READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.

No marks will be awarded for using brand names of software packages or hardware.

Answer all questions.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
1 Name the devices A, B, C and D using the words from the list.

A: __________  B: __________  C: __________  D: __________

bar code reader  dot matrix printer  joystick  laser printer
microphone  scanner  speakers  trackerball

2 Ring two network devices.

hub  CD ROM  graph plotter
magnetic disc  router  trackerball

3 Tick True or False next to each of these statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>A network card is an example of hardware.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A light sensor is an example of software.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Icons are part of a Graphical User Interface.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A magnetic tape has a greater storage capacity than a CD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laser printers are quieter than a dot matrix printer.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4 Draw five lines on the diagram to match the input device to its most appropriate use.

<table>
<thead>
<tr>
<th>Input Device</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote control</td>
<td>to input data at a POS</td>
</tr>
<tr>
<td>Electronic scales</td>
<td>playing a video game</td>
</tr>
<tr>
<td>Joystick</td>
<td>inputting text so it can be processed by a software package</td>
</tr>
<tr>
<td>Optical Character Reader</td>
<td>an input device in a burglar alarm system</td>
</tr>
<tr>
<td>Sound sensor</td>
<td>to operate a multimedia projector</td>
</tr>
</tbody>
</table>

5 Tick **True** or **False** for the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>A magnetic tape has faster data access than a DVD ROM.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A CD is used to store a two hour high definition movie.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A magnetic disc is used for online processing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pen drives are used to copy data from one computer to another.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6 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. Do not use additional lines.

PENDOWN

LEFT 90

FORWARD 50

REPEAT

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

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

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

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

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

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

NOT TO SCALE
Multi-national companies often use video conferencing instead of face-to-face meetings.

(a) Tick three advantages of video conferencing.

- Companies do not have to buy any equipment
- Companies can arrange the meeting for any time of day
- It is safer as employees do not have to travel
- Companies do not have to pay hotel expenses
- Employees don’t have to carry so many documents with them
- Employees are paid less

(b) Tick three disadvantages of video conferencing.

- Video conferences can only last a short time
- Employees are unable to see who they are talking to
- It is difficult to call international meetings because of time differences
- There is sometimes a time lag between video and sound
- It is difficult to share documents
- Legal documents may need to be signed

There are many health risks associated with the use of computers.

Tick three of these risks.

- Electrocution from touching bare wires
- Fire from overheating of equipment
- Fire from overloading of sockets
- Neck pain due to bad positioning of the screen
- RSI due to continuous typing
- Sight problems from staring at the screen continuously
9 (a) Describe what is meant by hacking, including ways that a hacker can misuse data held on a computer.

(b) Describe two methods which would help prevent hackers accessing a computer network.

1

2
10 Many people now use internet shopping sites.

(a) Apart from not having to travel, give three benefits to the customer of internet shopping.

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

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

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

(b) Apart from data security give three drawbacks to the customer of internet shopping.

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

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

3 ........................................................................................................................................ [3]
11 Explain why information found on websites is not always reliable and describe how the reliability of the information can be evaluated.

12 Chad has developed a new computer system. He now needs to implement it. He has decided against using phased implementation.

Name and describe three other methods which could be used to implement a new system.

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

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

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

[5]
Computers are used in supermarkets at checkouts.

(a) Identify three output devices which could be used when an item is purchased.

1

2

3

[3]

When paying for goods the customer uses a bank card.

(b) Identify the input device which will be used to directly input data from the card.

[1]

(c) Describe the processing which takes place during an electronic funds transfer. Include reasons why the card might be rejected.

[7]
14 Describe what phishing is and explain its purpose.

[4]

15 Paul owns a shop. He has employed Jean, a systems analyst, to write software for a new database system to store data about the CDs he sells. Jean wrote down three of the questions that customers might ask which Paul might need to find the answers to quickly:

Have you got the CD recorded by the artist ‘Bett Lyryx’ in 2008?
How much does the CD called ‘Let It Be’ cost?
How many tracks are on the CD?

(a) Complete the data dictionary table below giving the field names which would be used in the database and identify the data types needed to answer these questions.

<table>
<thead>
<tr>
<th>Field name</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artist_name</td>
<td>text</td>
</tr>
<tr>
<td></td>
<td>text</td>
</tr>
</tbody>
</table>

[7]
(b) No CD lasts for longer than 90 minutes or is shorter than 20 minutes. Paul wants to add a field to the database to include this data. He will use test data on this field.

Name **three** types of test data, giving an example of the data which would be used.

Type 1

Example 1

Type 2

Example 2

Type 3

Example 3  [6]

(c) When the system is implemented, documentation will be provided.

Tick **four** items that would be included in the technical documentation but not in the user documentation.

<table>
<thead>
<tr>
<th>Purpose of the system</th>
<th>✓</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limitations of the system</td>
<td></td>
</tr>
<tr>
<td>Program coding</td>
<td></td>
</tr>
<tr>
<td>System flowcharts</td>
<td></td>
</tr>
<tr>
<td>Hardware and software requirements</td>
<td></td>
</tr>
<tr>
<td>File structures</td>
<td></td>
</tr>
<tr>
<td>List of variables</td>
<td></td>
</tr>
<tr>
<td>Frequently asked questions</td>
<td></td>
</tr>
</tbody>
</table>

[4]
Libraries make use of both batch processing and online processing.

Describe the differences between these types of processing giving examples of situations where each would be used in a library.

[6]