**4203 Exam-**

1a)

The Parliamentary act that this scenario applies to is the Computer Misuse Act 1990. This is the act which was made to protect users against the theft of their information and unauthorised access to their system. In this case the student has gained unauthorised access of the college’s network, and even though they haven’t made any changes, it will still fall under this act. The act covers offences such as hacking, altering data, and spreading malicious software. The punishments of this act can be anything from fines to imprisonment. . Without this Act we might see a much higher rate of Cybercrime than we already have. As hacking and other cybercrimes get more effective it is important to have the act in place and enforced.

Although the user didn’t change the grades he still deleted the security logs, therefore he altered data within the system. This is a serious breach of the act which was brought in to prevent unauthorised access to computer systems and networks. It is also in place to stop the altering of data from unauthorised users, and also to prevent the threat posed by hackers and viruses. This specific scenario would fall under both “Unauthorised access to a computer material” and also “Unauthorised access with intent to commit or facilitate a crime”, as the student knowingly entered the computer network without authorisation, and also having the intent to commit a further offence which in this case was altering the data.

b)

Digital footprint is the data that is left by users while using the internet, usually through social media. A person’s digital footprint can affect both their reputation and their future employability. As much of this data is permanently kept on the internet, there are some problems that can arise. The first of these problems is identity theft, which is when sensitive information about a person is used by another person to commit fraud. This information can include things such as Names, Address, Dates of birth etc. Using this information a person can then pretend to be someone else in order to gain things such as financial or credit advantages, or even to put the person they are pretending to be at a loss. Pretending to be another person on social media is often referred to as phishing and more and more cases are coming up every year.

The second privacy issue that can come up is employability. Most employers will do background checks on new staff, and these days that includes checking the persons digital footprint. Employers will look for any past social media accounts, any groups you might have been involved in, or even comments made on posts. Sometimes this will lead to a person losing out on the job due to something they may have said or done in the past which was found by the employer.

The third issue that arises quite often is stalking. Digital footprint has made it much easier to track what people are doing and where they are through their posts. Sometimes many young people especially can overshare their information online which can lead to them being harassed in the real world. Even when users are more careful with their information, their location could still be tracked through their IP address. An issue that also can pop up is when a user is blocked but can still find out personal information through an alternate profile.

The final issue that comes up because of digital footprint crime. Arguments on social media can sometimes lead to real life altercations when taken too far. Some crimes that can be linked back to social media include, assaults, murder, and blackmail among other things. Many social media sites can also be used to share illegal materials such as Child Pornography, or drug trade, which can be very hard to track by law enforcement. Often times when law enforcement become wise to what people are doing on social media, there are new techniques made, and new social medias are used.

2a)

The Equality Act 2010 was put in place to prevent discrimination of certain groups of people in society. This Act put in rules to make sure disabled groups aren’t being discriminated against online by making sure adjustments can be made to make sure they are able to use the website without difficulty. One of these groups that adjustments might be needed for are visually impaired people.

The first change that could be made is adding a zoom feature to the website. This will allow the user to zoom in on the website and make the text bigger and easier to read. They could also zoom in on any pictures or diagrams on the website.

The second change you could add would be making sure to have clear labels across the website. Having labels makes it easier for the user to navigate the website and explore the content.

A third addition to the website could be adding alt attributes. These would be very helpful to visually impaired users as they will describe images and text on the website through screen readers. This will mean the user can still access the information and understand its purpose without having to read.

A fourth change you can make to the website is making sure to have a sufficient amount of contrast between the background colour and any text or pictures. If the user is visually impaired they might struggle to read text if it is too similar to the background colour, therefore the text should be clear and legible.

A final change that could be made is having semantic information on the website through metadata. This should be added as it will describe the individual pages of the website and let’s search engines show what information is on each page

2b)

Ethics is often described as the philosophical study of morality. It is mainly concerned with what is considered good for society and following specific rules. Morality is more based on a person’s choice to try and do what is right. Sometimes these can clash in the workplace, for example, it might be ethically okay to sell off someone’s data to another company but morally it it isn’t considered the right thing to do.

2c)

The BSC Code of Conduct was made by the Chartered Institute for IT. The 4 main categories are public interest, professional competence and integrity, duty to relevant authority and the duty to the profession. The Code of Conduct also includes a code of conduct which ensures professionalism in the workplace, by giving a list of rules which should be followed by all practicing professionals.

