

# GCSE ICT Revision Booklet

## Contents:



- The exam is 1hr
- Mixture of multiple choice, short and long answers
  - Answer all questions
  - Do not use brand names

- Helpful Websites:
  - BBC Bitesize
  - Teach ICT

Date of Exam 28/4/2015

# Lets Communicate - Chapter 1 : Mobile Phone Features

## Smart Phone

A phone offering advanced features.  
E.g. the ability to send emails or surf the internet

## Multifunctional

Having the ability to do many different things using the same device



## GPS in a Mobile Phone

Global Positioning System – a navigation system that:

- Gives the current location
- Directions from current location to a specified location
- Distance to a specified location
- Give you directions/distances from current location to key services such as a hospital

## Connectivity

The most common ways of connecting mobile phones with other devices are [Bluetooth](#) and [Wi-Fi](#)

A mobile phones **Network Band** determines which countries the phone can be used in.

## Designing a Mobile Phone

When designing a mobile phone for a particular age group you need to consider certain things:

- Weight of phone
- Features of phone
- Volume capacity of speakers
- Navigation or menu system
- Interface - how they will use it e.g. touch screen or keypad
- Screen resolution
- Size of screen and buttons



## Lets Communicate - Chapter 1 : - Ways of staying in contact with people:

**VoIP** – Voice over internet protocol [Used to make telephone calls via the internet. A headset or speakers and a microphone are needed. Now available on mobile phones with a 3G connection]

**Social Networking** – Allow users to connect with a large number of people. [provide ways of interacting including chats, messaging, email, blogging, video and image sharing]

**Instant Messaging** – Talking in real time by typing and receiving messages

**Blog;** – An online journal that can be shared over the internet. Videos, images and text can be shared.

### **Email**

[involves sending messages over a communications network such as the internet]

#### **Advantages:**

- Cheaper than sending a letter
- Will arrive faster than a letter
- Can send emails 24/7 to any country
- Can access emails from multiple locations
- Can send attachments

#### **Disadvantages:**

- Need to have an internet connection
- Can receive viruses
- Receive large amounts of spam (junk mail)



### **Accessing Emails POP3**

Requires users to access email via an internet mail account/mail deleted from server when sent to client [Useful when you only check e-mail from one computer]

### **IMAP 4**

Emails pushed directly to phone and a copy of mail is kept on both server and client. You can check your email from multiple locations

# Lets Communicate – The Digital Divide

The **digital divide** is the gap between those who have access to technology and those who do not.

The following may have an impact on the digital divide.

On a low income	Living in a rural area	Weak literacy skills
Have a disability	From an ethnic minority	Elderly

## Implications of the Digital Divide

- People with knowledge of technology and the skills to use it can get better-paid jobs.
- The Internet gives people access to a wider range of products and services
- The Internet allows people to research products and get cheaper deals for goods and services
- The Internet has led to a rise in e-commerce and globalisation

- Students who use computers at home or school can become independent learners and excel in education
- Most schools are moving to personalised learning using VLEs. Without Internet access, young people cannot benefit from this.
- A gap in ICT skills may exclude people from particular jobs.
- People can take part in online courses to gain further skills and qualifications

### Economic

Is to do with money, wealth, jobs, production, distribution and consumption of goods and services

### Social

This is about human society and the people who live in it

### Educational

This is about learning and the knowledge gained from learning

### Cultural

This refers to the behaviour, attitudes and lifestyles of a particular social group

- People can feel left out if they do not have technological goods and services.
- Not having access to communications such as email, IM and mobile phones can affect people's social interactions.

- Many cafés now offer facilities such as the Internet to attract customers
- Many people carry around MP3/4 players, mobile phones and other digital devices.
- More children stay indoors and play on games consoles instead of playing outside
- Cultural and/or religious influences might dissuade some groups of people from using ICT which could lead to lack of access, lack of education and an inability for countries to participate in globalisation

**Example exam question:** Some people have limited access to digital technology. Discuss the impact this has on their lifestyle. (6 marks)

## Let's Communicate – Internet as a Tool and Internet Safety

**VLE** – Virtual learning environments are used in school and education. They allow teachers to upload resources and personalise learning for individual students. Students can access resources and have their own space where they can keep their work.

