

MARKER CODE



Student Personal Identification Number

South Pacific Form Seven Certificate

INFORMATION AND COMMUNICATIONS TECHNOLOGY

2014

QUESTION and ANSWER BOOKLET

Time allowed: Two hours

INSTRUCTIONS

Write your **Student Personal Identification Number (SPIN)** in the space provided on the top right hand corner of this page.

Answer **ALL QUESTIONS**. Write your answers in the spaces provided in this booklet.

If you need more space for answers, ask the Supervisor for extra paper. Write your SPIN on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.

Objectives/Major Learning Outcomes (Achievement Standards)	Skill Level			Weight/ Time
	Band 1 <i>Basic</i>	Band 2 <i>Proficient</i>	Band 3 <i>Advanced</i>	
InfA&B: Differentiate between Open Source and Proprietary software; Design and develop a product in two or more of the three defined areas of media by using available ICT tools	8 questions	2 questions		12% 26min
InfC, E&G: Discuss piracy, security, copyright, longevity of electronic information storage, and intellectual property as they relate to ICT: as well as the environmental problems generated by the technology; Demonstrate understanding of ICT safety issues	1 question	2 questions	3 questions	14% 30min
InfD: Design and construct a solution to a complex problem using established coding practices to demonstrate competency in coding using a programming language	6 questions	2 questions		10% 22min
InfF: Design, develop, and test a website which incorporates data from a purpose built database to demonstrate understating of internet connectivity	7 questions	1 question		9% 20min
InfH: Programming a microprocessor to sense, measure, record, and respond to a parameter of the physical environment.	8 questions	1 question		10% 22min
TOTAL	30 questions	8 questions	3 questions	55% 120 min

Check that this booklet contains pages 2-25 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION

Answer ALL questions

SECTION A: Software

Here are two paragraphs. They are from the copyright statements of two different types of software.

Paragraph 1

Our General Public Licences are designed to make sure that users have the freedom to distribute copies of free software (and charge for this service if users wish), that users receive source code or can get it if users want it, that users can change the software or use pieces of it in new free programs; and that users know they can do the things listed above.

Paragraph 2

Users are licenced to install this software on one machine only. Users may make one copy of this software for backup purposes only. Users may not copy and distribute this software.

Assessor's use only

A1a	Name the type of software in Paragraph 1. _____ _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Basic</th> <th style="width: 50%;">Level</th> </tr> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Basic	Level	Excellent		Weak		NR			
Basic	Level											
Excellent												
Weak												
NR												
A1b	Explain your answer to question (a) giving two characteristics that are unique to the type of software you named. _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Proficient</th> <th style="width: 50%;">Level</th> </tr> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Moderate</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Proficient	Level	Excellent		Moderate		Weak		NR	
Proficient	Level											
Excellent												
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SECTION B: Media Production*Assessor's use only*

B1	<p>Answer any TWO of the sub-questions (a), (b) and (c).</p> <p>a. Name the software you used this year to create graphics media files.</p> <p>_____</p> <p>b. Name the software you used this year to create video media files.</p> <p>_____</p> <p>c. Name the software you used this year to create audio media files.</p> <p>_____</p>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
B2 B2a	<p>This question asks about how you processed one of your files. Choose either a graphic file, or a video file, or an audio file, and answer the questions using your experience with that file.</p> <p>Describe your initial Graphic, or Video, or Audio file. What did it look like or sound like, and what was the subject of your original file?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
B2b	<p>Name and describe one advanced processing feature you applied to your Graphic, or Video, or Audio file.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										

B2c	<p>Describe two features you applied to your Graphic, or Video, or Audio file.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Proficient</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Moderate</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Proficient	Level	Excellent		Moderate		Weak		NR	
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Moderate												
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NR												
B3 B3a	<p>This question asks about how you processed two media files into one final output. Answer the questions using your experience processing the two files.</p> <p>You integrated two media files this year. Name the software that you used to integrate the two files.</p> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR			
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Weak												
NR												
B3b	<p>Describe the process you went through to integrate your two media files.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR			
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Excellent												
Weak												
NR												

