to test the Worker_ID field, giving a reason for each choice.

<table>
<thead>
<tr>
<th>Item 1</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item 2</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item 3</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[6]
Joanne runs a large company. Her computer network has a large capacity server. She is investigating ways of backing up the data on the server.

(a) Describe what is meant by a backup.

(b) Joanne has to choose between using magnetic disc or magnetic tapes to make her backups. Discuss the advantages and disadvantages of using each of these media.
15 Explain the differences between phishing and pharming.

16 A company decides to introduce robots to the production line to manufacture cars.

Discuss the advantages and disadvantages to the workers of introducing robots rather than using humans to manufacture cars.
17 Describe some of the benefits and drawbacks of students using the Internet to do research for homework.