



# INFORMATION TECHNOLOGY SUPPORT SERVICE

Level II

## Learning Guide # 20

<b>Unit of Competence:-</b>	<b>Administer Network Hardware and Peripheral</b>
<b>Module Title:-</b>	<b>Administering Network Hardware and Peripheral</b>
<b>LG Code:-</b>	<b>ICT ITS1 M06 LO3</b>
<b>TTLM Code:-</b>	<b>ICT ITS1 TTLM06 1019</b>

**LO3: Connect hardware peripherals**

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:-

- Verifying installation time frame
- Removing old Peripherals
- Connecting new peripherals by taking into account operating systems
- Configuring computers to accept new peripherals based on business requirement
- Testing and confirming compatibility issues and hardware peripherals to meet client satisfaction

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:-

- Timeframe for installation schedule is verified with the client requirement.
- Old peripherals are removed if they are being replaced with minimal disruption to clients, taking into account environmental considerations and OHS standards.
- New peripherals are connected with minimum disruption to clients, taking into account operating system procedures.
- The computer configured to accept the new peripherals based on business requirement
- Hardware peripherals are tested and confirmed to client satisfaction, pay particular attention to possible impact on other systems and make adjustments as required.

**Learning instruction:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instruction describe below
3. Read the information written in the information “sheet 1, sheet 2, sheet 3 and sheet 4” , “in page 3,5,10 and 12 ” respectively
4. Accomplish the “self-check 1, self-check 2, self-check 3, self-check 4,” “in page 2,9,11 and 14”  
Respectively

\*Your teacher will evaluate your output either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to the next topic.

**3.1. Verifying installation time frame**

Approximately 6-8 weeks: - Once the installation date has been established, a highly skilled window installer can usually install 12-15 windows per day. Thus, the average window job takes approximately 6-8 weeks from start to finish from the date the contract is signed.

**Self Check 1****Written Test**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

*Direction:* **filling** the appropriate answer for the following question in the specie provided, if you have some clarifications- feel free to ask your teacher.

1. \_\_\_\_\_ Once the installation date has been established, a highly skilled window installer can usually install 12-15 windows per day.
2. The average window job takes approximately 6-8 weeks from \_\_\_\_\_

**Note:** Satisfactory rating - 3 points

Unsatisfactory - below 3 points.

### 3.2 Removing old Peripherals

Almost every piece of hardware attached to your Windows computer will show up in Device Manager as an installed device. This includes Graphics cards, CPUs, USB devices, disk drives, network adapters and just about anything else. When the device is first connected to the computer, Windows will pick it up and either installs the device driver automatically or you install it yourself from CD or the internet.

After that, it's not a problem while the device remains connected but can potentially become a problem if you disconnect it. The driver that was installed when the new hardware was connected does not get uninstalled when the hardware is removed. Over time this can leave dozens of driver entries on the system for devices which have long since been removed. Some applications also do the same and install a software driver but don't remove it when you uninstall the software.

#### 3.2.1 Environmental considerations

The components that go into computers are exceptionally valuable to recycle, and are extremely toxic or dangerous to the environment if released or disposed of incorrectly.

Heavy metals used in batteries or circuits pollute groundwater and kill animals. Batteries are also readily flammable and are unsafe to go into mixed garbage. There is a large quantity of plastic used in most electronics, which will take decades to break down, and often this plastic is ABS. ABS is based on polystyrene, and as such it will break down into toxic particulate as it degrades.

You should do your best to make sure you buy equipment that will last as long as is feasible for you and your business. The environmental impact of the initial construction of electronic equipment can be quite high, so making your equipment last as long as is practical would go a long way towards making sure that you keep your footprint small. That being said, old computer equipment degrades in performance, and at some point there is a breakdown of the value proposition in continuing to service and use old equipment. In other words, there is a point where it makes more economic and ideological sense to dispose of your old equipment in a safe way,

rather than keep using it. You should make the determination as to when that is, because only you really understand the personal costs to continued use.

### 3.2.2.1 Disposal of packaging

To make sure you dispose of old computers and hardware safely follows these steps.

1. Backup your data. Before you do anything, backup your hard drive so you don't lose any data.
2. Wipe your hard drive. Clearing data off our computer is no easy process.
3. Donate, resell, or recycle. You can't just throw your computer away.

A typical computer has many negative influences on the environment, anywhere from the manufacturing of computers to the distribution of computers. This has caused many questions and awareness among individuals who are concerned with the negative influences on the environment; which may cause hurdles for the new generations to come. There are various ways one should manufacture, buy, use and dispose computers so the negative impact on the environment can be reduced.