**User Generate Websites (Wiki's)** – These websites are made by people working collaboratively adding their own content. [Advantages: the information is always current and not bound by copyright laws] [Disadvantages: Anyone can add to it so if not managed correctly information may be inaccurate, biased or untrue]

**User Forums** – allows users to get together for open discussions.

**Podcasts** – allows users to watch or listen to material at a time that suits them. People can create podcasts and upload them to websites, blogs and social networking sites for other to subscribe to and download

### **Internet Dangers:**

- **Pop-ups** [small screens that open automatically on your screen. Can be genuine advertising or scams]
- **Spyware** [computer software that obtains information from a user's computer without their knowledge or consent]
- **Identity theft** [takes place when someone collects information about you and uses it for criminal purposes]
- **Spam** [unwanted email]
- **Phishing** [a link that is sent to a recipient and they may be tricked to click on it and give their personal details]
- **Hackers** [people who try to gain unauthorised access to someone computer]
- **Viruses** [programs that infect your computer and damage the system settings and memory]



### **Cookies:**

is a file which stores information related to your internet activity. [Cookies save time as they remember your login details, website preferences are saved so next time you visit them they will look the same. Shopping sites also make suggestions for you based on your search history] [Can cause problems when computers are shared as they store login details that can be used by hackers]



## **On The Move Chapter 2- Connecting to the Internet:**

**Ethernet Cable** or **wireless connection** are the main 2 ways of connecting to the internet. A cable connection is faster than a wireless one but may not always be available. A wireless connection is more widely available but is slower. There may also be security issues connecting to an unsecured wireless network as there is a risk of hacking

### **Biometrics**

A method of recognising someone based on physical characteristics. E.g. Fingerprints, face, iris, voice

### **GPS**

A satellite navigation system

- Gives your current location
- Directions from current location to specified location
- Distance from current location to specified location

### **Geotagging**

Adding geographical coordinates of where an image was taken. Metadata is the information stored about the image

- **Cyber cafe** [is a cafe that has a number of personal computers connected to the Internet and available for use by customers]
- **Hotspot** [is a venue that offers a Wi-Fi Internet connection. E.g. Located in hotels]
- **Cloud Computing** [a system where programs and data are stored centrally (in one place), on a server owned by a company such as Google. They are then accessed virtually (using the internet)]
- **Web Application** [an application that is access using a web browser. Example being Google docs]

# Entertain Me – Chapter 3

## Wireless

## Wired

### Broad Band

A high speed connection to the Internet that is always on

### Download

Transfer of a file from a central computer to your computer

### Latency

The speed of flow. A low latency means there is only a small delay

### Bandwidth

The amount of data that can fit through an Internet connection. A high bandwidth means more data

It is important to for a good connection to have a high bandwidth and a low latency

### Streaming

when content is compressed and sent over the Internet and is displayed in real time. When streaming you do not have to wait for the media to download.

### Threats to a Network

- Viruses
- Hackers
- Spyware and Malware
- Internal –staff and family members(may delete files)

### Wireless Security Tips

- Turn on WAP/WEP – this is a form of encryption which scrambles data sent over your network. You can only read it if you have the key.
- Disable SSID broadcast – shows your network is available
- Enable your routers firewall if it has one – a firewall is a program that check incoming packets of data and determines if they are allowed in to the network.
- Enable MAC address filtering – router will only allow devices that have been registered with router.
- Disable when not in use

