TOPIC 5 – Issues and Impact Knowledge Organiser

Environmental Issues
- Energy Consumption
- E Waste and health
- Sustainability of Resources
- Recycling

Types of Software
- Proprietary
- Open Source

Ethical Impact
- Inclusion (Digital Divide)
  - Effect of the Digital Divide
  - Bridging the Digital Divide
- Professionalism
- Codes of Conduct

Privacy Issues
- Monitoring where you are
  - Mobile Phone providers
  - Passport Scanners
  - Surveillance Cameras
- Monitoring what you do

Legislation
- Intellectual property
- Copyrights, design and patents act 1988
- Licensing
- Computer Misuse Act

Vulnerabilities
- Unpatched software
- Out of date anti-malware
- Social engineering

Protecting digital systems
- Anti-malware
- Encryption
- Policies
- Data backup
- Data recovery
- Physical security

Malware
- Viruses
- Worms
- Trojans
- Ransomware
- Key-loggers

Misconceptions

There are specific things you need to know and list in an answer about the impact of technology

- The impact of technology is regularly changing, so it is very difficult to develop specific content that should be learnt for this topic.
- The best thing to do is look at real life examples, look at news stories, become familiar with issues that are been spoken about around the work on a daily basis.
- This will give you a base to draw from to form an opinion on any area in this topic.

Specification:

Subject content	Students should:	
5.1 Environmental	5.1.1	understand environmental issues associated with the use of digital devices (energy consumption, manufacture, replacement cycle, disposal)
5.2 Ethical and legal	5.2.1	understand ethical and legal issues associated with the collection and use of personal data (privacy, ownership, consent, misuse, data protection)
	5.2.2	understand ethical and legal issues associated with the use of artificial intelligence, machine learning and robotics (accountability, safety, algorithmic bias, legal liability)
	5.2.3	understand methods of intellectual property protection for computer systems and software (copyright, patents, trademarks, licencing)
5.3 Cybersecurity	5.3.1	understand the threat to digital systems posed by malware (viruses, worms, Trojans, ransomware, key loggers) and how hackers exploit technical vulnerabilities (unpatched software, out-of-date anti-malware) and use social engineering to carry out cyberattacks
	5.3.2	understand methods of protecting digital systems and data (anti-malware, encryption, acceptable use policies, backup and recovery procedures)