2024 - 2027

APPLIED VOCATIONAL CERTIFICATE IN

INFORMATION TECHNOLOGY

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GOVERNMENT OF MALTA
MINISTRY FOR EDUCATION, SPORT, YOUTH, RESEARCH AND INNOVATION
DIRECTORATE FOR STEM AND VET PROGRAMMES

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APPLIED VOCATIONAL CERTIFICATE PROGRAMME

The Applied Vocational Certificate (AVC) programme is designed to emphasize the practical application of vocational subjects, providing students with hands-on experience directly related to the workplace. This programme is aligned with the Malta Qualifications Framework (MQF) and offers a final certification at MQF Level 3, with exit points at MQF Levels 1 and 2. To earn the final certificate, candidates must complete all three units over the secondary cycle and meet the requirements for coursework and controlled assessments as outlined in the specific subject syllabi.

The AVC programme focuses on equipping candidates with both theoretical knowledge and practical skills relevant to specific industries, preparing them for future employability or education. This skills-based approach ensures that students develop the competencies necessary for the workforce while also providing a clear pathway for academic progression. The programme supports continuous learning, with opportunities to advance to post-secondary institutions that offer courses at MQF Levels 1-3, and potentially even higher, such as MQF Level 4. Recognized and accredited by various educational institutions, the AVC programme represents a vital step in the lifelong learning journey, aligning with both industry needs and educational standards.

Spanning over three scholastic years (Years 9, 10 and 11) and comprising 10 credits, the AVC programme fosters the development of technical and vocational skills in specific industries. This structure supports the holistic growth of candidates, preparing them not only for future employment but also for future academic pursuits in line with this policy's objectives and the relevant subject syllabi.

SUBJECT PROGRAMME

The Applied Vocational Certificate in Information Technology is designed to equip candidates with the fundamental skills, knowledge and competences needed to thrive in the world of Information Technology. This syllabus offers candidates a hands-on learning experience in key areas of technology, including computer hardware installation, networking and game/app development.

Furthermore, over this three-year programme, candidates will not only be technical proficient in the area but also develop soft skills, such as critical thinking, creativity, problem solving, and time management, which are very beneficial for today’s world and future place of work.

PROGRAMME LEARNING OUTCOMES

At the end of the programme, candidates can:

- Demonstrate ability to follow appropriate good health and safety practices in an IT environment.
- Demonstrate an understanding of computer systems and carry out the installation/configuration of a computer system.
- Demonstrate an understanding of networks and setup a secure small-scale network.
- Design, develop, test and document a computer game and/or app.
- Demonstrate creativity in given tasks.
- Demonstrate effective analysis and self-reflection in given tasks.
- Demonstrate problem-solving skills in given tasks.

UNIT LEARNING OUTCOMES

Unit 1: Computer Hardware Installation

At the end of the unit, candidates can:

LO 1. Demonstrate an understanding of computer systems and peripheral devices.

LO 2. Install (RIU) internal hardware components and the necessary software.

LO 3. Install an Operating System.

LO 4. Set up user accounts.

Unit 2: Networking

At the end of the unit, students can:

LO 1. Setup the infrastructure for a small-scale network.

LO 2. Test network connectivity.

LO 3. Share data and devices on a network.

LO 4. Secure a network from possible threats.

ASSESSMENT

Throughout the three-year programme candidates will be assessed in order to ensure that the unit learning outcomes have been achieved. To achieve each outcome candidates must satisfy the Assessment Criteria for the respective unit, which criteria are listed in the sections below. Assessment will be carried out through different components, which together add up to a global mark of maximum 300 marks.

The components include:

Coursework

This refers to the two assignments set by teachers and given to candidates once internally verified. Each assignment should contain both written and practical tasks, and marks for each shall range between 24 and 42 marks. An Assessment Front Sheet (Appendix 2) is to be completed for every assignment. Once the candidate's work is corrected, marks and feedback are to be inputted in the Assessment Front Sheet of each candidate. These assessment decisions, like the assignment briefs, also need to be internally verified.

Controlled Assessment

This refers to the assessment set by the Director and issued through the Education Assessment Unit (EAU) during the last term of the scholastic year. This assessment includes both written and practical tasks and covers the grading criteria indicated in the Assessment Criteria section of each unit. The controlled grading criteria are highlighted in grey and set to bold and italics for ease of reference. It should be noted that for this assessment the Assessment Front Sheet is to be filled in and assessment decisions should be internally verified.

Portfolio

Throughout the three-year programme candidates are required to keep a portfolio. The main aim of this portfolio is to showcase the candidate's work and skills obtained. In fact, it will consist of two parts, mainly:

Showcase – This section shall contain work which highlights the candidate's work and abilities. Such work can include, but is not limited to, artefacts, worksheets, class activities, proof of teamwork, and evidence of outings. Work presented in this section will be assessed in Year 11, as per rubric titled *Rubric for Assessing Portfolio Upkeep and Showcased Projects/Tasks* provided within the Portfolio Template (see Portfolio section, page 100).

Self-Reflections – This section shall include the candidate's self-reflections on some of the practical tasks carried out in the coursework and/or controlled assessment. In fact, candidates are required to present two self-reflections for Unit 1 (Year 9) and two self-reflections for Unit 2 (Year 10), by completing the self-reflection sheets provided within the Portfolio Template. Each self-reflection is to be based on any one of the application

grading criteria available in the respective units. In Year 11, candidates will be required to reflect on the three-year programme, by completing the provided self-reflection sheet (see Portfolio Template, *AVC IT 3-year Programme Self-Reflection* sheet). Self-reflections for a particular unit are to be corrected at the end of that scholastic year, as per rubrics included at the end of the Portfolio Template.

The portfolio, including both the showcase and self-reflection's part, carries a total of 20 marks. These marks will be accumulated over the three years, as described in the Scheme of Assessment section below, and together with the 80 marks for Unit 3 coursework, they will amount to 100 marks for Year 11.

Teachers are requested to guide candidates as to whether they are to keep a digital (soft) copy of their portfolio or else a physical copy. While candidates are encouraged to use the Portfolio Template provided within this document, they are free to design their own as long as the necessary information is included, and approval is obtained from their teachers.

