

Curriculum For Computer Hardware Technician

(Certificate Level- 6 months)



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Computer Hardware Technician

Overall objective of the course

To impart training to produce competent Computer Hardware Technicians (CHT).

Competencies gained after completion of the course

After completing the course the trainee will be able to:

- Have knowledge of safety procedures and applying the same in practice
- Develop computer system configuration
- Conduct diagnostics - testing and inspection
- Have Knowledge of hardware components and latest development in the field
- Conduct repair and maintenance of PC's
- Carry out installation of operating system and applications
- Have Basic knowledge of Networking and system connectivity

Job Opportunities available immediately and in future

Subsequent to the completion of course, the trainee(s) will have the opportunities to pursue careers as:

- Hardware technician
- Computer support assistant
- Hardware support staff
- Other occupations relating to above stated profile

National Skill Standards

In the absence of National Qualification Framework (NQF), the present curriculum is designed for level 2 & 3. The national skill standards, derived from the occupational profile, are specified below:

- Acquisition of knowledge about the computer system
- Learn and apply basic safety procedures
- Assemble a personal computer in accordance with given configuration
- Performing installation of operating system and other application
- Usage of relevant tools and diagnostic techniques
- Conducting basic diagnostic routines using various tools and application software
- Perform routine and preventive maintenance
- Perform cabling, connecting, and configuring of a peer to peer network
- Solving problems pertaining to viruses and other malicious program component
- Configure Internet and Email
- Perform repairs to personal computers

Overview about the program – Curriculum for Computer Hardware Technician

Module Title and Aim	Learning Units	Theory hours	Workplace hours
<p style="text-align: center;">Module 1: Computer Fundamentals</p> <p>Aim: This Module will enable the learners to become familiar with basic computer including development history. The learners will be physically observing various computer components and Understand the basics components of computers.</p> <p>At the end of this module, the learner will get all preliminary information of hardware components which will be the pre requisite of next module.</p>	LU-1 Computer basics	10 Hrs	30 Hrs
	LU-2 Introduction to Computer Hardware and Software	20 Hrs	30 Hrs
<p style="text-align: center;">Module 2: Computer Assembling</p> <p>Aim: In continuation of first module of hardware component introduction, computer assembling will be covered. This will enable the learner to get complete information computer configuration activities.</p> <p>At the end of this module, the learner will learn how to assemble the computer according customer requirements in a real environment</p>	LU1- Determination of computer requirement with respect to specification	10 Hrs	20 Hrs
	LU2-Assemble the computer	20 Hrs	30 Hrs
	LU3-Configure and install operating system and applications	10 Hrs	20 Hrs
	LU4-Test and inspection with respect to the configured computer	10 Hrs	20 Hrs

<p style="text-align: center;">Module 3: Software Installation</p> <p>Aim: This Module is about how to install computer Software, devices drivers as well as configuration of peripheral devices.</p> <p>At the end of this module, the learner will be able to install all types of software , install and configure all types of peripheral devices</p>	<p>LU1- PC Boot Process DOS Function and file system</p> <p>LU2- Windows Xp/ window 7 / window vista Architecture</p> <p>LU3- Disk management Procedure</p> <p>LU4- Disk Management Utilities</p> <p>LU5- Disk Management Utilities</p> <p>LU6- Operating System Installations, Procedures, Booting Procedures</p> <p>LU7- Windows Configurations & Adding Device Drivers</p>		
<p style="text-align: center;">Module 4: Basics of Networking</p> <p>Aim: This Module is about to performing setting and configuration according to networking preferences</p> <p>At the end of this module, the learner will learn how to install and configure networking devices setting and applications</p>	<p>LU1-Introduction to Computer Networks</p> <p>LU2- Cabling and Characteristics</p> <p>LU3- Installing and Configuring an NIC</p>		

