Ethical, Legal, Cultural and Environmental Concerns

When considering the **ethical implications** of technology, you need to consider it from different sides of the argument and take into account different possible points of view. Identify the different groups involved and think of the advantages and disadvantages to each of those groups.

Environmental impacts

Consider the environmental impacts of the following:
- Gathering the raw materials to create the technology
- Manufacturing impacts on the environment
- Transportation of the technology including fuel and packaging
- Using the technology including constant charging
- Disposing of the technology once it is at the end of its life

Stakeholders

Stakeholders can be any group of people who are interested in the way computing technology evolves, the impact it has on them and what it can do for them.
- Customers / end-users
- Businesses / employers
- Manufacturers
- Suppliers / sellers

Cultural implications

Cultural issues cover a broad range of topics including race, religion, ethnicity, culture, sexual orientation, and/or disability.

A "Digital Divide" is when people are discriminated against because they do not have the same access to technology as other cultural groups.

TYPES OF SOFTWARE

Open source software = source code is freely available on the Internet and others can use it without having to pay a license fee.

Proprietary software = legally remains the property of the organisation, group or individual who created it.

PRIVACY ISSUES

People value their privacy and do not like it when governments and security services have too much access. If private data that is collected about you by the government (your bank details, tracking the journeys in your car, your private telephone conversations) is stored then it is also possible that this data could be cracked and could get into the hands of people who should not have that data.
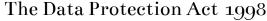
The Data Protection Act 1998

Developed to provide protection for individuals on how data that collected, processed and stored about them.
- Processed fairly and lawfully
- Obtained only for one or more specified purposes
- Data shall be adequate, relevant and not excessive
- Data shall be accurate and kept up to date.
- Not be kept for longer than is necessary
- Actions taken to protect against accidental loss, destruction or damage to data.
- Shall not be transferred to a country with lower data protection laws

The Copyright, Designs and Patents Act 1988

Gives the person who originally created the work some rights over how that work is used and distributed by others.

Creative Commons Licensing

A standardised way to grant copyright permissions to a creative work without giving away all the rights of the original creator. This is used when creators want to allow other to be able to use their works but with some limitations.

The Computer Misuse Act 1990

Makes it illegal to gain unauthorised access to a computer system.

The Freedom of Information Act 2000

Provides public access to information held by public organisations such as the local councils, national parks, art galleries, museums, health services, schools, police, armed forces etc.

Ethical, Legal, Cultural and Environmental Concerns
Revise it 👉

Highlight

Highlight key words (maximum of 2 per sentence) and then cover the page and try to write down all the key words you can remember. Go back and fill in all the ones you have missed.

Mind map

Using the handout, draw a mind map and include as many colours, images and diagrams as you can to illustrate it

Post-it notes

Write a key word and the definition on a post-it note and stick them around your study area as a reminder of the terminology.

Record your notes

Re-write the handout in your own words and record yourself using your phone as you read your notes aloud.

Bullet Points

Write the main headings (leaving space between each) and then write bullet points of the main key points you need to remember under each heading. Re-read the handout and add any missed points to your list.

TEST YOURSELF

Cover your notes and the answer before you attempt to answer this practice exam question.

Discuss how the impact of the increasing use of smartphones as a replacement to traditional forms of payment. Consider stakeholders, technology, ethical issues and the environment in your answer. *[6 marks]*

Mark your answer

For two or three brief points with very little explanation award 1 - 2 marks. For three or four detailed points covering at least two stakeholders, technology, ethical issues and environmental issues award 3 - 4 marks. For five or more detailed points that form a well-written, balanced discussion covering all of the suggested areas award 5 - 6 marks.

Stakeholders:
- Manufactures of notes and coins may loose out as their services are not required as much.
- Shopkeepers need to invest in new technology to take the newer payment.
- Users have a way of paying even if they do not have their wallet with them.

Technology:
- Mobile phone need appropriate hardware and software to make use of payment systems.
- There needs ot be high quality security software to prevent theft and fraud.
- Mobile phones need long battery life to ensure people are not stranded without a payment method avaliable.

Ethical issues:
- Transactions are easier as money is not physically handed over so people may not feel like they are spending money and may easily overspend.
- People's privacy may be compromised as payment patterns can be monitored and locations tracked.

The environment:
- There is no need to dispose of old noted and coins but the environmental impact over the damage to the environment when disposing of technology is much higher.
- Phones need to be constantly charged to ensure payment is possible which requires electricity to be generated which may have an environmental impact.