DISTRIBUTION OF MARKS

As indicated in the table below, each grading criterion and level have a mark pegged to them. It is important that this distribution of marks is followed in both the coursework and the controlled assessment.

Criterion	Level 1	Level 2	Level 3	Total
Knowledge	1	1	2	4
Comprehension	2	2	2	6
Application	3	3	4	10

SCHEME OF ASSESSMENT

	Assessment Components	Marks
Year 9	Coursework	72 marks
	Controlled assessment	28 marks
	*Self-reflections	5 marks
Year 10	Coursework	66 marks
	Controlled assessment	34 marks
	*Self-reflections	5 marks
Year 11	Coursework	80 marks
	*Self-reflection	5 marks
	*Showcase and portfolio upkeeping	5 marks

**These components will add up to the 20 marks dedicated to the portfolio in Year 11.*

PROGRAMME CERTIFICATION

Upon completion of the three-year programme, candidates will receive a certificate and a certificate supplement indicating the MQF Level achieved. Each applied vocational subject within the AVC programme is structured to be qualified at MQF Level 3, with possible exit points at MQF Level 2 or MQF Level 1. The final qualification level depends on the total marks obtained by the candidate over the three years (with a maximum of 300 marks) as indicated in the table on the following page.

Candidates who are absent for an entire year of the programme can qualify for up to a maximum of MQF Level 2, while those absent for two full years can qualify for up to a maximum of MQF Level 1.

Award	Marks throughout the Subject	Grade
MQF Level 3	270– 300	1
	240 – 269	2
	210 – 239	3
	180 – 209	4
	150 – 179	5
MQF Level 2	120 – 149	6
	90 – 119	7
MQF Level 1	60 – 89	8
	0 – 59	Fail

QUALITY ASSURANCE

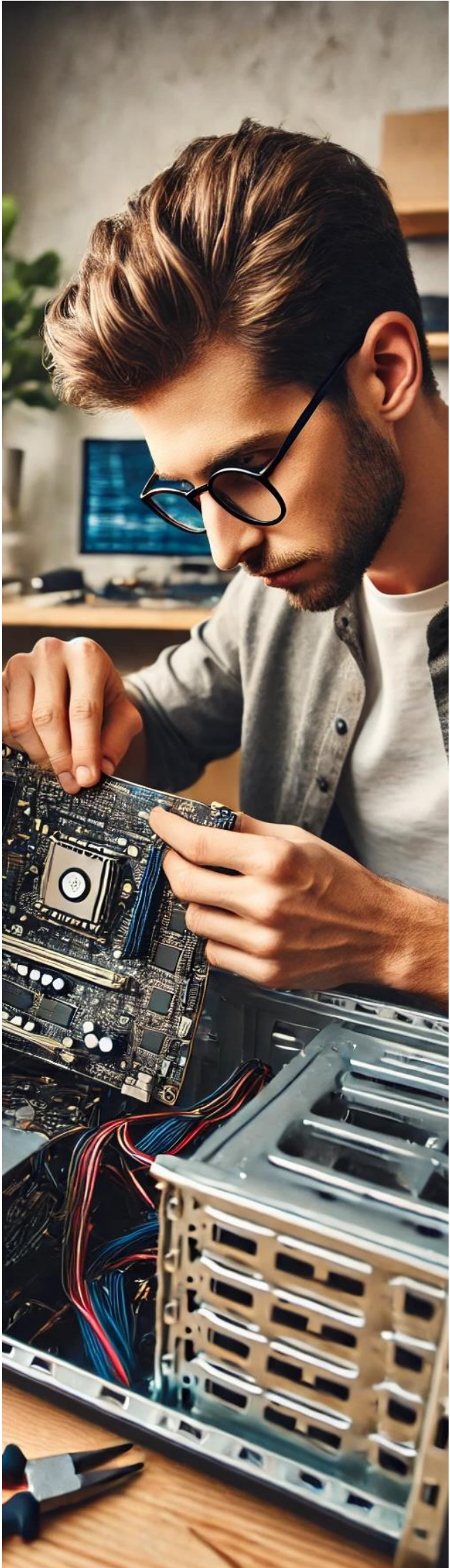
Assessment is a fundamental component of the learning process. It provides candidates with feedback on their progress and achievements while adhering to key standards of reliability, validity, and fairness. To maintain these standards, it is crucial to follow established rules and procedures. The assessment guidelines ensure that all evaluations are:

- Aligned with the appropriate standards, quality, and level.
- Fair and equitable to all students.
- Valid and reliable.

In order to ensure quality, assignment briefs and assessment decisions undergo internal verification by the designated internal verifier. This process ensures that assessments align with the intended learning outcomes and comply with established policy procedures. Furthermore, moderation will be conducted each academic year by moderators that will evaluate candidates work based on a specified rubric and moderation criteria ensuring that work has been fairly, accurately and consistently graded. During both internal verification and moderation, candidates' marks are subject to change.

UNIT 1

COMPUTER HARDWARE INSTALLATION



UNIT DESCRIPTION

In this unit candidates will learn about various types of computer systems along with the different components which make up a computer system, including input, output and secondary storage devices, and their use.

Moreover, since by time computer systems need to be upgraded or maintained, candidates will be able to recognise when a computer system needs to be maintained, identify the problem and determine a way to solve such a problem. Hence, they will acquire the necessary skills to choose compatible components, carry out the replacement and/or installation and/or upgrade (RIU) of the internal hardware components while following good Health and Safety practices, test the installed components and computer system to ensure that they all work together and finally document the RIU.

Given that computer systems and devices are all made up of electronics, it would be beneficial for candidates to acquire the skills necessary to solder adequate solder joints. To achieve this, candidates will develop projects which require the soldering of electronic components in place, while ensuring the functionality and reliability of the soldered projects.

Finally, since computers need software to work, candidates will learn how to install an operating system. They will also learn about the importance of having different accounts for different users, while being able to set up such user accounts and customise them according to the user's needs.

LEARNING OUTCOMES

At the end of the unit, candidates can:

LO 1. Demonstrate an understanding of computer systems and peripheral devices.

LO 2. Install (RIU) internal hardware components and the necessary software.

LO 3. Install an Operating System.