<p style="text-align: center;">Module 5: Internet Configuration</p> <p>Aim: This Module is about to perform internet and email configuration according to the requirements</p> <p>At the end of this module, the learner will be able to configure the internet and email settings for the customer</p>	<p>LU1- Introduction to Internet</p> <p>LU2- Install and configure Internet</p>	<p>10 Hrs</p> <p>10 Hrs</p>	<p>20 Hrs</p> <p>20 Hrs</p>
<p>Module 6: Computer Diagnostic (Testing, repair and maintenance)</p> <p>Aim: This Module is about to how to diagnose, repair and maintain the computer according to the standards</p> <p>At the end of this module, the learner will learn how properly diagnose computer problems and test computer for required operation and standards</p>	<p>LU1- Diagnose faults and identify the repairs necessary</p> <p>LU2- necessary backups for the security of customer data before repairs</p> <p>LU3- Perform repairs to rectify faults</p> <p>LU4- Check computer for performance</p>	<p>04 Hrs</p> <p>04 Hrs</p> <p>04 Hrs</p> <p>05 Hrs</p>	<p>08 Hrs</p> <p>08 Hrs</p> <p>08 Hrs</p> <p>10 Hrs</p>

Computer Hardware Technician Curriculum Contents

Module 1 Title: Computer fundamentals

Objective of the Module: This module covers the fundamentals of computer emphasizing on the introduction hardware components, basic data processing and history of computer development.

Duration: Total :90 hours **Theory:** 00 hours **Practice:** 00 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Computers basics	Understand computer basics	i. Introduction to Computer ii. Computer History iii. Computer generation iv. Data types, Processing Cycle v. Computer in Real life	40 Hrs	<ul style="list-style-type: none"> • Presentations • Videos/Demos 	Class Rooms/LABS
LU2- Introduction to Computer Hardware and Software	Understand the basics components of computers Understand the computer software and types of software	i. Input/output Devices, CPU, Memory and its types, Storage Devices, portable devices. ii. Introduction to system software and application software	50 Hrs	<ul style="list-style-type: none"> • Presentation manuals • Handouts • Hardware equipment • Tool kits • Window 7 DVD 	Class Room/ LABs

Module 2 Title: Computer Assembling**Objective of the Module:** This module covers the knowledge and skills required to assemble and configure the computer.**Duration: Total :**00 hours **Theory:** 00 hours **Practice:** 00 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Determination of computer requirement with respect to specifications	Understand computer component requirement Understand system peripheral, memory, Processor and mother board	i. Introduction to Casings, power supply, Heat sinks and Memory ii. Computer peripherals iii. Computer processor iv. Mother board	40 Hrs	<ul style="list-style-type: none">• Presentations• Videos/Demos• Mother boards peripheral devices	Class Rooms/Labs
LU2- Assemble the computer	Assemble the motherboard and other peripherals in casing. Understand the computer software and types of software	i. Motherboard Configuration and Installing Procedure. ii. Install processor in motherboard , processor fan connection, RAM Installation, Hard Disk & CD/DVD Connectivity Power Supply connectivity with motherboard iii. Front panel cabling iv. Updating BIOS Setup	50 Hrs	<ul style="list-style-type: none">• Presentation manuals• Handouts Hardware equipment• Tool kits• Window 7 DVD	Class Room/ Labs

<p>LU3- Configure and install operating system and applications</p>	<p>Install the required operating System</p> <p>Install Device drivers.</p> <p>Install other required Application Software's.</p>	<ol style="list-style-type: none"> i. Prepare the necessary hardware arrangements for Operating System Installation ii. Installation the Operating System Windows XP & 7 etc iii. Device Driver Configuration. iv. Install the necessary plug-ins and other software's. v. Making the Ghost of Hard Disk / Partitions 		<ul style="list-style-type: none"> • PPT Presentation manuals • Handouts Hardware equipment • Tool kits • Window 7 DVD 	<p>Class Room/ Labs</p>
<p>LU4- Test and inspection with respect to configured computer</p>	<p>Execution test of the installed components</p> <p>Demonstrate to the customer for the proper operation</p>	<ol style="list-style-type: none"> i. Check the appropriate operation and execution of system as per standard ii. Demonstrate the test results for the customer satisfaction iii. Note customer feedback 		<ul style="list-style-type: none"> • PPT Presentation manuals • Handouts Hardware equipment • Tool kits • Window 7 DVD • Software tools 	<p>Class Room/ Labs</p>

Module 3 Title: Software installation

Objective of the Module: This module covers the software installation including operating system and driver installation and configuration