<p>B3c</p>	<p>Explain the purpose of your final integrated media. What were you trying to produce in your final product?</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"><thead><tr><th>Basic</th><th>Level</th></tr></thead><tbody><tr><td>Excellent</td><td></td></tr><tr><td>Weak</td><td></td></tr><tr><td>NR</td><td></td></tr></tbody></table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
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NR										
<p>B4</p>	<p>During the creation of your media files you used dedicated hardware peripherals. Name and describe one of the peripherals you used. Explain, giving one reason, why you chose to use this particular peripheral.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"><thead><tr><th>Basic</th><th>Level</th></tr></thead><tbody><tr><td>Excellent</td><td></td></tr><tr><td>Weak</td><td></td></tr><tr><td>NR</td><td></td></tr></tbody></table>	Basic	Level	Excellent		Weak		NR	
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NR										

SECTION C: Ethics of ICT

Assessor's use only

C1

In a business organisation there are certain groups who may pose threats to computer security. They are known as employees, hackers, crackers, organized crime, terrorists.

Study the two computer security issues given below and answer the questions that follow:

Security Issue 1

A very large e-mail system crashed for six hours after someone sent 60,000 workers a personal e-mail message complete with a request for an automatic reply. The business was forced to employ a very expensive specialised rescue squad to repair the damage.

Security Issue 2

The GameOver Zeus botnet is one of the most active banking trojans of 2013. It has affected between 500 000 to 1 000 000 computers worldwide and has stolen nearly \$600 million. The botnet spreads by tricking computer users into downloading and opening a malicious file.

For each security issue, name **one** group from the list who is likely to have created the threat. Give a reason why you think the group you named is responsible for the issue.

Security Issue 1

Group: _____

Reason: _____

Security Issue 2

Group: _____

Proficient	Level
Excellent	
Moderate	
Weak	
NR	

SECTION D: Programming*Assessor's use only*

D1

A computer game randomly generates a number between 1 and 10, which then remains constant, and asks the player to guess the number. The player continues to guess until their guess is the same as the game's number.

Use a flow chart (or any other method) to show the logic of this game.

Proficient	Level
Excellent	
Moderate	
Weak	
NR	

<p>D2</p>	<p>A computer game randomly generates a number between 1 and 10, which then remains constant, and asks the player to guess the number. The player continues to guess until their guess is the same as the game's number.</p> <p>Use the programming language you learnt this year to write the code for the decision making loop of the game's program.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"><thead><tr><th>Basic</th><th>Level</th></tr></thead><tbody><tr><td>Excellent</td><td></td></tr><tr><td>Weak</td><td></td></tr><tr><td>NR</td><td></td></tr></tbody></table>	Basic	Level	Excellent		Weak		NR			
Basic	Level											
Excellent												
Weak												
NR												
<p>D3</p>	<p>The computer game is now changed so that the player gets only three turns to guess the number. Describe two programming components or structures that must be added to the program that limits the player to three guesses.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"><thead><tr><th>Proficient</th><th>Level</th></tr></thead><tbody><tr><td>Excellent</td><td></td></tr><tr><td>Moderate</td><td></td></tr><tr><td>Weak</td><td></td></tr><tr><td>NR</td><td></td></tr></tbody></table>	Proficient	Level	Excellent		Moderate		Weak		NR	
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Excellent												
Moderate												
Weak												
NR												