Flexible and convenient, can be used around the house

Affected by number or devices using the wireless LAN

Distance sensitive

Can be affected by household appliances

Speeds of 54mps

Wire is cheaper than the wireless router

No interference

Speeds of 100mbs

2 main ways of connecting to a network – **Wireless/WiFi** or **Ethernet Cable**

An **ISP** is: A company that offers its customers access to the Internet

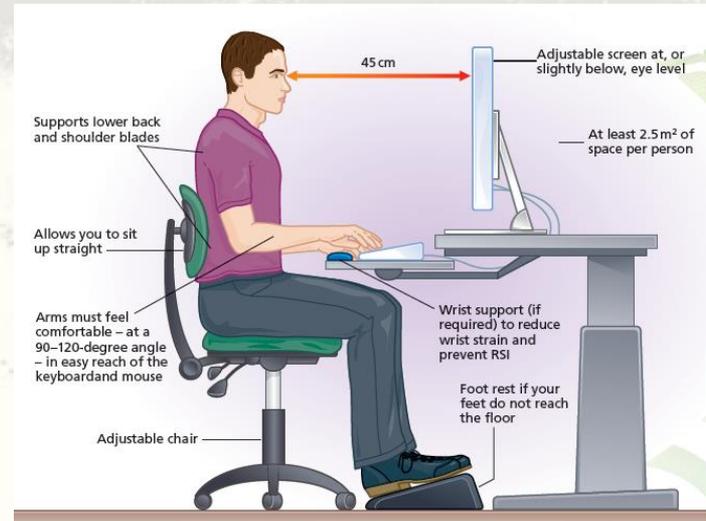
### Choosing an **ISP** – You need to consider:

- Cost
- Speed
- Download limits
- Email and Web Space
- Storage
- Security
- Parental Control
- Reliability and customer service

# Smart Working – Chapter 4

## Health Problems From Using ICT

- ✓ **Back pain** can be caused by sitting incorrectly for a long time.
- ✓ **Eye strain** can be caused by staring at the screen for too long.
- ✓ **Repetitive strain injury (RSI)** is a result of doing the same thing again and again (e.g. typing or moving a mouse) – it causes stiffness, pain and numbness, usually in the joints of the arm, wrist or hand.
- ✓ **Stress** is often a feeling of not being able to cope, for example because of too much work, poor relationships with colleagues and a lack of support from employers.



## How to Avoid the Problems

- **Breaks** – people working at a computer must have frequent breaks to help prevent health problems. Computer users are advised to take 30-second micro-breaks every 10 minutes. You should try to do the following: look away from the screen, stretch, change your position frequently, move your feet, lift your arms and adjust your hips.
- **Training** – employers need to train their staff on how to use work stations correctly, to help prevent injury. It is a legal requirement for employers to display a health and safety poster produced by the HSE. The poster tells workers what they and their employers need to do in simple terms, using numbered lists of basic points.
- **Eye care** – employers have to pay for regular eye-sight tests for anyone who needs prescription glasses in order to use the computer. If the employee needs glasses to correct their eye sight, then the employer has to make a contribution to the glasses.
- **Ergonomics** – Designing equipment to match the body shape and be more comfortable to use. (e.g. curved chairs, arc mouse etc)

## Teleworking



Working from home but staying in contact using technology. Can use VoIP, Video conferencing, email

### Advantages

Save money – don't have to rent office space or travel to office.

Increased productivity – don't waste time commuting

Flexibility – can work when you're most productive.

### Disadvantages

Less social contact – don't see work colleagues.

Distractions – more distractions at home than at work.

Boundaries – blurs distinction between work and rest.

# Smart Working – Chapter 4

## Mobile broadband

- Mobile broadband allows devices such as smart phones, laptops and netbooks to connect to a high speed internet connection without the need for wires.
- Mobile broadband relies on a 3G network the same technology used by 3G mobile phones like the iPhone.
- If you do not have the 3G technology built in you will need a **dongle**

### Advantages:

- Can use on the move and access the internet from virtually anywhere

### Disadvantages:

- Signal is not always reliable (affected by tall buildings and the area your in)
- Not as fast as home broadband
- Limit on the amount you can download

## Collaborative Working

Means working together. Technology now allows us to work together from remote locations (Remote = not near each other). Can use online workspaces such as Google documents. The files are stored virtually on the Internet and you can control who has access to them. You don't need to carry around a storage device but you do need access to the internet

## Smart Working – Software Options

- You can now access software online or you can install it locally on your PC

### Advantages:

- You can access your software from anywhere with an internet connection and you do not need to install it on every computer

### Disadvantages:

- You need to have an internet connection
- Usually has less features than locally installed software