LO 4. Set up user accounts.

UNIT CONTENT

<table>
<tr><th>Subject Focus</th><th colspan="3">Computer Systems</th></tr>
<tr><td>LO 1.</td><td colspan="3">Demonstrate an understanding of computer systems and peripheral devices.</td></tr>
<tr><td rowspan="4">K-1.</td><td>K-1. List FOUR different types of computer systems.</td><td>K-1. Select ONE input and ONE output device for a given situation.</td><td>K-1. Outline TWO properties of a storage device.</td></tr>
<tr><td colspan="3">Computer systems: e.g. server, desktop computer, laptop, tablet, e-book reader, gaming rig, smartphone, embedded device, wearable.</td></tr>
<tr><td colspan="3">Input devices and output devices:
Input device: mouse or trackball or scanner or touchpad or keyboard or Braille keyboard or eye-tracking system or puff-suck switch or joystick or joypad or microphone or 3D-scanner or buttons or dedicated sensors or dedicated control panel or Optical Mark Reader (OMR) or Magnetic Ink Character Reader (MICR) or graphics tablet or barcode reader;
Output device: monitor or projector or 2D-printer or 3D-printer or plotter or speaker or headphones or VR headset.</td></tr>
<tr><td colspan="3">Properties of secondary storage devices: e.g. storage technology (magnetic, optical, electronic), capacity, access speed, longevity of device, costs, portability.

N.B. For assessment purposes, any ONE of the following secondary storage devices should be considered: hard disk or CD or DVD or Blu-ray or Solid-State Disk (SSD) or flash memory card or USB flash drive or magnetic tape.</td></tr>
<tr><td rowspan="3">C-1.</td><td>C-1. Justify the appropriate computer system for a given scenario.</td><td>C-1. Justify the appropriate input and output devices for a given scenario.</td><td>C-1. Justify the appropriate storage requirements for a given scenario.</td></tr>
<tr><td colspan="3">Justification of a computer system: e.g. cost, speed, portability.</td></tr>
<tr><td colspan="3">Justification of input and output devices: use and/or specifications and/or connectivity and/or cost and/or after-sales service.

N.B. For assessment purposes, the justification should be based on ONE aspect for input devices and ONE aspect for output devices. The same aspect could be used for both input and output.</td></tr>
</table>

C-1.	Justification of storage requirements: e.g. storage technology (magnetic, optical, electronic), capacity, access speed, longevity of device, costs, portability. ***N.B.*** *For assessment purposes, any* ***ONE*** *of the following secondary storage devices should be considered: hard disk* ***or*** *CD* ***or*** *DVD* ***or*** *Blu-ray* ***or*** *Solid-State Disk (SSD)* ***or*** *flash memory card* ***or*** *USB flash drive* ***or*** *magnetic tape.*

Subject Focus	Installation of Internal Hardware Components		
LO 2.	Install (RIU) internal hardware components and the necessary software.		
K-2.	K-2. Identify **FOUR** hazards in an IT environment.	K-2. List **FOUR** risks that might arise from hazards in an IT environment.	K-2. Outline **FOUR** precautions to minimize potential risks.
	Hazards: e.g. high voltage, high electrostatic energy, high magnetism, sharp objects, trailing cables, lifting heavy objects, precarious positioning of equipment.		
	Risks: e.g. physical damage to equipment, electrostatic discharge, data loss, data corruption, human injuries, tripping, electrocution.		
	Precautions: e.g. use antistatic equipment, use appropriate tools, ergonomics, no trailing cables, backups, wear adequate clothing, firefighting equipment and procedures.		
K-3.	K-3. Label **FOUR** different internal hardware components.	K-3. List **FOUR** reasons for which a computer upgrade may be required.	K-3. Outline **TWO** implications of upgrading a computer.
	Internal hardware components: e.g. RAM, CPU, heat sink, hard disk, graphics card, sound card, network card, power supply unit.		
	Reasons for upgrading a computer: user requirements; increase storage capacity; increase processing speed; increase hardware reliability (intermittent faults); cater for minimum software requirement.		
	Implications of upgrading a computer: user re/training; hardware compatibility problems; software compatibility problems; decommissioning of hardware; migration of data.		
K-4.	K-4. List **TWO** issues which can cause an RIU to be unsuccessful.	K-4. Describe **ONE** way which can be used to test an RIU.	K-4. Outline **TWO** solutions for an unsuccessful RIU.
	Issues causing unsuccessful RIU: e.g. loose or wrongly inserted connections, internally broken cables, dead-on-arrival (DOA) components.		
	Ways to test an RIU: e.g. BIOS, device manager, third-party diagnostic tools.		
	Solutions for unsuccessful RIU: e.g. secure cable connections, connect cable in appropriate port, place component in appropriate slot, replace damaged cable with a working one, replace DOA component with new one, consult with mainboard manual for solutions.		

K-5.	K-5. Name the **FIVE** sections of an RIU documentation.	K-5. Outline the content of **TWO** sections of an RIU documentation.	K-5. Describe **TWO** importance's of documenting an RIU.
	RIU documentation sections: reason for the RIU; solution proposed; actual implementation; testing; signatories and date.		
	Importance of documentation: record keeping of work done; warranties of any components; completed test plan; reference point for troubleshooting.		
K-6.	K-6. Identify **FOUR** tools and equipment used when soldering.	K-6. State the use of **FOUR** tools and equipment used when soldering.	K-6. Outline **TWO** precautions which should be taken to minimise risks when soldering.
	Tools and equipment needed for soldering: e.g. soldering iron and soldering stand, solder wire, damp cleaning sponge/iron tip cleaner, soldering mat, side cutter, safety glasses, desoldering pump, desoldering braid (solder wick), third-hand tool, fume extractor, digital multimeter.		
	Precautions when soldering: e.g. never touch the heated end of the soldering iron, always place the soldering iron on its stand when not in use due to its long-term heating after use, always wear safety glasses to protect the eyes from impact, dust and debris, use resin-free and lead-free solders, always wash hands with soap and water after soldering, use filter extract systems during soldering, use soldering in a well-ventilated area.		
C-2.	C-2. Choose **TWO** compatible components for a given mainboard and user requirements.	C-2. Justify the **TWO** chosen components for a given mainboard and user requirements.	C-2. Discuss ONE difference between alternative technologies for a given component.
	Components: e.g. RAM, CPU with heat sink, secondary storage devices, expansion cards, Power Supply Unit (PSU). ***N.B.*** *For assessment purposes, for each component, candidates should be provided with the specifications of at least three possible components. The list of possible components should include a component which is incompatible with the given mainboard, another component which is compatible with the given mainboard but does not meet the user requirements and another component which is compatible with the given mainboard and which also meets the user requirements.*		
	Justification based on: compatibility with the mainboard and specifications in relation to user requirements.		

