End of Year Exams: Revision Guidance

Circulation Year 12 Students
Title Yr12 End of Year Exam Revision
Purpose To provide revision information for End of Year Exams

Year 12

Exam Dates:

- 12th June - Paper 1 (150 mins)
- 19th June - Paper 2 (150 mins)

Please use your PLCs (in the Teams files area) and your previous end of topic tests to address any topic areas you have found harder (feel free to come and see me if you are really struggling with a topic).
Please use the following revision resources to focus your revision:
- The text book - The files area on teams (this has a variety of revision resources) - Smart Revise (filter by subject to narrow the focus of each revision session and try to use the start term and exam start advance features. - Isaac Computer Science and CraigN Dave, although please do not solely use this and make sure you are using the OCR A-Level resources.

REVISION LIST PAPER 1

UNIT 1
CPU-Types of processors (multicore) Registers (CU, ALU, MAR, MDR), Clock speed, Cores, Von Neumann Architecture, input, output devices), Embedded systems Real time systems
Software – Application and Utility software (Anti-viruses, defragmentation…), Storage direct addressing, , BIOS, Operating systems, scheduling (first come first served), memory-paging-segmentation, virtual machines, Real time systems,
Storage- Device drivers, optical & Cloud storage
Network – Server-side, client server, Encryption (compression- Run length Encoding, streaming) Web Technologies (HTML, DIV tags, CSS, JavaScript, search engines process, ACID)
Database (SQL, Normalisation 1st, 2nd & 3rd, referential integrity)
Data Structures – Hash tables, linked list
Data Types (ASCII, Unicode)
Data representation – Logic Gates, Binary to Hexadecimal, hexadecimal to Denary, sign & magnitude, binary addition, subtraction, hexadecimal, Floating point (mantissa and exponent), twos compliment
Ethical, Legal, Moral, Environmental & cultural issues Data Protection Act 1998 Computer Misuse Act 1990 Copyright Designs and Patents Act 1988 Regulation of Investigatory Powers Act (RIPA) 2002 Ability to discuss legal, moral, environmental and cultural issues
Programming (Interpreting code, Writing functions, Little Man Computer, High Level programming, Lexical Analysis, Extreme programming, Assembly language, OOP, Encapsulation), Algorithms (pseudo code), Syntax-Variables, functions, data types (str, int, float), loops (FOR, WHILE), concatenation, operators(/,&,+,-, >,<,AND OR, MOD…)

REVISION LIST PAPER 2

Unit 2
Data Structures – Queues, Stacks, Arrays (1D and 2D), Trees, Linked Lists, Graphs
Programming Techniques – Functions, Procedures, Iteration, Recursion, Branching
Algorithms – Completing Algorithms
Algorithms – Count Controlled & Condition Controlled Iteration
Algorithms – Sorting and Searching Algorithms
Algorithms – Traversal Algorithms - breadth-first, depth-first (post order) and backtracking
Algorithms – Arithmetic Operators
Algorithms – Tracing and Trace Tables (iterative algorithms, recursive algorithms)
Computational Thinking – Abstraction, Decomposition, Modularisation
Pipelining and Data Mining
Translation Software and Integrated Development Environments
Object Oriented Programming – Creating algorithms using object orientated programming techniques (classes, objects, inheritance, polymorphism)