GCSE Computer Science Mock Exam Revision Topics

Paper 1

1. **Networks**
    a. LANS and WANS
    b. Data transfer rates
    c. Bandwidth and Latency
    d. Data Packets
    e. Network Security (access control, penetration testing, ethical hacking, firewalls etc.)
    f. Protocols (Ethernet, Wi-Fi, TCP/IP, HTTP, HTTPS, FTP, POP3, SMTP, IMAP)
    g. Topologies (Bus, Star, Mesh)
2. **Computers**
    a. Components of a CPU (Control Unit, Arithmetic Logic Unit, Registers, Clock)
    b. Buses (Address, Data, Control)
    c. RAM
    d. Storage Devices (Optical, Solid State, Magnetic)
    e. Lossy and Lossless Compression
    f. Boolean Logic (AND, OR and NOT)
3. **Data**
    a. Representing Data (Sounds, Numbers, Text (ASCII), Graphics)
    b. Converting between binary and denary
    c. Hexadecimal
    d. Addition
    e. Two's Complement
    f. Image file size calculations.
4. **Issues and Impact**
    a. Backups
    b. Data Protection
    c. Algorithmic Bias
5. **Computational Thinking**
    a. Data Structures (lists/arrays)
    b. Decomposition
    c. Abstraction
    d. Variables and data types
    e. Trace Tables
    f. Flowcharts

Paper 2

1. Data Types
2. Inputs and prints
3. Selection statements (IF)
4. Concatenation (Joining strings together)
5. Arithmetic
6. Python Turtle (commands will be listed in the PLS)
7. Math library
8. Looping (FOR, WHILE)
9. Writing to a text file
10. 2D Arrays