Year 9 End of Year Computing Assessment

The exam paper will be a total of **60 marks.**

Year 9 – 35 marks, Year 8 – 15 marks, Year 7 – 10 marks

Revision tips: We would suggest creating mind maps, record cards with the question one side and answer on the other (self-testing) and try the quizzes (links below).

Methods of Revision Suggestions:	**Website Link:**
Mind map	http://tinyurl.com/37xezntd
Quizlet (allows you to create flashcards) Sign up using your school email address	http://tinyurl.com/37dubdjk
Padlet (revision board) – Sign up using your school email address	http://tinyurl.com/ysjaahr5
Power Point/Notes	http://tinyurl.com/mprnrj4w

Year 9 topics: (students should use their books and presentations on google classroom)

E-Safety- be able to define sexting, selfies, trolling and age ratings.

Creative Video-

- Lossy and lossless compression- be able to describe the difference between lossy and lossless compression.
- File types- audio, suitability for use and size.

System Architecture & Data Representation

- CPU- definition (carries out an endless cycle of fetch, decode, execute).
- Clock speed – number of F-D-E cycles per second.
- Logic Gates - state the output from given inputs (AND, NOT)
- Binary - binary addition.
- Hexadecimal – decimal to hex, reason why we use hex instead of binary.
- Images- understand how bitmap images are stored on a computer.
- Software – Task carried out by the operating system. Utility software used for security.
- Computational thinking- define, giving examples (algorithms, decomposition, pattern recognition and abstraction).

Python

- Variables and Data types
- Selection

- Data Structures i.e.1D Lists

When you write lines of code, there are three ways you can control the order these lines will be executed by the computer:

1. **Sequencing:** This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at line 1, then execute line 2 then line 3 and so on till it reaches the last line of your program.

2. **Selection:** Sometimes you only want some lines of code to be run only if a condition is met, otherwise you want the computer to ignore these lines and jump over them. This is achieved using IF statements. e.g. If a condition is met then lines 4, 5, 6 are executed otherwise the computer jumps to line 7 without even looking at line 4,5 and 6.

3. **Iteration:** Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: For loops, while loops and repeat until loops. That's handy as it enables you not to have to copy the same lines of code many times.

Helpful resources:

1) E-safety: https://tinyurl.com/2kky6b6c
2) Lossy and lossless compression: Compression - Units and data representation - OCR - GCSE Computer Science Revision - OCR - BBC Bitesize
3) File types: https://tinyurl.com/4ctrwsva
4) CPU: https://tinyurl.com/2jz8z93d, https://tinyurl.com/bdcuzzdh
5) Logic gates: https://tinyurl.com/4m6ada3b, https://tinyurl.com/yrek4efm
6) Binary: https://tinyurl.com/5n8y2shd, https://tinyurl.com/yzzv7y2w
7) Hexadecimal: https://tinyurl.com/mm82b3hz, https://tinyurl.com/yc42vr3f
8) Images: https://tinyurl.com/889z2x2t
9) Software: https://tinyurl.com/bdd4tw57, https://www.blooket.com/set/61f6cb30ea27e20db2853d7a,
10) Computational thinking: https://tinyurl.com/2p949ed5
11) Python - www.w3schools.com/python/
12) Python Selection/iteration- Sequencing, Selection & Iteration - 101 Computing

Year 8 topics (15 marks)

- Define a white hacker.
- Describe a DDoS network attack.
- Identify the law that makes hacking illegal.
- Describe a Star network topology.
- Identify a variable in a python program.
- WWW vs Internet
- Network Topology (advantages and disadvantages)
- Know there are 3 programming constructs: Sequence, Selection & Iteration
- Write syntax to extend a program using selection (IF-ELSE)
- Identify syntax to carry out multiplication.

- Python variables

Helpful resources:

1) Types of hackers - https://tinyurl.com/2ccfzztc
2) Computer Misuse Act - https://tinyurl.com/4w4h332y
3) Difference between the internet and world wide web- https://tinyurl.com/z937nnx8
4) Network Topologies - https://tinyurl.com/mv88zbde
5) Python - www.w3schools.com/python/

Year 7 topics (10 marks)

- Describe the difference between cyberbullying and online grooming.
- Describe the purpose of the motherboard
- Know the purpose of RAM and ROM.
- State the type of secondary storage e.g. optical, magnetic, or solid state.
- Define an algorithm by an image e.g. pseudocode or flowchart.
- Create and debug python code to output a string e.g. print("Hello") or carry out calculations e.g print(4/2) divides

Helpful resources:

1) E-safety: https://tinyurl.com/2p8ksmrw
2) Internal computer components: https://tinyurl.com/ycksthcn
3) RAM and ROM: http://tinyurl.com/4tjxec4r
4) Secondary storage: https://tinyurl.com/3fpcnfs2 (Oak Academy)
5) What is an algorithm: https://tinyurl.com/7m9hz643
6) Python arithmetic https://tinyurl.com/2p96nvjf