Social and economic implications of the use of computers

Below each answer there is a page reference for the coursebook. This is there to help you focus your revision. If you find that you get an answer wrong, you can use this guide to return to the coursebook to revise the areas that need some extra attention. Please note these are example answers only and do not represent the only possible answers.

1  a  Software copyright is similar to copyright in a book – it guarantees that the author or developer of the work is the person legally entitled to get commercial benefit from it.
   b  Copying a program onto a CD, putting it onto a web server and emailing it to someone are all activities that break software copyright.

2  a  Hacking means gaining unauthorised access to a computer, locally or over a network.
   b  Hacking can be prevented by checking user credentials – requiring a valid username and password to gain access to the computer.

   See ‘Hacking’ on page 225.

3  a  A computer virus is a piece of program code within a data or program file that copies itself and ‘infects’ other files in the same or another host computer.
   b  The effect of a computer virus can be prevented by running up-to-date anti-virus software.

   See ‘Computer viruses’ on page 227.

4  It is important to secure data on a computer system to reduce the risk of corruption and/or loss and to make sure it is only accessed by authorised users.

   See ‘Security and reliability of data’ on page 223.

5  The theft of data can be prevented by requiring a valid user name and password to gain access to a computer.

   See ‘Security and reliability of data’ on page 223 and ‘Computer crime’ on page 225.

6  De-skilling is the loss of skills due to using a computerised process to replace a worker with specific training and skills.

   See ‘Case study: Computerisation in a steel works’ on page 217.

7  The use of computers has decreased the number of skilled workers, such as those with practical skills in determining when materials are ready to move to another part of a manufacturing process, leading to de-skilling. However, computer use has also created new jobs in the fields of programming and computer maintenance.

   See ‘Case study: Computerisation in a steel works’ on page 217.
8  a  Teleworking is a method of working in which an employee works from home or a remote office using telecommunication links. They may also connect to the employer's network.

   b  A teleworker needs a computer, a telephone, a broadband connection (i.e. access to the internet) and networking software. Some might also need the tools required for video conferencing.

   c  Advantages of teleworking are that an employer does not need to supply buildings and furniture for all its staff.

   d  Advantages of teleworking are that an employee does not spend time and money travelling to work and that work can often be fitted around other commitments.

      See 'Case study: Computerisation in a steel works' on page 217.

9  The principles on which data protection legislation is based are:

   •  Personal data may only be obtained and processed fairly, lawfully and for specified purposes.

   •  Data must be accurate, kept up-to-date, sufficient, relevant, not excessive and deleted when no longer needed.

   •  Individuals have a right of access to the data held about them and to have factually incorrect information corrected.

   •  Data must be protected from corruption, loss and access by or disclosure to people who are not authorised to see them.

   •  Data must not be transferred to another country unless that country provides a similar level of legal protection for personal data.

      See 'Data protection legislation' on page 224.