

## Revision Topic Lists

### Subject: Computer Science

#### Mini Assessment 1

##### **Legal and ethical**

Ethical and moral issues in computer science

- How E-Waste and other forms of illegal electronic processing and markets have a negative impact upon our environment and people.
- Develop an understanding of human and environmental impact that covers health and economic factors. Be able to give examples of those who have had significant impact on the development of technologies in both hardware, software, programming and internet protocols.
- Link obsolete product

##### **Computer Systems in the modern world**

- how key stakeholders are affected by technologies • environmental impact of Computer Science
- cultural implications of Computer Science • open source vs proprietary software and availability of operating systems (OS)
- legislation relevant to Computer Science:

The Data Protection Act 1998

Computer Misuse Act 1990

Copyright Designs and Patents Act 1988

Creative Commons Licensing

Freedom of Information Act 2000

Consider the storage and back up of data from ME&S viewpoints linked to access level for user and business operation

##### **Logic, Binary and programming recap**

- Binary – use in networks, layouts, patterns and IP, ISP and computer WAN communication
- Logic and Boolean electronics linked to binary operations and the relationship to hardware and how electrical pulses operate through logic components AND/OR/NOT focus.
- Programming in Python – basic operations such as “Print”, “IF”, “Then”, “Post” – identify levels of K&U in preparation for forward further planning for the controlled assessment after the Christmas break.

##### **Networking and hardware**

- Network types such as LAN, MAN, CAN, SAN, WAN and WLAN
- Topologies – Wired - Ring, Star, Bus and Mesh. Wireless – Mesh. Be able to list and compare the advantages and disadvantages of different topologies.
- Network setup considering – security, employee responsibility, fraud and legislation.
- Network hacking – types and positive and negative effects of these forms or practice.
- Hardware impact on individual machine and network performance. CPU/RAM/ROM as well as WAP, cable types and server functionality.

##### **Data transfer Protocols**

- Email focused – POP3 Vs IMAP. SMTP and how these protocols operate to support managing email data in different contexts.
- Sharing, transferring and accessing large data sets using FTP and SFTP platforms. Be able to describe the advantages and disadvantages of these platforms, the security of them and how they can be miss-used.

