In this lab, the students will focus practically into the concept of Computer Hardware and operating systems like Windows.

Part 1: Computer Hardware

Identifying different hardware components in a system unit and describing input/output devices:

1. **Computer Performance :**
   - ✓ Understanding some of the factors that affect a computer's performance like CPU speed, RAM size, graphics card processor and memory, the number of applications running.
   - ✓ Understanding of the speed (operating frequency) of the CPUs (MHz or GHz).

2. **Memory and Storage :**
   - ✓ Know what computer memory is RAM (random-access memory), ROM (read-only Memory) and distinguish between them.
   - ✓ Know the main types of storage media like internal hard disk, external hard disk, network drive, CD, DVD, USB flash drive, memory card, online file storage.

3. **Input, Output Devices:**
   - ✓ Identify some of the main input devices like: mouse, keyboard, trackball, scanner, touchpad, stylus, joystick, web camera (webcam), digital camera, and microphone.
   - ✓ Identify some of the main output devices like: screens/monitors, printers, speakers, headphones, headsets.

Part 2: Computer operating system and Managing Files

A. **Operating System basics (MS Windows)**

   - ✓ View the computer's basic system information: operating system name and version number, installed RAM (random access memory), processor model. Using the control unit for computer settings such as power management, languages, add/remove users and security options.
   - ✓ Set and add keyboard language.
   - ✓ Install and uninstall a software application.
   - ✓ Identify the different parts of a window: title bar, menu bar, toolbar or ribbon, status bar, scroll bar.
   - ✓ How to determine the capacity of the hard drive on your machine.
   - ✓ Using device manager to add/remove/configure hardware components.
   - ✓ Using task manager to view running processes/applications and terminate unresponding/frozen programs.

- ✓ Search for files/folders/programs.
- ✓ Using a utility application such as a paint program to create an image or edit an existing one.

B. File Management

- ✓ Understand how an operating system organizes drives, folders, files in a hierarchical structure.
- ✓ Open a window to display folder name, size, and location on a drive.
- ✓ Understanding file names, the principal part and the extension.
- ✓ Setting folder/file options such as hidden files, show/hide extensions...etc.
- ✓ Identify common file types: word processing files, spreadsheet files, database files, presentation files, portable document format files, image files, audio files, video files, compressed files, temporary files, executable files.
- ✓ Open a text editing application. Enter text into a file, name and save the file to a location on a drive.
- ✓ Understand what file compression means. Compress files in a folder on a drive. Extract compressed files from a location on a drive.
- ✓ Install a new printer on the computer. Change the default printer from an installed printer list.

C. Web browsing using Internet Explorer:

- ✓ Understanding cookies, removing cookies, and disallowing cookies.
- ✓ Privacy and security settings.
- ✓ Bookmarks, history and private browsing.
- ✓ Network settings.
- ✓ Setting a folder for downloaded files.
- ✓ Basic options: default web-page, open hyperlinks in a new tab/window ...etc.