D4	<p>Complicated games can be created using the top down design method. Describe top down program design.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR															
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Weak																								
NR																								
D5	<p>Top down program design promotes modular coding practice. Describe what modular coding practice is.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR															
Basic	Level																							
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NR																								
D6	<p>Here are the six steps of programming randomly sorted. In the Number column place the numbers 1 to 6 to show the order of sequence when writing a program.</p> <table border="1"> <thead> <tr> <th>Step Description</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Code in the solution</td> <td></td> </tr> <tr> <td>Define the Output</td> <td></td> </tr> <tr> <td>Test and Debug</td> <td></td> </tr> <tr> <td>Solve the Problem using logical methods</td> <td></td> </tr> <tr> <td>Document</td> <td></td> </tr> <tr> <td>Understand the Problem</td> <td></td> </tr> </tbody> </table>	Step Description	Number	Code in the solution		Define the Output		Test and Debug		Solve the Problem using logical methods		Document		Understand the Problem		<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
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D7a

Here is a small program.

```
for i in range(1,9):
    print(i)
else:
    print("Finished")
```

Write down what appears on the screen when this program runs.

Basic	Level
Excellent	
Weak	
NR	

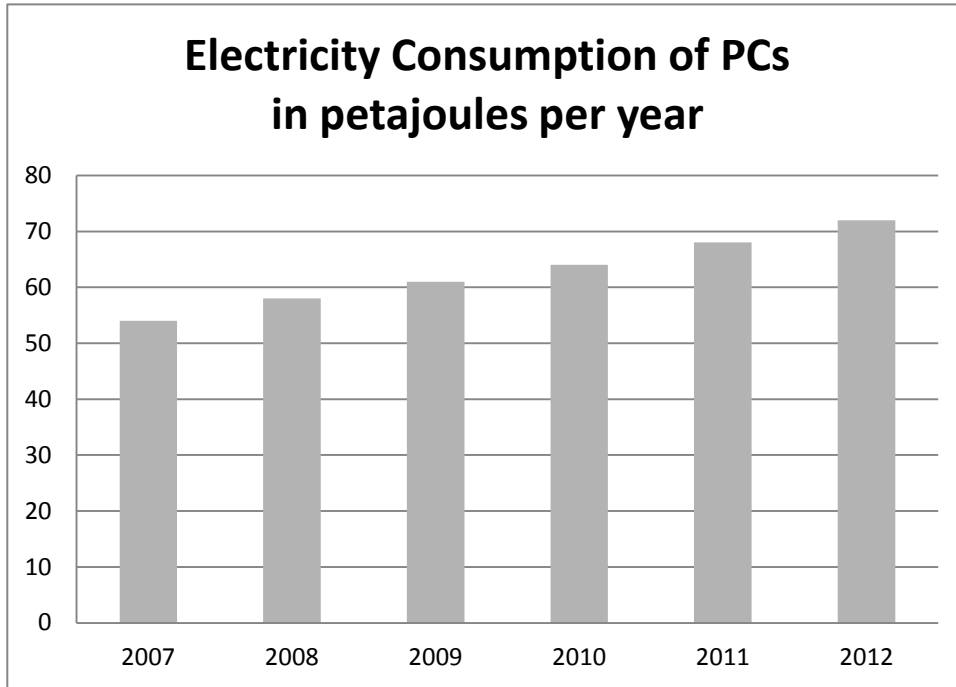
D7b

Identify the variable in the above program.

Basic	Level
Excellent	
Weak	
NR	

SECTION E: Environmental Issues and Climate Change

The worldwide electricity consumption of personal computers (PCs) over six years is shown in the graph.



Assessor's use only

E1 A modern power station can produce 0.072 petajoules of electricity per year. How many power stations were needed in 2012 just to run PCs?

Basic	Level
Excellent	
Weak	
NR	

E2 Discuss why personal computers are a significant factor in climate change. (You may use your answer to the previous question to support your discussion.)

E2 (cont)		

Advanced	Level
Excellent	
Moderate	
Low	
Weak	
NR	
Exceed	

SECTION F: Web Site Design and Development*Assessor's use only*

F1

Three of the principles of good **graphic** design are contrast, repetition, and proximity. Sketch up to six triangles under each heading to illustrate the principle named.