#### 3.2.1.2 Disposal of redundant hardware

Used *computer disposal* means that there will be a need for the *disposal* of *computer* parts when equipment cannot be re-used. This raises issues within the WEEE directive and at Concept we feel that environmental legislation is a difficult, oft misunderstood topic that is subject to wide interpretations.

When **disposing** of an old PC, there is really only one way to securely erase the information on the **hard drive**: You must destroy the magnetic platter inside. Use a T7 screwdriver to remove as many screws as you can access. You'll probably be able to remove the main circuit board from the enclosure.

### 3.2.1 OHS standards

Occupational Safety and Health Standards. Written by Bureau of Working Conditions Hits: 71973. The Occupational Safety and Health Standards were formulated in 1978 in compliance with the constitutional mandate to safeguard the worker's social and economic well-being as well as his physical safety and health.

Environmental and safety requirements. The operator or the application may not been in a clean and air-conditioned room. Power supplies may not be well regulated. There is no computer room

environment. Equipment designated to be installed in the home will have to meet stringent standards regarding audio noise and radio frequency interference. They also need to meet relevant safety standards.

### 3.1.1.1 Physical hazards

A physical hazard is defined as "A factor within the environment that can harm the body without necessarily touching it. Vibration and noise are examples of physical hazards". Physical hazards include but aren't limited to electricity, radiation, pressure, noise, heights and vibration amongst many others.

### 3.1.1.2 Chemical hazards

A chemical hazard is simply the risks involved with using a chemical. So in the workplace chemical hazards can be; Health **hazards** - where workers and other personnel are exposed to **hazardous chemicals** through inhalation, absorption through the skin, or ingestion and swallowing.

### 3.1.1.3 Ergonomics

**Ergonomics** (from the Greek word ergon **meaning** work, and nomoi **meaning** natural laws), is the science of refining the design of products to optimize them for human use. ... Computers and related products, such as computer desks and chairs, are frequently the focus of **ergonomic** design.

**Ergonomics** is the science of designing the **workplace**, keeping in minds the capabilities and limitations of the worker. ... A systematic **ergonomics** improvement process removes risk factors that lead to musculoskeletal injuries and allows for improved human performance and productivity.

### 3.1.1.4 Psychological factors

**Physiological factors** are things related to your physical body that affect your thinking. For **example**, when your body's chemistry is off, due to unbalanced nutrition, dehydration, alcohol, etc., the neurotransmitters that control your thinking processes can be affected.

### 3.1.1.5 Burglary

The criminal offense of breaking and entering a building illegally for the purpose of committing a crime. **Burglary**, at Common **Law**, was the trespasser breaking and entering of the dwelling of

another at night with intent to commit a felony therein. It is an offense against possession and habitation.

### 3.1.1.6 Fire

**Fire** is the product from a chemical reaction between oxygen in the atmosphere and some sort of fuel (wood or gasoline, for example). "The combustion or burning, in which substances combine chemically with oxygen from the air and typically give out bright light, heat, and smoke."

### 3.1.1.7 Power accidents

Nuclear **power** plants are complex systems operated by human beings who can and do make mistakes. As such, they are vulnerable to **accidents** and failures because of natural disasters such as flooding, earthquakes and extreme weather, fires, equipment failures, improper maintenance, and human errors.



**Self Check 2****Written Test**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

*Direction:* filling the appropriate answer for the following question in the specie provided, if you have some clarifications- feel free to ask your teacher.

1. \_\_\_\_\_ is defined as A factor within the environment that can harm the body without necessarily touching it.
2. \_\_\_\_\_ are things related to your physical body that affect your thinking.
3. \_\_\_\_\_ is the product from a chemical reaction between oxygen in the atmosphere and some sort of fuel
4. \_\_\_\_\_ is the science of refining the design of products to optimize them for human use.
5. \_\_\_\_\_ Constitutional mandate to safeguard the worker's social and economic well-being as well as his physical safety and health.

**Note: Satisfactory rating - 3 points****Unsatisfactory - below 3 points.**

### 3.2 Connecting new peripherals by taking into account operating systems.

#### Install and configure computer peripheral devices

The peripheral devices are those devices which are connected to the computer and it helps the computer function. These devices contain both the input devices, which are used to give command to the computer and the output devices, which help computer showing the result to the user.