<table>
<tr><td>C-2.</td><td colspan="3">Differences in technologies: types of RAM (dynamic [DDR-x]) or types of CPU (integrated, socket type, generation) or types of heat sink (active, passive) or types of secondary storage interface (SATA, PATA, M.2) or types of expansion slots (AGP, PCI, PCIe, M.2).</td></tr>
<tr><td rowspan="6">C-3.</td><td>C-3. Identify the hardware problem that has generated a given boot-up error report.</td><td>C-3. Describe TWO possible causes that have generated a given boot-up error report.</td><td>C-3. Explain TWO possible solutions to solve the generated boot-up error.</td></tr>
<tr><td colspan="3">Boot-up error report hardware problems: power-related or CPU-related or mainboard- related or adapter card related.

N.B. For assessment purposes, boot-up error reports should take into consideration beep codes and/or POST test readouts.</td></tr>
<tr><td>A-1. Follow Health and Safety procedures while installing hardware.</td><td>A-1. Prepare the necessary tools and components to carry out the required hardware RIU.</td><td>A-1. Install the required components.</td></tr>
<tr><td colspan="3">Health and Safety procedures while installing hardware: wear appropriate clothing; switch off power; disconnect plug; remove power cable; disconnect remaining computer cables from computer; ensure workplace is large enough; place components on antistatic mat; open case carefully; look out for sharp edges; wear antistatic wrist strap; be organized; handle tools safely.</td></tr>
<tr><td colspan="3">Preparation to carry out hardware RIU: tools; anti-static and cleaning equipment; hardware components; software; check component compatibility; recording of serial numbers.</td></tr>
<tr><td colspan="3">Installation of components: clean hardware components; install hardware component one*; install hardware component two*; reassemble computer; install any necessary software**.

*N.B. For assessment purposes, the installation of hardware may require the replacement of a component.

**N.B. For assessment purposes, software installation and configuration may not necessarily be linked to a driver but to other software used to test hardware functionality.</td></tr>
<tr><td>A-1.</td></tr>
</table>

A-2	A-2. Create a test plan to test RIU components.	A-2. Carry out tests on every RIU component.	A-2. Document the upgrade.
	Test plan for RIU components based on: e.g. BIOS, system information, device manager, third-party diagnostic tools. ***N.B.*** *For assessment purposes, candidates should specify what shall be tested through the tests (e.g. when installing a network card, the device manager will be used to check whether it has been recognised).*		
	Testing RIU components: **TWO** tests for component 1; **TWO** tests for component 2; tests carried out according to test plan. ***N.B.*** *For assessment purposes, tests carried out should include a variety of ways which can be used for testing a replaced/installed/upgraded hardware component, based on the test plan.*		
	Documentation of upgrade: reason/s for RIU; suggested RIU; actual implementation; log of serial numbers; results of the two tests for each component installed/upgraded/replaced.		
A-3.	A-3. Prepare the necessary tools, equipment and materials needed for a given soldering project.	A-3. Use appropriate soldering techniques to develop the soldering project following Health and Safety procedures.	A-3. Test the soldered project.
	Preparation for soldering project: identification of necessary tools and equipment; identification of necessary materials; organisation of tools, equipment and materials on the workspace. ***N.B.*** *For assessment purposes the soldering project should be determined by the teacher and communicated to the students in the assignment brief. It is important that for the projects students will be required to solder at least 3 electronic components such as resistors, capacitors, LEDs, sensors, speakers, battery holder, SIL connectors and Arduino to name a few.*		
	Developing the soldering project: apply correct soldering techniques to solder joints; follow health and safety procedures throughout the process; use tools and equipment correctly; solder joints are clean and properly formed without any excess solder; components are securely soldered. ***N.B.*** *Even though desoldering a solder joint is not directly mentioned in the unit content, still such skill needs to be taught and practiced in class as it is important for students to know how to desolder inappropriate solder joints.*		
	Testing the soldered project: inspecting solder joints for dry joints, cracks or excess		

	solder; inspecting for short circuits; using a digital multimeter to check for continuity; testing the soldered project for functionality; soldered project meets the given design specifications (i.e. components are properly aligned as per given design). ***N.B.*** *For assessment purposes students should be given a diagram/design representing how components should be soldered on the Veroboard/PCB.*

Subject Focus	Software		
LO 3.	Install an Operating System.		
K-7.	K-7. Name **TWO** different types of software.	K-7. List **TWO** different examples for each type of software.	K-7. Differentiate between different types of software.
	Types of software: system software; application software.		
	Examples of software: • System software: e.g. Windows, Linux, Mac OSX; • Application software: e.g. word processor, medical software, image editor.		
	Difference between types of software: system software; application software.		
A-4.	A-4. Install an operating system.	A-4. Set a restore point.	A-4. Apply disk partitioning.
	Installation of an operating system: check operating system requirements (RAM; CPU; storage capacity; graphics card); setup boot-up sequence; select type of installation.		
	Setting a restore point: open window to create a restore point; choose the create button; type a name for the restore point.		
	Disk partitioning: remove any present partitions; set the appropriate primary and second partition size; create **TWO** partitions*; format the second partition. ***N.B.*** *For assessment purposes, disk partitioning should be carried out during the installation of the operating system.* ****N.B.*** *For assessment purposes, all partitions should be 'allocated'.*		

