# Worksheet 4 Wireless networking Answers

**Task 1**

(a) What is a **wireless network interface card**? What is its purpose? Why would a smartphone, remote control Internet-enabled lightbulb, wireless printer, or laptop require one?

A wireless NIC is a hardware component / a computer circuit board that is installed in a computer so that it can be connected to a radio-based network. It uses an antenna to communicate through microwaves.

All Wi-Fi enabled hardware must have an NIC in order to be able to connect to a Wi-Fi network.

(b) Describe how to connect a modern smartphone to a wireless network. (Look on the Internet to help you if necessary.)

Find and select the Settings icon and select Wi-Fi.

Then choose a network from the list of SSIDs displayed.

Then you will be asked for the password.

If you are trying to connect to a network with a hidden SSID, you select “Other” instead of Wi-Fi, and “Ask to Join networks”.

You will need to know the SSID and security key. (The 32-byte security key is usually displayed on the WAP or router).

(c) What is SSID? What is its purpose?

Sevice Set Identification is the informal name of the local area network, e.g. HOME-123.

Its purpose is to identify the network. You may be in range of several networks, so having entered the SSID when trying to use the network, if the network has been secured you will need to enter the security key.

(d) When you want to connect to a network and select an SSID, you will be asked for a password or security key. What purpose does the security key serve?

The security key prevents any unauthorised user (say, next door to your home) using your network, which if they are streaming a video or uploading files, could use all your bandwidth and slow the network right down when you want to use it.