Year 11 - Advent Mock Examinations 2022

Subject	Computer Science		
Title/Topic	**Format**	**Length**	**Date & Time**
Paper 1 – Computer Systems	Written Paper	1 hr 15 minutes	Thu 24 November Afternoon
Paper 2 – Computational Thinking and Programming	Written Paper	1 hr 15 minutes	Wed 30 November Morning

In this assessment the topics I will be assessed on are…

Paper 1 – Computer Systems
- CPU registers and their purpose
- CPU performance factors
- CPU - Von Neumann Architecture
- ROM and RAM
- Secondary storage devices and their benefits
- Features of operating systems
- Examples of utility programs
- Network Hardware needed to build a network
- Network threats and prevention
- WANs and the Internet, IP and MAC addresses
- Network Protocols used in common applications

Paper 2 – Computational Thinking, Algorithms and Programming
Part 1 - Data Representation
- ASCII and character sets
- ASCII (denary) to binary, Binary to Hexadecimal conversion, Binary Shifts
- Bitmap images and binary
- Image file size calculations
- Digital sound and sampling
- Compression techniques – Lossy and Lossless

Part 2 – Problem Solving and Programming
- Structure diagram (decomposition of a problem)
- Errors – Finding errors in code, types of error (logical and syntax)
- Binary Search - Binary search compared to linear search
- Sorting Algorithms – Insertion, Merge and Bubble Sort
- Creating a function - Write code/algorithm for a problem
- Computational thinking – Abstraction
- Writing an algorithm/code for a numerical based problem (similar to a "tax fare" problem)
- Tracing and following a given flowchart
- Writing code to match a given flowchart
- Re-write sample code, fixing errors
- Complete the partly finished code
- Write the code for a problem, involving a pre-made function.

What should I do to revise and prepare for this assessment?

To prepare for this assessment:

1. Watch the GCSE Pod videos for the topics above that you feel least confident about
2. Make notes about the key points highlighted in the video.
3. Re-read sections of your homework booklet (thick booklets for Paper 1 and 2)
4. Complete the practice questions from the revision packs handed out in class.
5. Ask Mr Jackson for additional help and advice if you are struggling with any topics.

What useful websites/resources could I use to help me prepare?

www.gcsepod.com
www.youtube.com (Search "craigndave gcse computer science")
www.isaaccomputerscience.org