<table>
<tr><th>Subject Focus</th><th colspan="3">User Accounts</th></tr>
<tr><td>LO 4.</td><td colspan="3">Set up user accounts.</td></tr>
<tr><td rowspan="3">K-8.</td><td>K-8. List TWO different local user accounts.</td><td>K-8. Describe the purpose of ONE local user account.</td><td>K-8. Outline TWO advantages and TWO disadvantages of online user accounts.</td></tr>
<tr><td colspan="3">Local user accounts: e.g. administrator, standard, guest.</td></tr>
<tr><td colspan="3">Online user accounts:
Advantages: e.g. synchronisation between computer systems, online storage, access to files saved on other devices;
Disadvantages: e.g. privacy of information, security issues with Single Sign-On (SSO), dependency on internet connection.</td></tr>
<tr><td rowspan="3">A-5.</td><td>A-5. Create a local user account.</td><td>A-5. Customise a user profile based on particular requirements.</td><td>A-5. Set up an operating system online user account.</td></tr>
<tr><td colspan="3">Creation of a local user account: access user account window; select appropriate account; set account name; create new account; create password.</td></tr>
<tr><td colspan="3">Customising a user profile: personalisation; accessibility features; control settings.</td></tr>
<tr><td></td><td colspan="3">Setting up an operating system online user account: log in Operating System using an Administrator account; open window to set up a Microsoft account; use e-mail address credentials to set up Microsoft account; log in Operating System using Microsoft account credentials.</td></tr>
</table>

ASSESSMENT CRITERIA

Subject Focus:	Computer Systems
Learning Outcome 1:	Demonstrate an understanding of computer systems and peripheral devices.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)
K-1. List **FOUR** different types of computer systems.	K-1. Select **ONE** input and **ONE** output device for a given situation.	K-1. Outline **TWO** properties of a storage device.	C-1. Justify the appropriate computer system for a given scenario.	C-1. Justify the appropriate input and output devices for a given scenario.	C-1. Justify the appropriate storage requirements for a given scenario.			

Subject Focus:	Installation of Internal Hardware Components
Learning Outcome 2:	Install (RIU) internal hardware components and the necessary software.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)
K-2. Identify **FOUR** hazards in an IT environment.	K-2. List **FOUR** risks that might arise from hazards in an IT environment.	K-2. Outline **FOUR** precautions to minimize potential risks.	C-2. Choose **TWO** compatible components for a given mainboard and user requirements.	C-2. Justify the **TWO** chosen components for a given mainboard and user requirements.	C-2. Discuss **ONE** difference between alternative technologies for a given component.	A-1. Follow Health and Safety procedures while installing hardware.	A-1. Prepare the necessary tools and components to carry out the required hardware RIU.	A-1. Install the required components.
K-3. Label **FOUR** different internal hardware components.	K-3. List **FOUR** reasons for which a computer upgrade may be required.	K-3. Outline **TWO** implications of upgrading a computer.						
K-4. List **TWO** issues which can cause an RIU to be unsuccessful.	K-4. Describe **ONE** way which can be used to test an RIU.	K-4. Outline **TWO** solutions for an unsuccessful RIU.	C-3. Identify the hardware problem that has generated a given boot-up error report.	C-3. Describe **TWO** possible causes that have generated a given boot-up error report.	C-3. Explain **TWO** possible solutions to solve the generated boot-up error.	A-2. Create a test plan to test RIU components.	A-2. Carry out tests on every RIU component.	A-2. Document the upgrade.
K-5. Name the **FIVE** sections of an RIU documentation.	K-5. Outline the content of **TWO** sections of an RIU documentation.	K-5. Describe **TWO** importance's of documenting an RIU.				A-3. Prepare the necessary tools, equipment and materials needed for a given soldering project.	A-3. Use appropriate soldering techniques to develop the soldering project following Health and Safety procedures.	A-3. Test the soldered project.
K-6. Identify **FOUR** tools and equipment used when soldering.	K-6. State the use of **FOUR** tools and equipment used when soldering.	K-6. Outline **TWO** precautions which should be taken to minimise risks when soldering.						

Subject Focus:	Software
Learning Outcome 3:	Install an Operating System.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)
K-7. Name TWO different types of software.	***K-7. List TWO different examples for each type of software.***	***K-7. Differentiate between different types of software.***				***A-4. Install an operating system.***	***A-4. Set a restore point.***	***A-4. Apply disk partitioning.***

Subject Focus:	User Accounts
Learning Outcome 4:	Set up user accounts.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)	Assessment Criteria (MQF 1)	Assessment Criteria (MQF 2)	Assessment Criteria (MQF 3)
K-8. List TWO different local user accounts.	***K-8. Describe the purpose of ONE local user account.***	***K-8. Outline TWO advantages and TWO disadvantages of online user accounts.***				***A-5. Create a local user account.***	***A-5. Customise a user profile based on particular requirements.***	***A-5. Set up an operating system online user account.***

RUBRIC

Subject Focus:	Computer Systems
Learning Outcome 1:	Demonstrate an understanding of computer systems and peripheral devices.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-1		4	
	Level 1: List **FOUR** different types of computer systems.	1	Students are expected to list **FOUR** types of computer systems. Award 0.25 marks for each valid computer system (**0.25 marks x 4**).
	Level 2: Select **ONE** input and **ONE** output device for a given situation.	1	From a given word bank, students are expected to select **ONE** input and **ONE** output device which are appropriate for the given situation. Award 0.5 marks for each correct device (**0.5 marks x 2**).
	Level 3: Outline **TWO** properties of a storage device.	2	Students are expected to outline **TWO** properties of a given secondary storage device. Award 1 mark for each correctly outlined property (**1 mark x 2**). Award 0.5 marks for each partially correct answer. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
C-1		6	
	Level 1: Justify the appropriate computer system for a given scenario.	2	Students are expected to justify the given computer system based on **TWO** aspects. Award 1 mark for each correctly justified aspect (**1 mark x 2**). Award 0.5 marks for each partially correct justification. Award 0 marks for each invalid justification.
	Level 2: Justify the appropriate input and output devices for a given scenario.	2	Students are expected to justify the given input device and output device based on **ONE** aspect each. Different aspects can be considered when justifying the devices. Award 1 mark for each correctly justified aspect (**1 mark x 2**). Award 0.5 marks for each partially correct justification. Award 0 marks for each invalid justification.
	Level 3: Justify the appropriate storage requirements for a given scenario.	2	Students are expected to justify the given secondary storage device based on **TWO** storage requirements. Award 1 mark for each appropriately justified storage requirement (**1 mark x 2**). Award 0.5 marks for each partially correct justification. Award 0 marks for each invalid justification.

