

PERFORM COMPUTER REPAIR AND MAINTENANCE

UNIT CODE: ICT/OS/IT/CR/03/5/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
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. Bold and italicized terms are elaborated in the Range.
1. Perform troubleshooting	1.1 Identification of computer parts is done 1.2 Assembling of <i>appropriate computer maintenance tools</i> and maintenance techniques is done 1.3 Theory of probable cause is established 1.4 Testing of the theory to determine cause is done 1.5 Identification of the problem is established 1.6 Appropriate solution to the problem is performed
2. Disassemble faulty components	2.1 Tools for disassembling are assembled 2.2 Faulty components are disassembled 2.3 Disassembling is performed according to provide <i>instruction manuals</i>
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 Switch on the computer for <i>POST test</i> 4.2 Perform specific component test 4.3 Evaluate test results 4.4 Generate component and system report
5. Upgrade computer software/hardware	5.1 Run <i>diagnostic program</i> 5.2 Install update if any.

RANGE

Variable	Range <i>May include but is not limited to:</i>
1. Appropriate computer maintenance tools	1.1 Straight-head screwdriver, large and small. 1.2 Phillips-head screwdriver, large and small. 1.3 Tweezers or part retriever. 1.4 Needle-nosed pliers. 1.5 Wire cutters. 1.6 Chip extractor. 1.7 Hex wrench set. 1.8 Torx screwdriver
2. Instruction manuals.	2.1 Refers to an instructional book or booklet that is supplied with almost all technologically advanced consumer product to be used during inspection
3. POST test	4.1 Process performed by firmware or software routines immediately after a computer or other digital electronic device is powered on.
4. Diagnostic program	4.2 Software tool used to diagnose problems with a particular set of hardware devices.

REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

- Troubleshooting techniques
- Procedures and techniques for reassembling
- Component testing techniques
- Computer systems and their components
- The manufacturer's warranty requirements relating to activities for the computer and related components.
- Types of Computer/component testing
- Types of Maintenance techniques

FOUNDATION SKILLS

The individual needs to demonstrate the following additional skills:

- Communications (verbal and written);
- Proficient in ICT;

- Time management;
- Analytical
- Faults troubleshooting
- Problem solving;
- Planning;
- Decision making;
- First aid;
- Report writing;

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	<i>Assessment requires evidence that the candidate:</i> 1.1 Assembled appropriate computer repair and maintenance tools and performed troubleshooting 1.2 Identified different maintenance techniques 1.3 Identified and disassembled Faulty components 1.4 Performed specific component test 1.5 Repaired or replaced faulty components 1.6 Was able to perform software and hardware upgrade
2. Resource Implications	2.1 Resources the same as that of workplace are advised to be applied including computer, printers etc
3. Methods of Assessment	Competency may be assessed through: 3.1 Oral questioning 3.2 Practical demonstration 3.3 Observation
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.