Contrast**Repetition****Proximity**

Basic	Level
Excellent	
Weak	
NR	

Assessor's use only

F2	<p>Describe one principle of good website design apart from contrast, repetition, or proximity.</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
F3	<p>When creating a media file for use in a website describe one attribute of the file that should be considered.</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
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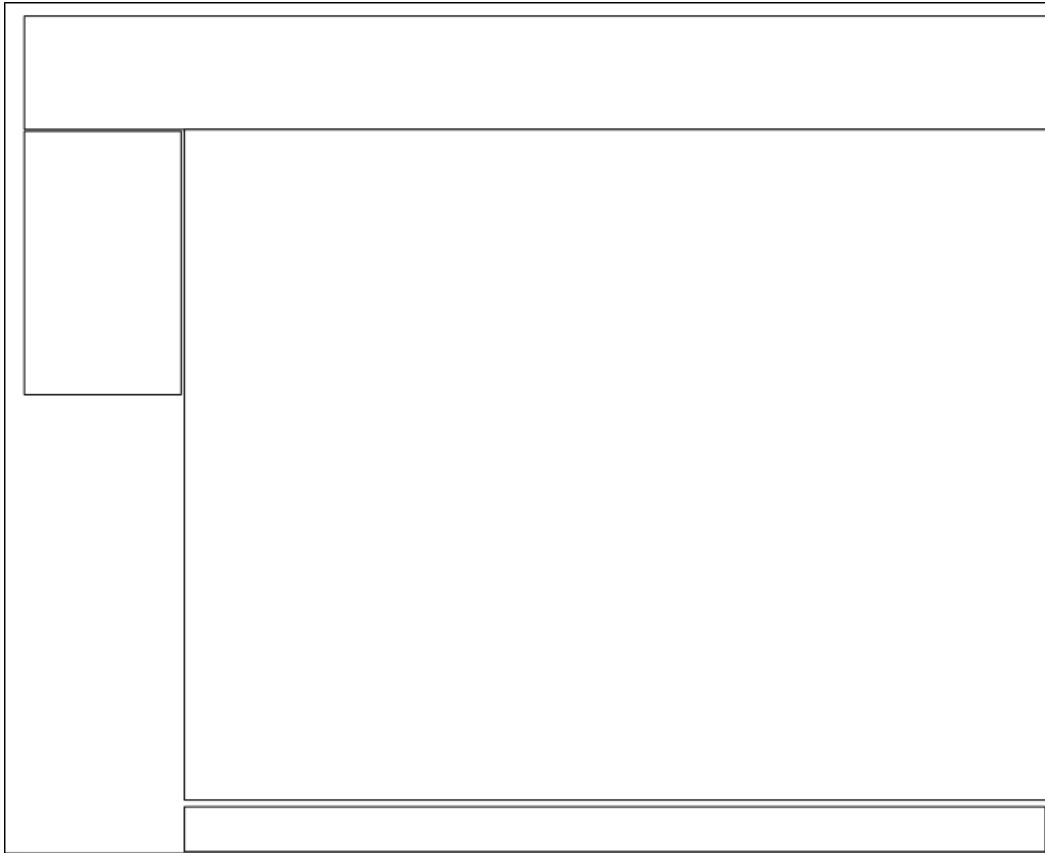
F4

A Cascading Style Sheet (CSS) named *style.css* is used to control the layout of a web page. Here is the code for *style.css*.

```
body
{
    background-color:#FFFFFF;
}
#wrapper
{
    width: 720px;
    margin-left:auto;
    margin-right:auto;
}
nav
{
    width: 100px;
    padding: 5px;
    float: left;
    color:#111152;
    background-color: #DDDDEE;
}
header
{
    width: 720px;
    height: 70px;
    float: right;
    margin-left:auto;
    margin-right:auto;
}
footer
{
    clear: both;
    color:#FFFFFF;
    text-align:right;
}
article
{
    width: 610px;
    float: right;
    margin-left: auto;
    margin-right: auto;
    color:#FFFFFF;
}
p {font-size:20px;}
a:link {color:#8A7A52;}
a:visited{color:#8A7ACC;}
```


F4
(cont)

The layout of the web page is shown in the diagram below. The rectangles represent the style of the webpage. Use the CSS code to find the name of each rectangle, and write the name in each rectangle.