Duration: Total :120 hours **Theory:** 30 hours **Practice:** 90 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<p>LU1- PC Boot Process and DOS Function and file system</p> <p>LU2- Windows Xp/ window 7 / window vista Architecture</p> <p>LU3- Disk Management Procedure</p>	<p>Learn the DOS Components, Windows Components, Windows feature</p> <p>Understand the Role of Config.sys, Autoexec, BAT files, management, File Management, Managing Applications.</p> <p>Understand IO.SYS, MSDOS, ANSI, HIMEM, EMM386</p>	<p>Demonstrate the trainee</p> <ol style="list-style-type: none"> i. Disk Partitioning through FDISK utility. ii. Disk Formatting through Format utility. iii. Disk Management through the FAT (16, 32), NTFS System. iv. Installations and procedures of Operating System. v. DOS Installation. vi. Windows95/98,XP Installation. vii. Procedures of Booting. viii. Booting DOS, ix. Windows 3.X Boot Process, x. Windows 95/98/XP Booting Process. xi. Configurations of Windows & adding Device Drivers. xii. Changing Installed Options and Configuring. xiii. Management of all types of memory i.e. Conventional 	120 Hrs	<ul style="list-style-type: none"> • Presentations Videos/Demos • Un assemble Computer • The peripheral and software 	Class Rooms/LABS

<p>LU4- Disk Management Utilities</p>	<p>Understand Device Drivers, Virtual Machine Manager, Installable File System, Windows Core Operating System, Windows 32 bit and 64 bit System</p>	<p>Memory, Extended Memory, Upper Memory, Shadow ROM and Virtual Memory.</p> <p>xiv. Disk scanning through Scandisk utility</p> <p>xv. Disk Defragmenting through Defragment utility.</p> <p>xvi. Identification of the elements of windows start-up screen.</p>			
<p>LU5- Disk Management Utilities</p>	<p>Learn FDISK, Format, Scandisk, The FAT System and Directories, Defrag Sys</p> <p>Demonstrate the Partitioning, Formatting, Defragmenting</p> <p>Demonstrate the File System, Disk Preparation, and Windows</p>	<p>xvii. Identification of the main parts of windows.</p> <p>xviii. Navigation in windows.</p> <p>xix. Identification of the icons, bars and elements of explorer windows.</p> <p>xx. Use explorer to work in files and folders.</p> <p>xxi. Using windows help.</p>			
<p>LU6- Operating System Installations and Procedures/ Booting Procedures</p>	<p>Learn Installation procedures</p> <p>Demonstrate Booting options, Windows Boot Process, Windows Booting Process</p>	<p>xxii. Installation of application programs from windows.</p> <p>xxiii. Running application programs under windows.</p> <p>xxiv. Describe the file system of windows.</p> <p>xxv. Describe the Registry</p>			

LU7- Windows Configurations & Adding Device Drivers	Device Drivers and, Changing Installed Options and Configuring	Editor. xxvi. Complete setting of BIOS. xxvii. Editing TXT and BAT Files. xxviii. Introduction to Dos Commands. xxix. Installation and setting up tape, compact and Zip drives xxx. Installation of other peripheral devices.			
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Module 4 Title: Basic Networking

Objective of the Module: This module covers the basic knowledge and skill required for computer networks

Duration: Total :120 hours **Theory:** 30 hours **Practice:** 90 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Introduction to Computer Networks	Advantages of Networks, Structure of Communications Network Network Topologies Topologies and Design Goals, Star Topology, Hierarchical Topology, Horizontal Topology Communications Between and among Computers and Terminals	i. Demonstration	40 Hrs	<ul style="list-style-type: none"> • Computer repair kit • Computer diagnostic tools. • Relevant furniture. • Maintenance plans • Computer CDs • Computer spec 	Class Room and computer lab both are used for learning.
LU2- Cabling and Characteristics	Type of Cables and Color Combinations Twisted Pair Wire, Copper Twisted Pair, Coaxial, Fiber Optic Cable	i. Identification of ii. Unshielded Twisted Pair iii. Shielded Twisted Pair iv. Coaxial Cable v. Fiber Optic Cable i. Introduction of type of cables ii. color coding iii. visual inspection			

	State Cable /Crossover Cable, Ethernet Network Cable Designations	<ul style="list-style-type: none"> i. Preparing ii. Strait cable iii. Cross cable 			
LU3- Installing and Configuring an NIC	<p>Identification of NIC</p> <p>Configuration of NIC</p> <p>Installing and Configuring of NI</p>				

Module 5 Title: Internet configuration

Objective of the Module: This module covers the skill and knowledge to configure internet.