Subject Focus:	Installation of Internal Hardware Components
Learning Outcome 2:	Install (RIU) internal hardware components and the necessary software.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-2		4	
	Level 1: Identify **FOUR** hazards in an IT environment.	1	Students are expected to identify **FOUR** hazards found in the given image/s. Award 0.25 marks for each correct hazard (**0.25 marks x 4**).
	Level 2: List **FOUR** risks that might arise from hazards in an IT environment.	1	For each hazard identified in K-2 Level 1, students are expected to list **ONE** risk that might arise from such hazard. Award 0.25 marks for each correct risk (**0.25 marks x 4**).
	Level 3: Outline **FOUR** precautions to minimize potential risks.	2	For each risk listed in K-2 Level 2, students are expected to outline **ONE** precaution that might be taken to minimize such risk. Award 0.5 marks for each correctly outlined precaution (**0.5 marks x 4**). Award 0.25 marks each for stating the precaution. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-3		4	
	Level 1: Label **FOUR** different internal hardware components.	1	Students are expected to label the **FOUR** internal hardware components shown in the given image/s. Award 0.25 marks for each correct internal hardware component (**0.25 marks x 4**).
	Level 2: List **FOUR** reasons for which a computer upgrade may be required.	1	Students are expected to list **FOUR** reasons for which a computer upgrade might be needed. Award 0.25 marks for each correct reason (**0.25 marks x 4**).
	Level 3: Outline **TWO** implications of upgrading a computer.	2	Students are expected to outline **TWO** implications of upgrading a computer. Award 1 mark for each correctly outlined implication (**1 mark x 2**). Award 0.5 marks each for stating the implication. Award 0 marks for each invalid answer.
K-4		4	
	Level 1: List **TWO** issues which can cause an RIU to be unsuccessful.	1	Students are expected to list **TWO** issues which can cause the replacement / installation / upgrade (RIU) to be unsuccessful. Award 0.5 marks for each correct issue (**0.5 marks x 2**).

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-4	Level 2: Describe **ONE** way which can be used to test an RIU.	1	Students are expected to describe **ONE** way which can be used to test the replacement / installation / upgrade (RIU) of a hardware component. Award 1 mark for a correct description (**1 mark x 1**). Award 0.5 marks for a correct outline. Award 0 marks for an invalid answer.
	Level 3: Outline **TWO** solutions for an unsuccessful RIU.	2	Students are expected to outline **TWO** solutions for an unsuccessful replacement / installation / upgrade (RIU). Award 1 mark for each correctly outlined solution (**1 mark x 2**). Award 0.5 marks each for stating the solution. Award 0 marks for each invalid answer.
K-5		4	
	Level 1: Name the **FIVE** sections of an RIU documentation.	1	Students are expected to name the **FIVE** sections of an RIU documentation. Award 0.2 marks for each correct section named (**0.2 marks x 5**).

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-5	Level 2: Outline the content of **TWO** sections of an RIU documentation.	1	Students are expected to outline the content of **TWO** sections of an RIU documentation. Award 0.5 marks for each correctly outlined section (**0.5 marks x 2**). Award 0.25 marks for each partially correct outline. Award 0 marks for each invalid answer.
	Level 3: K-5. Describe **TWO** importance's of documenting an RIU.	2	Students are expected to describe **TWO** importance's of documenting a replacement / installation / upgrade (RIU). Award 1 mark for each correct description (**1 mark x 2**). Award 0.5 marks for each correct outline. Award 0 marks for an invalid answer.
K-6		4	
	Level 1: Identify **FOUR** tools and equipment used when soldering.	1	Students are expected to identify the **FOUR** tools and equipment used during soldering shown in the given image/s. Award 0.25 marks for each correct tool and equipment identified (**0.25 marks x 4**).

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-6	Level 2: State the use of **FOUR** tools and equipment used when soldering.	1	Students are expected to state the use of **FOUR** tools and equipment used during soldering. One might consider asking students to state the use of the tools and equipment identified in K-6 Level 1. Award 0.25 marks for each correct section named (**0.25 marks x 4**).
	Level 3: Outline **TWO** precautions which should be taken to minimise risks when soldering.	2	Students are expected to outline **TWO** precautions which should be taken to reduce risks during soldering. Award 1 mark for each correctly outlined precaution (**1 mark x 2**). Award 0.5 marks each for stating the precaution. Award 0 marks for each invalid answer.
C-2		6	
	Level 1: Choose **TWO** compatible components for a given mainboard and user requirements.	2	Students are expected to choose **TWO** internal hardware components which are compatible with the given mainboard, and which also meet the given user requirements. Award 1 mark for each correctly chosen compatible hardware component (**1 mark x 2**).

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
C-2	Level 2: Justify the **TWO** chosen components for a given mainboard and user requirements.	2	Students are expected to justify the **TWO** compatible components chosen in C-2 MQF 1 in relation to their compatibility with the given mainboard and their specifications with the given user requirements. Award 1 mark for each appropriately justified compatible component in relation to both compatibility with the mainboard and specifications in relation to use (**1 mark x 2**). Award 0.5 marks for each appropriately justified compatible component in relation to compatibility with the mainboard **OR** specifications in relation to use. Award 0 marks for each invalid justification.
	Level 3: Discuss **ONE** difference between alternative technologies for a given component.	2	Students are expected to discuss **ONE** difference between two alternative technologies for a given hardware component. Award 2 marks for a discussion appropriately explaining ONE difference between two alternative technologies for the given component (**2 marks x 1**). Award 1 mark for a description of ONE of the two alternative technologies for the given component. Award 0 marks for an invalid discussion.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
C-3		6	
	Level 1: Identify the hardware problem that has generated a given boot-up error report.	2	Students are expected to identify the hardware problem that has generated the given boot-up error report. Award 2 marks for correctly identifying the problem (**2 marks x 1**).
	Level 2: Describe **TWO** possible causes that have generated a given boot-up error report.	2	Students are expected to describe **TWO** possible causes that have generated the boot-up error report given in C-3 Level 1. Award 1 mark for each possible cause appropriately described (**1 mark x 2**). Award 0.5 marks for each possible cause appropriately outlined. Award 0 marks for an invalid answer.
	Level 3: Explain **TWO** possible solutions to solve the generated boot-up error.	2	Students are expected to explain **TWO** possible solutions to solve the generated boot-up error given in C-3 Level 1. Award 1 mark for each possible solution appropriately explained (**1 mark x 2**). Award 0.5 marks for each possible solution appropriately outlined. Award 0 marks for an invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
A-1		10	
	Level 1: Follow Health and Safety procedures while installing hardware.	3	Refer to Observation Sheet A-1, found in the section named *Observation Sheets for Unit 1*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Prepare the necessary tools and components to carry out the required hardware RIU.	3	
	Level 3: Install the required components.	4	
A-2		10	
	Level 1: Create a test plan to test RIU components.	3	Refer to Observation Sheet A-2, found in the section named *Observation Sheets for Unit 1*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Carry out tests on every RIU component.	3	
	Level 3: Document the upgrade.	4	

