GES AS Computer Science Half Termly 2 January – March 2020

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| TOPIC: Theory Processor Fundamentals |

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| Theme: Functional\_characteristics\_of\_a\_processor | Level: Year 12 |
| Objectives: *To understand the Structure\_and\_role\_of\_the\_Processor* |

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| Focussing Questions | Key Words |
| **Theory: Theory Fundamentals**1. Describe how analogue data is stored on a digital system.
	1. How can images be stored on a digital system?
	2. How are Video data stored on a digital system?
	3. How can Sound be captured and stored on a digital system?
2. The use of Compression of Data.
	1. What is Data Compression?
	2. Why is Data compression needed in file transfers?
	3. What are the 2 different methods of data compression?

Theory: Processor Fundamentals:Describe basic Von Neumann architecture, identifying the need for and the uses of special registers in the functioning of a processor.1. What is the process of fetching instructions from memory
2. Why does the CPU need special registers?
3. How does the Processor Reset Function work.

**Practical – Procedures and Functions**1. Void Function and Return Value Function
	1. What is the difference between a Void Vunction and a Value Return Function.
	2. Explain Decomposition and how Step-Wise Structures can be implemented in programming?
	3. Describe Structured English as an Algorithm
2. Algorithm design and problem-solving
	1. How can different algorithms be used to design a solution.
	2. What are Structure charts and how is it used in programming?
3. Programming tasks.
	1. Working through the 2020 Pre=Release tasks.

**Repl.it – An one Line programming Console will be used with Chromebooks** | SamplingLossyLosslessCompressionRun Length EncodingJPEGMPEGMP3MP4ArchivePDFVon Neumann Architecture,Variables, Registers, Interrupts, Sequence Control RegisterProcedures, Functions, Void Functions, Value Returning Function, Modularity, Structured Charts, AlgorithmsFiles, Append, Write, Read | Explaining words...so.....because...Therefore...As a result...This means that...Therefore...This caused......Due to the fact......caused…However |

**Text Book: Departmental textbooks and Worksheets.**