Duration: Total :100 hours **Theory:** 20 hours **Practice:** 80 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Introduction to Internet	Able to understand internet and run different type of browsers	<ol style="list-style-type: none"> i. Theoretical knowledge of Internet terminology ii. Demonstration of making Internet connections iii. Knowledge of Web browser and its types iv. Configuration of Web browser. v. Setting internet connection 	25 Hrs	<ul style="list-style-type: none"> • Computer • Internet connection • Computer diagnostic tools. • Wireless NICs • Wireless Access points • NIC and Modems • Relevant web and email software • Driver of Devices • DSL/ADSL/ Dialup/Wi-Max 	Class Room and work place both are used for learning.
	Requirement Analysis of PC for connectivity.	<ol style="list-style-type: none"> i. Knowledge of requirement orientation ii. Knowledge about Wi-Fi Adapter iii. Knowledge about Modems iv. Knowledge of NICs v. Knowledge of Access points vi. Knowledge of Available connections of Internet vii. Dialup/DSL/ADSL/ Wi-MAX/Bluetooth viii. Demonstration of installation and connectivity of Wi-Fi Adapter ix. Demonstration of installation and connectivity 			

		<p>x. Modem Demonstration of installation and connectivity Access points</p>			
<p>LU2- Install and configure Internet</p>	<p>Able to connect with internet</p>	<p>i. Installing Appropriate Hardware ii. Installing Appropriate Drivers iii. Configuration of “used devices” to make internet connection</p>	<p>25 Hrs</p>	<ul style="list-style-type: none"> • Computer repair kit • Computer diagnostic tools. • Networking tools • Maintenance tools • Devices used in practical • Required Software 	<p>Class Room and work place both are used for learning.</p>
	<p>Able to configure DSL/ADSL Connections</p>	<p>i. Knowledge and skill required to configure internet settings ii. Learn how to configure dial up and DSL</p>			
	<p>Able to Configure security options and anti-viruses</p>	<p>i. Configure security preference limitation ii. Use of anti-virus and security software iii. Use of Firewalls</p>			

Module 6 Title: Troubleshooting PC-related Problems

Objective of the Module: This module covers the skill and knowledge required to diagnose faults in personal computer system

Duration: Total :60 hours **Theory:** 20 hours **Practice:** 40 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Diagnose faults and identify the repairs necessary	Able to identify cause of the fault	<ul style="list-style-type: none"> i. Basic knowledge of personal computer and peripherals ii. Standard procedure to identify faults iii. Demonstrate professional behavior with the customer 	40 Hrs	<ul style="list-style-type: none"> • Computer repair kit • Computer diagnostic tools. • Related Software CDs • Bootable CDs • Computer spec 	Class Room and work place both are used for learning.
	Able to estimate the cost of repair	<ul style="list-style-type: none"> i. Identify the risk involve in repair ii. Calculate the cost in term of resources required 			
	Able to necessary repairs identify	<ul style="list-style-type: none"> i. Knowledge of various repairs options ii. Demonstrate how to isolate the fault 			
LU2- Necessary backups for the security of customer data before repairs	Able to take backups before starting repair	<ul style="list-style-type: none"> i. Knowledge of backup and storage devices ii. Identify the data must be backed up iii. Consult with customer about the critical data 	40 Hrs	<ul style="list-style-type: none"> • Computer repair kit • Computer diagnostic tools. • Maintenance plans • Computer CDs • Computer spec 	Class Room and work place both are used for learning.
	Able to Restore from Backups	<ul style="list-style-type: none"> iv. Demonstrate the methods of getting back on restore point 			

				<ul style="list-style-type: none"> • Recovery soft wares 	
LU3- Perform repairs to rectify faults	<p>Able to solve the rectified problem</p> <p>Re- install operating system and other applications cannot be recovered</p> <p>Retrieve data backup data</p>	<p>i. Learn how to de-install and install various damaged components for repair</p> <p>ii. Configure the repaired or new components to required status</p> <p>i. Learn how to recovered the data or applications</p> <p>ii. Learn how to used various recovery tools</p> <p>iii. Take necessary steps to re-install applications in required</p> <p>i. Knowledge of basic retrieval process</p> <p>ii. Follow the standard procedure for retrieval</p> <p>iii. Demonstrate retrieve data to customer</p>	40 Hrs	<ul style="list-style-type: none"> • Computer repair kit • Computer diagnostic tools. • Networking equipments • Maintenance plans • Computer CDs • Computer spec • Recovery soft wares 	Class Room and work place both are used for learning.

