 **Old Buckenham High School | Year 11 – The Year Ahead | 11th October 2018**

**COMPUTER SCIENCE**

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| **Mock Exam** | **Duration** | **Marks available** | **% of GCSE** | **Topics/ content** |
| Edexcel  Principals of computer science | 1 hour 40 minutes | 80 | 50% | 1. Algorithms 2. Binary and data representation 3. Encryption 4. Components of computer systems 5. Emerging trends in computing technologies |
| Edexcel Application of Computational Thinking | 2 hours | 80 | 50% | 1. Program code and constructs, data types, structures, input/output, operators and subprograms. 2. The internet and the worldwide web |

*Before revising, students should complete personal learning checklists for their subjects. These ask students to RAG rate both the topics/ content of their exams and also the skills they are required to use. Doing this will help them to identify priorities and make effective use of their revision time.*

**Personal Learning Checklist for the mock exam: Combination of Paper 1 and Paper 2 topics**

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| --- | --- | --- | --- |
| **Topic (what I need to know)** | **R** | **A** | **G** |
| **Algorithms** |  |  |  |
| **Binary:** conversion to denary and denary to 8-bit binary |  |  |  |
| **Hexadecimal:** conversion to binary and denary |  |  |  |
| **ASCII** code |  |  |  |
| **The Central Processing Unit** |  |  |  |
| **Memory:** RAM and ROM, Cache |  |  |  |
| **Network topologies:** types, LANS and WANS, network models, wired and wireless connectivity |  |  |  |
| **Protocols** and **TCP/IP** stack |  |  |  |
| **Network security:** authentication and validation, access control, cyber-security |  |  |  |
| **The Internet: definitions/packet switching** |  |  |  |
| **The WWW:** HTML, DNS, IPV4/6 |  |  |  |
| **Programming Techniques** | **R** | **A** | **G** |
| **Data Types:** different data types and their use, arithmetic operators, logical operators |  |  |  |
| **Variables** and **Constants** |  |  |  |
| **Declaring data type** and coercion |  |  |  |
| **Selection:** IF, ELSE, ELIF |  |  |  |
| **File handing**: reading and writing to files |  |  |  |
| **Count** and **condition-controlled loops** (iteration) |  |  |  |

**TOP REVISION TIPS FOR COMPUTER SCIENCE**

**There is a lot of theory content to cover**. Make sure you refer to your **PLC** in your OneNote book to check that you have covered all the topics. You can find the GCSE specification online at:https://qualifications.pearson.com/en/qualifications/edexcel-gcses/computer-science-2016.html

Remember, the examiner will be assessing technical knowledge, how this relates to the question and how well you can communicate it. You must include relevant technical terms to gain marks.

**Examples of how to approach the essay style questions** can be found at: www.bbc.co.uk/bitesize/guides/zk448mn/revision/2  
  
**Revision Strategies:**

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| **An algorithm-a-day!** https://revisecomputerscience.com/algorithm-a-day/ |
| **Six Questions a day!** https://revisecomputerscience.com/6-a-day/ |
| **Flash cards** – review existing flash cards or create your own https://quizlet.com/gb/248771693/computer-science-flash-cards/ |

**Resources to help you revise:**

* **Past paper walk-throughs:**

**Paper 1:** https://www.youtube.com/watch?v=CQAvLVD1MAs

**Paper 2:** https://www.youtube.com/watch?v=A0foVacuyrY

* **BBC Bitesize:**https://www.bbc.co.uk/bitesize/examspecs/zdqy7nb (links to all Edexcel related topics)
* **Craig and Dave Student videos**: https://student.craigndave.org/