GES IG1 Computer Science Half Termly 2 January – March 2020

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| TOPIC: Theory Processor Fundamentals |

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| Theme: Von Neumann Architeture and Special Registers | Level: Year 10 |
| Objectives: *To understand the Role of Special Registers in Processors* |

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| Focussing Questions | Key Words |
| **Theory: Theory Fundamentals**1. Special Registers and Memory.
	1. What is the Von Neumann Architecture?
	2. Why is there a need for Special Registers in Processors.?
	3. Explain the effects of the stages of the cycle on specific register?
2. Buses, Programming Structures.
	1. Why does a computer use different busses.?

b Show how data are transferred between various components of the computer system using the address bus, data bus and control bus.3. Internet principles of operation1. Show how the 3 layers of webpages interact on the Internet.
2. What are the different ways Errors can be detected in Data Transmission,
3. Explain how errors are corrected with data transfer.?

**Practical – Repetion and Algorithms**1. Repetition:
	1. Explain and use pseudocode, using the following loop structures:
	2. FOR … TO … NEXT
	3. REPEAT … UNTIL
	4. Explain the use of Counting Variables
2. Algorithms
	1. Explain the use of Flowcharts and its short-comings.
	2. Why would Pseudocodes be a better option to use as an Algorithm.
	3. Explain the rules when using Structured English as an Algorithm

**Repl.it – An one Line programming Console will be used with Chromebooks** | PC / SQRProgram Counter / Sequence Control RegisterMARMemory Address RegisterMDR / MBRMemory Data Register / MemoryAddress Bus, Data Bus, Control BusAssembler, Mnemonic SymbolsIteration:For loop, For each loop, While loop, Repeat until loopStructured EnglishVerbsFlowchartsPseudocodesTraceTables | 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.**