<p>LU4- Check computer for performance</p>	<p>Able to check re-install software for correct operation</p> <p>Able to check repair items</p>	<p>i. Knowledge of basic software working</p> <p>ii. Demonstrate the software working to customer</p> <p>i. Identify the repaired item correctly</p> <p>ii. Check the basic working of repaired item against standard working conditions</p> <p>iii. Demonstrate to customer</p>	<p>40 Hrs</p>	<ul style="list-style-type: none"> • Computer repair kit • Computer diagnostic tools. • Networking equipments • Maintenance plans • Computer CDs • Computer spec 	<p>Class Room and work place both are used for learning</p>
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Computer Hardware Technician Curriculum Assessment

Module 1 Title: Computer fundamentals

Objective of the Module: This module covers the fundamentals of computer emphasizing on the introduction hardware components, basic data processing and history of computer development.

Duration: Total :00 hours **Theory:** 00 hours **Practice:** 00 hours

Learning Units	Theory hours	Workplace hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M1-LU1 Computers basics			<ul style="list-style-type: none"> • Introduction to Computer • Computer History • Computer generation • Data types, Processing Cycle • Computer in Real life 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
M1-LU2 Introduction to Computer Hardware and Software			<ul style="list-style-type: none"> • Input/output Devices, CPU, Memory and its types, Storage Devices, portable devices. • Introduction to system software and application software 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	

Module 2 Title: Computer Assembling

Objective of the Module: This module covers the knowledge and skills required to assemble and configure the computer.

Duration: Total :00 hours **Theory:** 00 hours **Practice:** 00 hours

Learning Units	Theory hours	Workplace hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M2-LU1 Determination of computer requirement with respect to specification			<ul style="list-style-type: none">• Introduction to Casings, power supply, Heat sinks and Memory• Computer peripherals• Computer processor• Mother board	<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	
M2-LU2 Assemble the computer			<ul style="list-style-type: none">• Motherboard Configuration and Installing Procedure.• Install processor in motherboard , processor fan connection, RAM Installation, Hard Disk & CD/DVD Connectivity Power Supply connectivity with motherboard• Front panel cabling• Updating BIOS Setup	<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	

<p>M2-LU3 Configure and install operating system and applications</p>			<ul style="list-style-type: none"> • Prepare the necessary hardware arrangements for Operating System Installation • Installation the Operating System Windows XP & 7 etc • • Device Driver Configuration. • • Install the necessary plug-ins and other software's. • Making the Ghost of Hard Disk / Partitions 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
<p>M2-LU4 Test and inspection with respect to the configured computer</p>			<ul style="list-style-type: none"> • Check the appropriate operation and execution of system as per standard • Demonstrate the test results for the customer satisfaction • Note customer feedback 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	

Module 3 Title: Software installation

Objective of the Module: This module covers the software installation including operating system and driver installation and configuration

Duration: Total :120 hours **Theory:** 30 hours **Practice:** 90 hours

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M3-LU1 PC Boot Process ,DOS Function and file system			<ul style="list-style-type: none">• Disk Partitioning through FDISK utility.• Disk Formatting through Format utility.• Disk Management through the FAT (16,32), NTFS System.• Installations and procedures of Operating System	<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	
M3-LU2 Windows Xp/ window 7 / window vista Architecture			<ul style="list-style-type: none">• Make a boot able floppy, CD, and flash.• Windows Installation.	<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	

M3-LU3 Disk Management Procedure			<ul style="list-style-type: none"> • Procedures of Booting 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
M3-LU4 Disk Management Utilities			<ul style="list-style-type: none"> • Command prompt in windows, • Different Windows Boot Process, 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
M3-LU5 Operating System Installations, Procedures, Booting Procedures					
M3-LU6 Windows Configurations & Adding Device Drivers					