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
A-3		10	
	Level 1: Prepare the necessary tools, equipment and materials needed for a given soldering project.	3	Refer to Observation Sheet A-3, found in the section named *Observation Sheets for Unit 1*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Use appropriate soldering techniques to develop the soldering project following Health and Safety procedures.	3	
	Level 3: Test the soldered project.	4	

Subject Focus:	Software
Learning Outcome 3:	Install an Operating System.

Note: The grading criteria for this Learning Outcome, that is K-7 and A-4, will be assessed through a controlled assessment.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-7		4	
	Level 1: Name **TWO** different types of software.	1	Students are expected to name **TWO** different types of software. Award 0.5 marks for each correct type of software (**0.5 marks x 2**).
	Level 2: List **TWO** different examples for each type of software.	1	Students are expected to list **TWO** different examples for each type of software named in K-7 Level 1. Award 0.25 marks for each correct example (**0.25 marks x 4**).
	Level 3: Differentiate between different types of software.	2	Students are expected to differentiate between the TWO types of software. Award 2 marks for a differentiation based on TWO different aspects (**2 marks x 1**). Award 1 mark for a differentiation based on ONE aspect. Award 0 marks for an invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
A-4		10	
	Level 1: Install an operating system.	3	Refer to Observation Sheet A-4, found in the section named *Observation Sheets for Unit 1*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Set a restore point.	3	
	Level 3: Apply disk partitioning.	4	

Subject Focus:	User Accounts
Learning Outcome 3:	Set up user accounts.

Note: The grading criteria for this Learning Outcome, that is K-8 and A-5, will be assessed through a controlled assessment.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-8		4	
	Level 1: List **TWO** different local user accounts.	1	Students are expected to list **TWO** different local user accounts. Award 0.5 marks for each correct local user account (**0.5 marks x 2**).
	Level 2: Describe the purpose of **ONE** local user account.	1	Students are expected to describe the purpose of **ONE** local user account. Award 1 mark for a correct description of the purpose of the user account (**1 mark x 1**). Award 0.5 marks for a correct outline of the purpose. Award 0 marks for an invalid answer.
	Level 3: Outline **TWO** advantages and **TWO** disadvantages of online user accounts.	2	Students are expected to outline **TWO** advantages and **TWO** disadvantages of online user accounts. Award 0.5 marks for each correctly outlined advantage and disadvantage (**0.5 marks x 4**). Award 0.25 marks for each advantage and disadvantage stated. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
A-5		10	
	Level 1: Create a local user account.	3	Refer to Observation Sheet A-5, found in the section named *Observation Sheets for Unit 1*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Customise a user profile based on particular requirements.	3	
	Level 3: Set up an operating system online user account.	4	

OBSERVATION SHEETS FOR UNIT 1

OBSERVATION SHEET A-1

Unit Number & Title:	1 – Computer Hardware Installation
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-1

How the activity meets the requirements of the grading criterion:				
A-1 [Level 1] – Follow Health and Safety procedures while installing hardware				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.1 marks: Step is partially correct or completed with guidance. • 0.25 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.1*	*0.25*	
Appropriate clothing is worn.	☐	☐	☐	
The computer power is switched off.	☐	☐	☐	
Computer plug is disconnected.	☐	☐	☐	
Power cable is removed first.	☐	☐	☐	
Any remaining computer cables are disconnected from the computer.	☐	☐	☐	
Student makes sure that workplace is large enough.	☐	☐	☐	
Components are placed on the anti-static mat.	☐	☐	☐	

The computer case is opened carefully.	☐	☐	☐	
Student looks out for sharp edges.	☐	☐	☐	
The anti-static wrist strap is worn.	☐	☐	☐	
Student is organised throughout the installation.	☐	☐	☐	
Tools are handled safely throughout the installation.	☐	☐	☐	
Student's accumulated mark for A-1 [Level 1]				

A-1 [Level 2] – Prepare the necessary tools and components to carry out the required hardware RIU				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.25 marks: Step is partially correct or completed with guidance. • 0.5 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.25*	*0.5*	
The necessary tools (e.g. screwdrivers, screws, screw organiser) are prepared.	☐	☐	☐	
The anti-static equipment (e.g. anti-static wristband, anti-static mat) and the cleaning equipment (e.g. compressed air) are prepared.	☐	☐	☐	
The hardware components required for the RIU are prepared.	☐	☐	☐	
The software required during the RIU is prepared.	☐	☐	☐	
Student checks that the components to be installed are compatible with the computer system.	☐	☐	☐	
Serial numbers for the hardware components which will be replaced/installed/upgraded are recorded.	☐	☐	☐	
Student's accumulated mark for A-1 [Level 2]				

A-1 [Level 3] – Install the required components				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.4 marks: Step is partially correct or completed with guidance. • 0.8 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.4*	*0.8*	
Hardware components, including the ones inside the computer case, are cleaned.	☐	☐	☐	
Hardware component 1 is installed.	☐	☐	☐	
Hardware component 2 is installed.	☐	☐	☐	
Computer system is appropriately reassembled.	☐	☐	☐	
Any necessary software is installed. *Note: Software installation and configuration may not necessarily be linked to a driver, but it can also be any other software used to test hardware functionality.*	☐	☐	☐	
Student's accumulated mark for A-1 [Level 3]				
Student's total mark for A-1 out of a maximum of 10 marks				