The computer works with many peripheral devices so it's important to know that how much these devices can be installed in the computer and how can a persona configure them. Following are the devices which are used by the computer and the ways they can be configured;

#### Hardware Minimum Requirements

Please keep the following hardware requirements in mind when selecting a laptop to use in the Business School. Systems purchased within the past two (2) years will typically be outfitted with the recommended features. Please confirm that your laptop meets these requirements. *Remember that if your laptop does not meet the minimum requirements, among other issues, you will not have access to ITG Support Specialists, who are key to getting your computer configured for the School's network and keeping it correctly configured when you encounter problems. Most critically, your laptop runs the risk of not supporting software that is required for your courses.*

#### How to Check Computer Configuration

Although most computer users are aware of the importance of basic PC components like the RAM and hard drive, other components -like the graphics and sound cards, network adapter and central processing unit - are also critical to a PC's operation. You need this information to troubleshoot or upgrade your computer and when downloading drivers. For the best performance, business owners should keep up-to-date with their computer equipment; to determine whether or not you should upgrade a workstation, review the PC's configuration in Windows.

In communications or **computer** systems, a **configuration** of a system refers to the arrangement of each of its functional units, according to their nature, number and chief characteristics. Often, **configuration** pertains to the choice of hardware, software, firmware, and documentation.

**Self Check 3****Written Test**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Direction:** Write **TRUE** If the Statement Is Correct, **FALSE** If It Is Incorrect, if you have some clarifications – feel free to ask your teacher.

1. \_\_\_\_\_ Peripheral devices are those devices which are connected to the computer and it helps the computer function.
2. \_\_\_\_\_ Computer works with many peripheral devices so it's important to know that how much these devices can be installed in the computer and how can a persona configure them.
3. \_\_\_\_\_ most computer users are aware of the importance of basic PC components.
4. \_\_\_\_\_ a configuration of a system refers to the arrangement of each of its functional units.

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points.**

### 3.3 Testing and confirming compatibility issues and hardware peripherals to meet client satisfaction

Compatibility testing is a type of software testing used to ensure compatibility of the system/application/website built with various other objects such as other web browsers, hardware platforms, users (in case if it's very specific type of requirement, such as a user who speaks and can read only a particular language).

Compatibility is nothing but the capability of existing or living together. In normal life, Oil is not compatible with water, but milk can be easily combined with water.

Compatibility Testing is a type of Software testing to check whether your software is capable of running on different hardware, operating systems, applications, network environments or Mobile devices.

Let's look into compatibility testing types

- **Hardware:** It checks software to be compatible with different hardware configurations.
- **Operating Systems:** It checks your software to be compatible with different Operating Systems like Windows, Unix, Mac OS etc.
- **Software:** It checks your developed software to be compatible with other software. For example, MS Word application should be compatible with other software like MS Outlook, MS Excel, [VBA](#) etc.
- **Network:** Evaluation of performance of a system in a network with varying parameters such as Bandwidth, Operating speed, Capacity. It also checks application in different networks with all parameters mentioned earlier.
- **Browser:** It checks the compatibility of your website with different browsers like Firefox, Google Chrome, Internet Explorer etc.
- **Devices:** It checks compatibility of your software with different devices like USB port Devices, Printers and Scanners, Other media devices and Blue tooth.
- **Mobile:** Checking your software is compatible with mobile platforms like Android, iOS etc.

- **Versions of the software:** It is verifying your software application to be compatible with different versions of the software. For instance checking your Microsoft Word to be compatible with Windows 7, Windows 7 SP1, Windows 7 SP2, Windows 7 SP3.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

*Direction:* Choose the best answer for the following question, if you have some clarifications – feel free to ask your teacher.

1. Compatibility testing is
  - A. a type of software testing used to ensure compatibility of the system/application/website built with various
  - B. Evaluation of performance of a system in a network with varying parameters
  - C. It checks compatibility of your software with different devices
  - D. It checks software to be compatible with different hardware configurations.
2. Type of compatibility testing is
  - A. Hardware
  - B. Browser
  - C. Network
  - D. All
3. \_\_\_\_ is verifying your software application to be compatible with different versions of the software.
  - A. Browser
  - B. Versions of the software
  - C. Software
  - D. All
4. \_\_\_\_ It checks your developed software to be compatible with other.
  - A. Versions of the software
  - B. Browser
  - C. Software
  - D. Devices

**Note: Satisfactory rating - 3 points****Unsatisfactory - below 3 points.**

## List of reference material

### 1. Book

- beginners-intro-email-part1
- Computer Hardware\_ Hardware Components and Internal PC Connection
- Computer Networking & Hardware Concepts

### 2. Web adders links

- [www.wikipedia.com](http://www.wikipedia.com)
- [www.google.com](http://www.google.com)
- [web1.keira-h.school.nsw.edu.au/faculties/IT/](http://web1.keira-h.school.nsw.edu.au/faculties/IT/)

