



<b>Subject</b>		<b>Computer Science</b>		
<b>Title/Topic</b>		<b>Format</b>	<b>Length</b>	<b>WC</b>
Part 1 – Computer Systems		Written Paper	45 minutes	21 November
Part 2 – Computational Thinking and Programming		Written Paper	45 minutes	21 November

### In this assessment the topics I will be assessed on are...

#### Part 1 – Computer Systems Theory

- Describe the main components of a CPU and their purpose
- Describe the stages of the FDE cycle, including how different registers are used at each stage
- Identify the main features of Von Neumann Architecture and Harvard Architecture
- Explain the differences between CISC and RISC architecture
- Explain how co-processors such as GPUs can improve
- Interpret and write assembly instructions using Little Man Computer
- Describe the relationship between CPU, Primary memory and secondary storage
- State the properties of the different types of primary memory (RAM and ROM)
- State the properties of the main types of secondary storage
- Describe the purpose of the operating system
- Explain the FIVE main features of an operating system
- Describe the memory management techniques used by the OS – paging, segmentation and virtual memory
- Describe the scheduling algorithms used to manage CPU time

#### Paper 2 – Problem Solving and Programming

- Combining these skills together to solve complex problems
- Creating variables to store different types of data
- Output messages to the user and read in responses (print/input)
- Using iteration such as FOR loops and WHILE loops
- Using selection (IF ELSE) to provide different pathways in a program
- Use of different operators – Mathematical, comparative and boolean
- Use of casting techniques such as str(), int() and float()
- Use of functions and procedures
- Use of lists/arrays for storing multiple pieces of data
- Writing data to a file



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

To prepare for this assessment:

1. Re-watch any Cragndave videos for specific topics
2. Make notes about the key points highlighted in the video.
3. Complete the practice questions from the revision packs handed out in class.
4. 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.youtube.com](https://www.youtube.com) (Search "craigndave gcse computer science")  
[www.isaaccomputerscience.org](https://www.isaaccomputerscience.org)