

## REPAIR AND MAINTAIN A COMPUTER

UNIT CODE: IT/CU/ICTA/CR/03/4/B

### UNIT DESCRIPTION

This unit covers the competencies required for performing computer repair and maintenance using diagnosing, repairing and maintenance tools. It involves performing troubleshooting, dismantling of faulty components, repairing/replacing faulty components, up gradation and testing of computer functionality.

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicized terms are elaborated in the Range)</i>
1. Assemble and Disassemble Computer Components	1.1 Tools for disassembling are acquired 1.2 Faulty components are disassembled from the computer according to the provided <b><i>instruction manuals</i></b> . 1.3 Documentation of faulty components is done
2. Troubleshoot Computer Components	1.1 Identification of computer parts is done 1.2 Gathering of <b><i>appropriate computer maintenance tools</i></b> and maintenance techniques is done 1.3 <b>Theory of probable cause is established</b> 1.4 <b>Testing of the theory to determine cause is done</b> 1.5 <b>Problem cause is established</b> 1.6 <b>Appropriate solution to the problem is performed</b>
3. Repair/replace and reassemble components	3.1 Faulty parts to be repaired or replaced are identified 3.2 Acquisition of new parts is done as per the specifications of the components in the case of replacement and repair is done on faulty components. 3.3 Reassemble the repaired or replaced components.
4. Test computer/component functionality	4.1 Testing tools are gathered according to the manufacturer's manual. 4.2 Testing techniques are outlined 4.3 Testing procedures are identified. 4.4 Testing of the repaired or replaced component is done as per the instructions/standards
5. Upgrade computer hardware	1.1 Identify hardware component to be upgraded. 1.2 Install and configure the component

1.3 Test the functionality of the installed component
---

## RANGE

Variable	Range
1. Appropriate computer maintenance tools may include but not limited to	<ul style="list-style-type: none"> <li>• Straight-head screwdriver, large and small.</li> <li>• Phillips-head screwdriver, large and small.</li> <li>• Tweezers or part retriever.</li> <li>• Needle-nosed pliers.</li> <li>• Wire cutters.</li> <li>• Chip extractor.</li> <li>• Hex wrench set.</li> <li>• Torx screwdriver</li> </ul>
2. Instruction manuals May include but not limited to	<ul style="list-style-type: none"> <li>• Refers to an instructional book or booklet that is supplied with almost all technologically advanced consumer product to be used during inspection</li> </ul>

## REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

<ol style="list-style-type: none"> <li>1. Troubleshooting techniques</li> <li>2. Procedures and techniques for reassembling and disassembling.</li> <li>3. Component testing techniques</li> <li>4. Computer systems and their components</li> <li>5. The manufacturer's warranty requirements relating to activities for the computer and related components.</li> <li>6. Types of Computer/component testing</li> <li>7. Types of Maintenance</li> </ol>
--

## REQUIRED SKILLS

<p>The individual needs to demonstrate the following additional skills:</p>
---

<ul style="list-style-type: none"> <li>• Communications (verbal and written);</li> <li>• Proficient in ICT;</li> <li>• Time management;</li> <li>• Analytical</li> <li>• Faults troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Decision making;</li> <li>• First aid;</li> <li>• Report writing;</li> </ul>
--	---

<ul style="list-style-type: none"> <li>• Problem solving;</li> <li>• Planning;</li> </ul>	
---	--

## EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and understanding and range.

1. Critical Aspects of Competency	<ul style="list-style-type: none"> <li>1.1 Assessment requires evidence that the candidate:</li> <li>1.2 Gathered appropriate computer repair and maintenance tools and performed troubleshooting</li> <li>1.3 Identified different types of maintenance</li> <li>1.4 Identified and disassembled Faulty components</li> <li>1.5 Performed specific component tests</li> <li>1.6 Repaired or replaced faulty components.</li> <li>1.7 Upgraded hardware components as needed</li> </ul>
2. Resource Implications	Resources the same as that of workplace are advised to be applied Including computer, printers, repair and maintains tools, device drivers etc.
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Oral questioning</li> <li>3.2 Practical demonstration</li> <li>3.3 Written test</li> </ul>
4. Context of Assessment	4.1 Competency may be assessed individually in the actual workplace or through simulated work environment
5. Guidance information for assessment	5.1 Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.