Module 4 Title: Basic Networking

Objective of the Module: This module covers the basic knowledge and skill required for computer networks

Duration: Total :120 hours **Theory:** 30 hours **Practice:** 90 hours

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M4-LU1 Determination of computer requirement with respect to specification				<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	
M4-LU2 Assemble the computer				<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	
M4-LU3 Configure and install operating system and applications				<ul style="list-style-type: none">• Perform a practical demonstration• Be given an assignment• Participate in group• Observation in work environment	

Module 5 Title: Internet configuration

Objective of the Module: This module covers the skill and knowledge to configure internet.

Duration: Total :100 hours **Theory:** 20 hours **Practice:** 80 hours

Learning Units	Theory hours	Workplace hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<p>M5-LU1 Introduction to Internet</p>			<ul style="list-style-type: none"> • Theoretical knowledge of Internet terminology • Demonstration of making Internet connections • Knowledge of Web browser and its types • Configuration of Web browser. • Setting internet connection • Knowledge of requirement orientation • Knowledge about Wi-Fi Adapter • Knowledge about Modems • Knowledge of NICs • Knowledge of Access points • Knowledge of Available connections of Internet • Dialup/DSL/ADSL/ Wi-MAX/Bluetooth • Demonstration of installation and connectivity of Wi-Fi Adapter • Demonstration of installation and connectivity Modem • Demonstration of installation and connectivity Access points 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	

<p>M5-LU2 Install and configure Internet</p>			<ul style="list-style-type: none"> • Installing Appropriate Hardware • Installing Appropriate Drivers • Configuration of “used devices” to make internet connection • Knowledge and skill required to configure internet settings • Learn how to configure dial up and DSL • Configure security preference limitation • Use of anti-virus and security software • Use of Firewalls 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
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Module 6 Title: Computer diagnostic (testing, repair and maintenance)

Objective of the Module: This module covers the skill and knowledge required to diagnose faults in personal computer system

Duration: Total :60 hours **Theory:** 20 hours **Practice:** 40 hours

Learning Units	Theory hours	Workplace hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<p>M6-LU1 Diagnose faults and identify the repairs necessary</p>			<ul style="list-style-type: none"> • Basic knowledge of personal computer and peripherals • Standard procedure to identify faults • Demonstrate professional behavior with the customer. • Identify the risk involve in repair • Calculate the cost in term of resources required • Knowledge of various repairs options • Demonstrate how to isolate the fault 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
<p>M6-LU2 Necessary backups for the security of customer data before repairs</p>			<ul style="list-style-type: none"> • Knowledge of backup and storage devices • Identify the data must be backed up • Consult with customer about the critical data • Demonstrate the methods of getting back on restore point 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	

<p>M6-LU3 Perform repairs to rectify faults</p>			<ul style="list-style-type: none"> • Learn how to de-install and install various damaged components for repair • Configure the repaired or new components to required status • Learn how to recovered the data or applications • Learn how to used various recovery tools • Take necessary steps to re-install applications in required • Knowledge of basic retrieval process • Follow the standard procedure for retrieval • Demonstrate retrieve data to customer 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	
<p>M6-LU4 Check computer for performance</p>			<ul style="list-style-type: none"> • Knowledge of basic software working • Demonstrate the software working to customer • Identify the repaired item correctly • Check the basic working of repaired item against standard working conditions • Demonstrate to customer 	<ul style="list-style-type: none"> • Perform a practical demonstration • Be given an assignment • Participate in group • Observation in work environment 	

Supportive notes

- **Assessment context**
The module assessment can be made on the job environment or in lab or may be both. The competency may also be checked by observing individuals working alone or as part of team.
- **Critical aspects**
The candidate must be vigilant to the dynamic situation and must be able to handle the equipment properly, keep the measures of safety into consideration, courteousness related with computer with proper maintenance.
- **Assessment condition**
The learner will have access to all tools, equipments material and documentations required for this module.
Appropriate time period should be available to candidate for assessment
- **Resources required for assessment**
All the software, hardware and computer system e.g. Program, computer peripherals, diagnostic tools.

Teacher Qualification

- 16 years education or
- Graduation + one year Diploma
- Three year Diploma in Computer hardware/electronics