In the public Interest section if the Code, we are told that we should “Have due regard for public health, privacy, security and wellbeing of others and the environment.” This will ensure that professionals will always keep the wellbeing of other in mind, and make sure never to risk the security of others in their work.

In the professional competence and integrity section we are told that we must “reject and will not make any offer of bribery or unethical inducement.” This will make sure that all professionals don’t put their own personal gain before their profession.

In the duty to relevant authority section, we are told that we should “seek to avoid any situation that may give rise to a conflict of interest between you and your Relevant Authority.” Having this rule in place will keep professionals from doing anything in their work which will get them in trouble with authorities.

In the duty to profession section we are told that “seek to improve professional standards through participation in their development, use and enforcement.” This will make sure any professionals will continue to develop their work and keep it up to a good standard.

3a)

Carbon footprint is the amount of C02 which is releases as a result of a particular organisation. In the IT industry this can be put down to the amount of electricity that is used to power our computers. To prevent the continued growth of carbon footprint in the IT industry, it is important to integrate more renewable energy sources. Some computers can consume up to 800 watts of electricity an hour, however it should also be considered how much carbon footprint is made by the actual manufacturing of computers and laptops, such as the mining for materials, the harmful materials that are used in computers, and also the fuel and electricity used in the process of assembling the computers.

Apart from renewable energy sources there are also other ways we can reduce the carbon footprint in IT. This can be done by tracking the amount of energy you are using by using devices such as smart meters. You can also make sure to not replace your devices as often and making sure when you are replacing devices that you are recycling the devices correctly.

3b)

Cloud Computing is known as the network of servers that is hosted on the internet which stores and manages data rather than local servers. Cloud computing offers an alternative to traditional hardware and requires must fewer devices. Cloud computing is also able to hold far greater amounts of data which is good for the environment as it means less hardware is required. It takes a huge amount of work off of local computers, which means you need less devices to run the servers.

Cloud computing is great for bigger companies as using less computers significantly reduces expenses. Companies will have to spend less time on server maintenance as the demand on the user side is so greatly decreased. This will allow more time and effort to be put towards other areas of the business.

3c)

Green computing is a term that was created in 1992 by the US Environmental Protection Agency. This is the concept of using environmentally sustainable resources in IT. This includes energy efficiency of devices, the correct disposal and recycling of devices, and using IT to reduce the amount of paper we are using. Green computing is becoming more and more necessary due to the need to become more environmentally friendly to reduce the effects on the world. We have a social responsibility to follow green computing and protect our planet.

Using computers we reduce the amount of paper we use through things such as printing, posters, and letters, as we can use the internet for advertising, emails and documents. This is helping reduce pollution, as is having less packaging, and also disposing of less computers by recycling. Another reason it is very important to recycle correctly is that there are toxic components in computers that need to be disposed of correctly as to not enter the food chain or pollute our water supplies.

4a)

The theory of Kantianism is the belief that peoples actions should be guided by moral laws which should be universal. It is associated with the philosopher Immanuel Kant. Kant taught that it was possible to have a moral system that there are certain moral laws all people should follow in order to be considered rational beings. In order for a moral law to apply, the law itself must be based on reason.

Kantianism is good for showing us a universal moral guideline, and also for showing how all people should be treated as moral equals. It is rational and is based off logic. However, there are some negatives, such as sometimes there are situations that can’t be characterised by Kantianism. It doesn’t allow for any bending of the rules, which can make it difficult to resolve some conflicts that fall in between the rules.

Kantianism can be applied to modern day ethical codes of practice. An example of Kantianism in the workplaces is everyone agreeing that they are all equals within the workspace. It applies for computer professionals as they all must have concern for the social effects of computers on users, guaranteeing the safety of the public, and also keeping information confidential.

b)

INSPIRE is The Infrastructure for Spatial Information in the European Community and was created in 2009. These regulations apply to all public authorities in the UK apart from Scotland that have any number of spatial datasets. This includes anyone or organisation who holds spatial data on behalf of any public authorities. In the UK, INSPIRE places legal obligations over all of the public bodies.

The lead UK department for the INSPIRE Directive is Defra. Defra (Department for Environment Food & Rural Affairs) are the governments department that handles all things to do with environmental protect, food production and standards for the whole of the UK and Northern Ireland. Inspire has legal obligations to make sure that all public bodies are publishing the correct datasets. This includes most of the public bodies in the UK to publish these correct datasets. The relevant datasets include geo-spatial data, and data which is included in the 34 INSPIRE themes.