Penwortham Priory ACADEMY

Computer Science

Revision Timetable

2023-2024

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Subject: Computer Science

W/C 1 April	**EASTER HOLIDAYS** Work through Computer Science Revision Booklet
W/C 8 April	**EASTER HOLIDAYS** Work through Computer Science Revision Booklet
W/C 15 April	**Binary Revision** [　] Convert between denary and 8-bit binary numbers (0 to 255) [　] Overflow errors [　] Convert between hexadecimal and binary [　] Two's complement and negative numbers in binary **Programming Languages Revision** [　] Purposes of low-level and high-level programming languages [　] Translating high-level code into machine code [　] How an interpreter differs from a compiler
W/C 22 April	**Algorithms and Decomposition Revision** [　] Be able to follow and write algorithms (flowcharts) [　] Use sequence/selection, and input/processing/output to solve problems [　] Use a trace table to determine what value a variable will hold at a given point [　] How the linear search algorithm works [　] Evaluate an algorithm's fitness for purpose [　] Benefit of using decomposition and abstraction to model the real world **Data Representation Revision** [　] understand how computers encode characters using 7-bit ASCII [　] How bitmap images are represented (pixels, resolution, colour depth)
W/C 29 April	**Data Storage and Compression Revision** [　] Data storage is measured in (bit, nibble, byte, kibibyte, mebibyte) [　] Calculate file sizes and data capacity requirements [　] Data compression and methods of compressing data (lossless, lossy) **Programming Theory Revision** [　] The benefits of producing programs that are easy to read [　] How to write programs in a high-level programming language [　] Techniques to improve readability and to explain how code works [　] Comments, Variable names, Indentation [　] Variables and Constants [　] One-dimensional data structures (strings, records, arrays)

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W/C 6 May	**Hardware Revision** [ ] Von Neumann stored program concept [ ] Secondary storage (magnetic, optical, solid state) [ ] Embedded systems and what embedded systems are used for **Network Security and Cybersecurity** [ ] Methods of protecting networks (firewalls) [ ] Methods of protecting systems and data (backup and recovery procedures) **Networks Revision** [ ] Why computers are connected in a network [ ] Different types of networks (LAN, WAN) [ ] How the internet is structured (IP addressing) [ ] Wired and wireless connectivity impact on performance (speed, latency) [ ] Network speeds are measured in bits per second (kilobit, megabit, gigabit) [ ] Email protocols (POP3, SMTP, IMAP) [ ] Data transmission over a network [ ] 4-layer (application, transport, internet, link) TCP/IP model [ ] Network Topologies (star)
W/C 13 May	**Software Revision** [ ] Purpose and Functionality of an operating system (user management) [ ] Purpose and Functionality of utility software (data compression) [ ] understand the importance of developing robust software **Ethical and Legal Issues Revision** [ ] Data Protection Act [ ] Artificial Intelligence [ ] Machine Learning and Robotics (algorithmic bias)
Wednesday 15 May 2024 - Paper 1 (1hr 30 mins) PM
W/C 20 May	**Practical Programming Practice**
Tuesday 21 May 2024 – Paper 2 (2hrs) PM
W/C 27 May	**HALF TERM HOLIDAYS**

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