



| Subject | | Computer Science | |
|---|---------------|-------------------------|------------------------|
| Title/Topic | Format | Length | Week Commencing |
| Paper 1 - Binary Data | Written Paper | 50 minutes | 5 June |
| Paper 2 - Programming Techniques and Algorithms | Written Paper | 50 minutes | 12 June |

This assessment will test my knowledge on...

Paper 1 – Computer Systems - Theory

Binary Data- Numbers

- Converting from binary to denary
- Converting from denary to binary
- Converting from hex to denary
- Converting from denary to hex
- Converting from Hex to binary
- Converting from Binary to hex
- Adding binary numbers
- Shifting left and right

Binary Data- Text

- What is a character set?
- How is ASCII used to represent text?
- What is the difference between ASCII and Unicode?
- Working out the ASCII values for any letter if we are told one of them

Binary Data- Images

- What is a pixel?
- What is a bitmap image?
- What are the factors that affect image quality?
- What is the colour depth?
- How is the file size of an image calculated?
- Calculating how many images can be stored on a given device.

Binary Data- Sound

- How is sound converted from analogue to digital?
- What is sampling?
- What are the sampling frequency and sampling resolution?



- What are the factors that affect sound quality?
- How is the size of a sound file calculated?

Paper 2 - Programming Techniques

Basic Concepts-

- Creating and using variables of different datatypes
- Casting variables to different datatypes
- Using Mathematical, Logical and Comparative operators in programs
- Using selection – how to write a working IF ELIF ELSE statement
- Using iteration – How to write a FOR and WHILE loop for a given scenario
- Using built-in casting functions – int(), str() and float()

Further techniques

- Creating and using lists to store data
- Accessing data in a 2D list
- Writing functions (defs) that take in parameters
- Reading and writing data from a file

Algorithms

- Searching Algorithms – Linear and Binary Search
- Sorting Algorithms – Bubble, Merge and Insertion

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

To prepare for this assessment:

1. Re-read the above topics in your homework booklet.
2. Complete the programming practice activities
3. Complete the practice questions and activities provided

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

- 1) www.gcsepod.com
- 2) www.youtube.com (Search “CraigNDave OCR GCSE” to get the playlist of videos)
- 3) www.isaaccomputerscience.org (an online revision guide with quizzes)