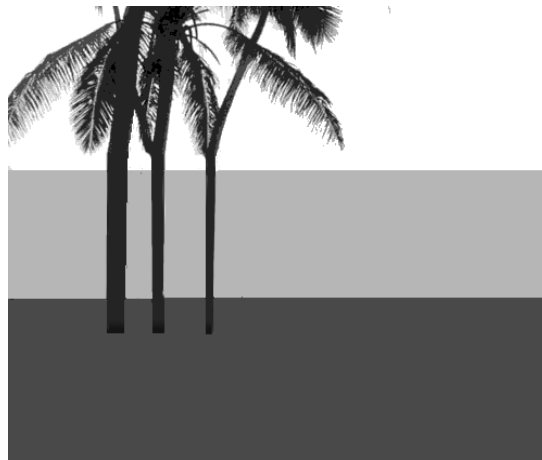
Basic	Level
Excellent	
Weak	
NR	

F5

Here is the HTML code for the webpage used with the CSS file *style.css*.

```
<!DOCTYPE html>
<html>
<head>
<title>
ICT in the Tropical Pacific
</title>
<link href="style.css" rel="stylesheet" type="text/css">
</head>
<body>
<div id="wrapper">
  <header>
    <h1> Information and Communication Technology </h1>
  </header>
  <article>
    
    <p>The South Pacific is a <i>stunning</i> environment.</p>
  </article>
  <nav>
    <p><a href="index_v2.html">index</a></p>
    <p><a href="page_v2.html">page 2</a></p>
  </nav>
  <footer>
    <p>ICT in the South Pacific</p>
  </footer>
</div>
</body>
</html>
```

Here is a small picture of the contents of the file *Beach2.jpg*



In the diagram on the next page sketch what the webpage looks like when viewed with a web browser. (Ignore any colour information.)

<p>F5 (cont)</p>	<div style="border: 1px solid black; height: 100px; width: 100%;"></div> <div style="border: 1px solid black; height: 300px; width: 100%;"></div>	<table border="1"> <thead> <tr> <th>Proficient</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Moderate</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Proficient	Level	Excellent		Moderate		Weak		NR	
Proficient	Level											
Excellent												
Moderate												
Weak												
NR												
<p>F6</p>	<p>Describe how to validate the HTML code of the previous question.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR			
Basic	Level											
Excellent												
Weak												
NR												
<p>F7</p>	<p>Describe how to test the links in a web site.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR			
Basic	Level											
Excellent												
Weak												
NR												

Assessor's use only

F8	Give one example where a database, used in conjunction with a website, would improve the experience of a person visiting that website. _____ _____ _____ _____ _____ _____ _____		
		Basic	Level
		Excellent	
		Weak	
		NR	