## Open Source Software

- Is software code that is made available to the public domain so anyone can use it
- It is usually free and you can then alter the code to customise it, as you have access to it
- You are not bound to a single software company
- Difficult to receive support for the software as help is limited

## Access Rights

You can control who has access to your documents and what they can do with them **4 levels of Access:**

- Read Only
- Read and Write
- Read Write and Amend
- Read, Write, Amend and Delete (full access)

## Strong Password

- A password that is difficult to guess.
- Use more than 7 characters
- Use upper and lower case letters
- Use combination of text, numbers and symbols

# Online Shopping – Chapter 5

## Security

- Ensure you have a firewall
- Up to date antivirus software
- Anti Spyware and Malware software
- Check your internet security settings. You can choose for example whether to accept cookies

## Phishing

- when fraudsters spam the Internet with an email claiming to be from a reputable financial institution (bank or building society) or e-commerce site. The email tries to make you click on a link and update your personal profile or carry out a transaction. The link takes you to a fake website designed to look like the real thing. Any personal or financial information that you enter will be sent directly to the scammer.

## How to Spot Phishing:

- Impersonal
- Careless use of language – spelling & grammar mistakes
  - Urgency – “you have 48hours to respond”
  - Link to click on taking you to fake website

## Advantages of online Shopping

- You can shop online at any time
- There is a much greater selection of goods available online, and often for better prices
- You can use price comparison websites to find the item you want at the best price
- It is convenient to be able to shop without leaving your home
- Has a positive impact on the environment as less people travel

## Website Security

- SSL Encryption (secure socket layer)
- Https at the start of the website
- Padlock in the browser
  - Verified by Visa or Mastercard Secure

## Payment Methods

- Debit and credit card
- Gift cards and vouchers
- 3<sup>rd</sup> party payment processor such as papal

Keywords	Definition
<b>Required fields</b>	Information that must be given when creating an online account
<b>Combo box</b>	A box you fill by selecting an item from a drop-down or by typing in information if the information you want to enter isn't in the list
<b>Validation</b>	Checking that the data entered is sensible or within a certain range. E.g. someones age
<b>Verification</b>	Checking that the data entered is accurate. E.g.. Entering a password twice
<b>Secret answer</b>	Personal information that can be used to identify you
<b>Captcha</b>	Prevents automated software from filling in a form
<b>Auto-complete</b>	Your computer's operating system remembers your user names and passwords

# Online Shopping – Chapter 5

## Autocomplete

- When your computer can remember your usernames and passwords so you do not have to keep re-entering them. Saves time and suitable if no one else uses your PC and its secure.
- If someone accesses your computer they will be able to log into your accounts

## Identity Theft

- When someone steals your details and your identity. They can find out your details from the different methods listed on these slides such as Phishing, Skimming, spyware etc

## Trojans

- Are programs that record your activity on your computer and send the information back. They contain Spyware and Malware that get released once they get past your firewall
- They look legitimate but they are not. They hide on the computer doing their damage and allowing someone else to take control.

## privacy policy

- A privacy policy is a legal document that discloses how the company will gather and use your data.
- It describes how your data is kept secure
- Reputable firms will have their privacy policy in a prominent place and tell you what you are signing up for

‘Bin raiders’, collect old receipts to find out your card details.

Criminals can make a copy of your card – this is called ‘skimming’.

# Online Banking

- Allows you to access your account from anywhere with an internet connection – 24/7 access to your account
- More convenient than having to go into a bank for some services
- Can go paperless and not have to receive statements
- Can transfer money between accounts quicker
- There are security issues

## Principles of Data Protection Act

Law that organisations need to follow when storing personal data

1	People who keep the data must <u>process</u> it according to the law.
2	The data must be used only for the <u>purpose</u> it was provided.
3	Organisations should not ask for more data than is <u>necessary</u> .
4	Organisations should ensure that the data is <u>accurate</u> and kept up to date.
5	The data should not be kept <u>longer</u> than is necessary.
6	Organisations should respect the <u>legal</u> rights of the people whose data they are processing – the ‘data subjects’.
7	The data should be kept <u>secure</u> .
8	The data should not be <u>transferred</u> to other users in a country outside Europe, unless that country has similar laws to safeguard the data.