Learning Ladder – COMPUTING

Exam Criteria	AO1 – Using Computers	AO2 – Programming	AO3 - Algorithms	AO4 - Micro bit

1-3	**Theory** • I can recognise different file types (e.g. .doc, .ppt, .jpg) • I can identify what makes a “strong” password • I can list some dangers/ drawbacks of social networking sites • I can identify possibly responses to cyber bullying • I know who to contact with e safety matters in school **Skills** • I can create, save, copy, move, rename, delete files and folders • I can send and reply to emails (with attachments • I can use a search engine **Testing**	**Theory** • I can identify use of a loop. • I can identify use of selection. **Skills** • I can write a sequence of instructions • I can use a variable to store a value • I can create separate blocks of code to complete different tasks	**Theory** • I can identify key terminology • I can identify where selection is used • I can identify where iteration is used **Skills** • I can write an algorithm using selection • I can write an algorithm using iteration	**Theory** • I can identify use of a loop. • I can identify use of selection. **Skills** • I can write a sequence of instructions • I can use a variable to store a value • I can create separate blocks of code to complete different tasks

4-6	**Theory** • I can identify how to minimise the danger of having your computer infected by a virus • I can identify guidelines for keeping your identity secure on the Internet • I know who to contact with e safety matters in a range of situations **Skills** • I can set up folders and files with suitable names • I can resize images before attaching to emails • I can use advanced features of a search engine • I can create a presentation that is suitable for purpose **Testing** • I can test functionality	**Theory** • I can describe one example of using a loop in the code. • I can describe one example of using a selection in the code. • I can describe how variables have been used and changed • I can explain how some blocks are executed by an event happening (e.g. arrow button pressed) **Skills** • I can use a loop that repeats continuously • I can use an IF statement to select whether to execute an instruction • I can change the value of a variable	**Theory** • I can describe why I am using iteration • I can describe why I am using selection • I can describe functions • I can explain what is happening within code. **Skills** • I can write an algorithms that uses a nested loop • I can write an algorithm that uses nested selection **Testing** • I am able to identify errors in an algorithm	**Theory** • I can describe one example of using a loop in the code. • I can describe one example of using a selection in the code. • I can describe how variables have been used and changed • I can explain how some blocks are executed by an event happening (e.g. arrow button pressed) **Skills** • I can use a loop that repeats continuously • I can use an IF statement to select whether to execute an instruction • I can change the value of a variable within the program **Testing** • I can able to identify

7-9	**Theory** • I can describe what is acceptable and unacceptable behaviour when using online services • I can describe why information found on the internet might not be accurate • I can describe the advantages and disadvantages of email as a method of communication **Skills** • I can set up and use sub folders with suitable names • I can set up and use sub folders with suitable names • I can create a presentation that shows good awareness of purpose and audience **Testing**	**Theory** • I can discuss use of loops and using conditions to control them. • I can discuss use of selection and else statements • I can discuss why variables are used in an effective program. • I can discuss use of broadcasts in the program **Skills** • I can use a loop that repeats whilst a condition is met • I can use an IF statement with Else to decide which instruction to execute • I can use variables in condition to control program flow	**Theory** • I can discuss why we use loops and the conditions to use in algorithms • I can discuss how we use selection and else statements in algorithms • I can discuss variables and data types used in algorithms **Testing** • I can identify errors in an algorithm and I can correct them	**Theory** • I can discuss use of loops and using conditions to control them. • I can discuss use of selection and else statements • I can discuss why variables are used in an effective program. • I can discuss use of broadcasts in the program **Skills** • I can use a loop that repeats whilst a condition is met • I can use an IF statement with Else to decide which instruction to execute • I can use variables in condition to control program flow • I can use broadcasts to call a block of code

Exam Criteria	AO5 – Understanding Computers	AO6 – Hardware and Networks	AO7 – Python Advanced	AO8 - Html

1-3	**Theory** • I have given examples of computer hardware and software • I can name different input, output and storage devices • I have drawn a block diagram showing CPU, input, output and storage devices • I have defined a Bit, Byte, Kb, Mb and Gb • I can show how numbers and text can be represented in binary	**Theory** • I can understand that the Internet is a wide • area network and the world wide web is part of the Internet • I have defined the meaning of the terms • “domain name”, http protocol • I can explain the basic principle of packet • switching • I can give examples of LANs and WANs • I can state three different network • Topologies • I can describe what is meant by a client server network and state some of its advantages • I can explain why some	**Theory** • I understand that methods are used to perform different tasks • I can describe one example of using a loop in the code. • I can describe one example of using a selection in the code. • I can describe how variables have been used and changed **Skills** • I can use a sequence of instructions • I can use built-in methods • I can use an IF statement to select whether to execute an instruction • I can change the value of a variable within the program **Testing** • I have created more	**Theory** • I know and understand how to use some HTML tags. **Design** • I can use a design to create a template for a web page using HTML **Skills** • I have edited basic HTML to change the content of a web page • I can change basic CSS to alter the appearance of a web page • I have specified a width for my web page and images **Testing** • pages are tested to ensure that they work **Evaluation** • I can show evidence that I have

4-6	**Theory** • I have described the difference between hardware and software • I have suggested input and output devices for a simple scenario • I have shown that I can distinguish between main memory and permanent storage devices • I have defined Hz, MHz and GHz and stated how these relate to the speed of the processor • I have converted integers to binary numbers and binary to integer • I have explained how characters are encoded using the ASCII system	**Theory** • I can explain what is meant by buffering and why it is used • I can explain the meaning and significance of bandwidth • I can identify some of the extra hardware components used in a LAN • I can state the advantages and disadvantages of different network topologies • I can compare the uses of peer-to-peer • networks and client-server networks **Design** • I can design a simple network layout	**Theory** • I understand that methods are used to perform different tasks **Skills** • I can discuss use of loops and using • Conditions to control them. • I can discuss use of selection and else statements • I can discuss why variables are used in an effective program • I can create methods to break down the program in small chunks of code. • I can use a loop that repeats continuously I can use a loop that repeats whilst a condition is met • I can use an IF statement with Else to decide which instruction to execute	**Theory** • I can explain the difference between how • HTML and CSS are used in creating a web page. **Design** I can use the template to design a multipage website with a consistent look and feel to each page **Skills** • I have written basic HTML to create a web page of my own • I have used basic CSS to control the appearance of my own web page • I have changed the width setting to percentages in order to make the page responsive • I have used the example web form to submit data to a simulated database

7-9	**Theory** • I have input and output devices for more complex scenarios • I have explained the difference between RAM and ROM and what ROM is used for • I have named the three stages in the Fetch Execute Cycle • I have used an ASCII reference chart to convert a character into binary and its decimal equivalent	**Theory** • I can describe the concept of cloud computing and some of the benefits it brings to individuals and organisations **Design** • I can design a network layout for their school, using icons to represent server, hub, switch, router, Internet, workstation, printer	**Theory** • I can discuss the use of methods to break down the program. **Skills** • I can effectively call methods to execute different parts of the program in sequence.	**Theory** • I understand how DIV tags separate areas of a web page and how their appearance is controlled by CSS **Design** • I can add enhancements or additional features to the original basic design **Skills** • I have added DIV tags in order to separate areas of a web page • I have used CSS to control the appearance of DIV sections of HTML • I have added a footer DIV section to a web page (Expert) • I have added a web form to my own web Page **Testing**