SECTION G: Safe Practice

Assessor's use only

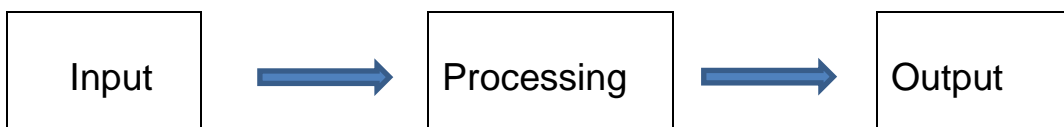
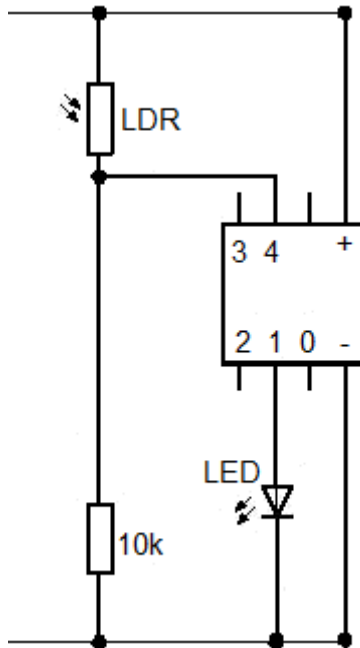
G1	<p>Name two health issues that are directly related to using ICT equipment. Explain how to prevent each issue from causing serious health problems.</p> <p>Issue 1: _____</p> <p>Prevention: _____</p> <p>_____</p> <p>Issue 2: _____</p> <p>Prevention: _____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 70%;">Proficient</th> <th>Level</th> </tr> <tr> <td>Excellent</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Moderate</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Weak</td> <td style="text-align: center;"> </td> </tr> <tr> <td>NR</td> <td style="text-align: center;"> </td> </tr> </table>	Proficient	Level	Excellent		Moderate		Weak		NR					
Proficient	Level															
Excellent																
Moderate																
Weak																
NR																
G2	<p>Describe what identity theft is. Discuss how to avoid being the victim of identity theft, including two examples of safe practice.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 70%;">Advanced</th> <th>Level</th> </tr> <tr> <td>Excellent</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Moderate</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Low</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Weak</td> <td style="text-align: center;"> </td> </tr> <tr> <td>NR</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Exceed</td> <td style="text-align: center;"> </td> </tr> </table>	Advanced	Level	Excellent		Moderate		Low		Weak		NR		Exceed	
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SECTION H: Microprocessor Control

Here is a diagram showing a Light Dependent Resistor (LDR), a microprocessor, and a Light Emitting Diode (LED). The LDR needs a 10k resistor to work properly.

The microprocessor is programmed to detect the level of light in a room and to turn on the LED when it is getting dark.

Below the diagram is a second diagram showing three of the stages of how a computer functions.



Assessor's use only

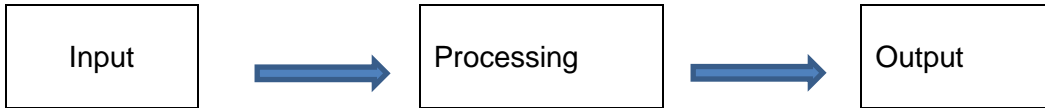
H1a

A computer takes input, processes it, and creates output. Draw circles around the parts of the first diagram where each of the three stages is occurring, **and** draw a line from the circle to the box with the label for that stage.

Basic	Level
Excellent	
Weak	
NR	

H1b

There is one more stage in the model of a computer. Draw another box on this diagram and place the name of the fourth stage in it. Draw any necessary arrows.



Basic	Level
Excellent	
Weak	
NR	

H1c

The LED, shown in the diagram on the previous page, turns on when the input is less than a value of 200. Use a microprocessor programming language to write the program that will turn on the LED when the microprocessor detects a value of less than 200.

Proficient	Level
Excellent	
Moderate	
Weak	
NR	

H1d	<p>Describe how you could create a graph of the light level in a room using the microprocessor shown in the diagram at the beginning of question 1.</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
H2	<p>What is machine code?</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
H3a	<p>Describe one situation where a dedicated microprocessor is placed into a manufactured product, and state the function of the microprocessor in this product.</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
H3b	<p>Embedded microprocessors use software to control their responses. Why is it important that the software is error free?</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th>Basic</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
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Weak										
NR										

H4a	<p>Apart from detecting light describe two other ways that a microprocessor can sense its environment.</p> <p>1. _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>2. _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left;">Basic</th> <th style="width: 50%; text-align: left;">Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
Basic	Level									
Excellent										
Weak										
NR										
H4b	<p>Apart from turning on an LED describe one other way that a microprocessor can indicate that it has sensed a critical change in its environment.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left;">Basic</th> <th style="width: 50%; text-align: left;">Level</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td></td> </tr> <tr> <td>Weak</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Basic	Level	Excellent		Weak		NR	
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