Year 9 Computer Science Curriculum Plan							
Component 1	Core		Hinterland		NC Coverage	Assessment	Whole Education Opportunities
	Knowledge	Skills	Knowledge	Skills			
(Autumn Term 1 & 2) Fundamentals of Algorithms	• Decomposition • Abstraction • Searching algorithm • Sorting algorithm	• Developing algorithm using flowcharts • Developing algorithm using pseudocode • Applying decomposition, abstraction and algorithmic thinking to help solve a problem	• Problem management	• Using strategies in problem-solving	• 4CC2 • 4CC3 •	• End of topic assessment • PR point assessments •	• SMSC- ethical and cultural issues • SMSC- this encourages students, to explore and develop their thought pattern • 5C's-character, confidence, creativity, community, and contribution. •
Programming concept	• Data types and operation • Sequence and selection • Iteration • Function	• Using python programming to solve problems • Casting of data in a programming • Reading and writing programs using the concept of sequence, selection, and iteration	• Programming concept • Problem solving techniques	• Adapting changes • Collaborating with new concept • Comparing work with available data from other sources			
(Spring & Summer Term) Fundamentals of data representation	• Storage units and binary numbers • Binary arithmetic and hexadecimal • ASCII and Unicode • Images and sound • Compression	• Calculating size of data to be stored on storage devices • Calculating binary addition • Representing images and sounds by bits. • Calculating sample rate of data in sounds	• Understanding of bits for data rate such as download speed and internet connectivity • Data usage in the music industry	• Operational concept of Internet service providers. • Using hexadecimal representation to create colours in website designs. • Using compression applications to reduce file size for transmission	• 4CC1 • 4CC2 • 4CC3	• PLC • End of topic assessment • PR point assessments	
Computer systems	• Boolean logic • Logic gates • System architecture • The CPU and fetch-Execute-Cycle • Memory • Secondary storage	• Drawing logic gates • Defining memory and data buses • Drawing the Von Neumann architecture of the computer	• Awareness of general computer systems • Analysing numeric data • Statistical knowledge	• Computer literacy • Digital encoding			
Programming skills	• Python skills	• Writing programs using the concept of:- 1. Sequence 2. Selection 3. Iteration 4. functions	Software development	Design software application			