Other comments:

_____

_____

_____

_____

Teacher's Signature:		Date:	

OBSERVATION SHEET A-2

Unit Number & Title:	1 – Computer Hardware Installation
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-2

How the activity meets the requirements of the grading criterion:				
A-2 [Level 1] – Create a test plan to test RIU components				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 0.75 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*0.75*	
Test plan consisting of TWO tests for hardware component 1				
Test 1 for component 1 is provided.	☐	☐	☐	
Test 2 for component 1 is provided.	☐	☐	☐	
Test plan consisting of TWO tests for hardware component 2				
Test 1 for component 2 is provided.	☐	☐	☐	
Test 2 for component 2 is provided.	☐	☐	☐	
Student's accumulated mark for A-2 [Level 1]				

A-2 [Level 2] – Carry out tests on every RIU component				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.25 marks: Step is partially correct or completed with guidance. • 0.5 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.25*	*0.5*	
TWO tests are carried out for hardware component 1				
Test 1 is carried out on component 1.	☐	☐	☐	
Test 2 is carried out on component 1.	☐	☐	☐	
TWO tests are carried out for hardware component 2				
Test 1 is carried out on component 2.	☐	☐	☐	
Test 2 is carried out on component 2.	☐	☐	☐	
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
Tests for both hardware components are carried out according to the test plan.	☐	☐	☐	
Student's accumulated mark for A-2 [Level 2]				

A-2 [Level 3] – Document the upgrade				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.4 marks: Step is partially correct or completed with guidance. • 0.8 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.4*	*0.8*	
Reason/s for the RIU are provided in the documentation.	☐	☐	☐	

Suggested RIU is included in the documentation.	☐	☐	☐	
The actual implementation is specified in the documentation.	☐	☐	☐	
Serial numbers are logged in the documentation.	☐	☐	☐	
Results of the TWO tests carried out for each replaced/installed/upgraded component are provided in the documentation.	☐	☐	☐	
Student's accumulated mark for A-2 [Level 3]				
Student's total mark for A-2 out of a maximum of 10 marks				

Other comments: _____ _____ _____ _____			
Teacher's Signature:		Date:	

OBSERVATION SHEET A-3

Unit Number & Title:	1 – Computer Hardware Installation
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-3

How the activity meets the requirements of the grading criterion:				
A-3 [Level 1] – Prepare the necessary tools, equipment and materials needed for a given soldering project				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
Student appropriately identifies and prepares the necessary tools and equipment. *Note: One might consider listing all the tools and equipment necessary for the given soldering project here for ease of reference.*	☐	☐	☐	
Student appropriately identifies and prepares the necessary materials for the soldering project. *Note: One might consider listing all the materials necessary for the given soldering project here for ease of reference.*	☐	☐	☐	
Student ensures that tools, equipment and materials are organised on the workplace throughout the process.	☐	☐	☐	
Student's accumulated mark for A-3 [Level 1]				

A-3 [Level 2] – Use appropriate soldering techniques to develop the soldering project following Health and Safety procedures				3 marks
Note: • 0 marks: Step is incorrect or not carried out. • 0.3 marks: Step is partially correct or completed with guidance. • 0.6 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.3*	*0.6*	
Correct soldering techniques are applied when soldering joints.	☐	☐	☐	
Health and Safety procedures are followed throughout the process.	☐	☐	☐	
Tools and equipment are appropriately used taking all necessary precautions to avoid risks.	☐	☐	☐	
Solder joints are clean and properly formed without any excess solder.	☐	☐	☐	
All components are securely soldered in place.	☐	☐	☐	
Student's accumulated mark for A-3 [Level 2]				

A-3 [Level 3] – Test the soldered project				4 marks
Note: • 0 marks: Step is incorrect or not carried out. • 0.4 marks: Step is partially correct or completed with guidance. • 0.8 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.4*	*0.8*	
Soldered project is inspected for dry joints, cracks in the solder joints or excess solder.	☐	☐	☐	
Soldered project is inspected for short circuits.	☐	☐	☐	
A digital multimeter is used to check for continuity.	☐	☐	☐	
Soldered project is tested for functionality.	☐	☐	☐	

Soldered project meets the given design specifications such that components are aligned as per given design.	☐	☐	☐	
Student's accumulated mark for A-3 [Level 3]				
Student's total mark for A-3 out of a maximum of 10 marks				

Other comments:

_____

_____

_____

_____

Teacher's Signature:		Date:	

OBSERVATION SHEET A-4

Unit Number & Title:	1 – Computer Hardware Installation
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-4

How the activity meets the requirements of the grading criterion:				
A-4 [Level 1] – Install an operating system				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.25 marks: Step is partially correct or completed with guidance. • 0.5 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.25*	*0.5*	
Checks are carried out to ensure that the computer meets the requirements of the operating system:				
• RAM	☐	☐	☐	
• CPU	☐	☐	☐	
• Storage capacity	☐	☐	☐	
• Graphics card	☐	☐	☐	
The boot-up sequence is setup in the correct order.	☐	☐	☐	
The appropriate type of installation is selected.	☐	☐	☐	
Student's accumulated mark for A-4 [Level 1]				

A-4 [Level 2] – Set a restore point				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
The window to create a restore point is opened.	☐	☐	☐	
The Create button is chosen.	☐	☐	☐	
The name of the restore point is typed.	☐	☐	☐	
Student's accumulated mark for A-4 [Level 2]				

A-4 [Level 3] – Apply disk partitioning				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
Any present partitions are removed.	☐	☐	☐	
The appropriate primary and secondary partition sizes are set.	☐	☐	☐	
TWO partitions are created, making sure that both partitions are allocated.	☐	☐	☐	
The second partition is formatted.	☐	☐	☐	
Student's accumulated mark for A-4 [Level 3]				
Student's total mark for A-4 out of a maximum of 10 marks				

Other comments: _____ _____ _____ _____			
Teacher's Signature:		Date:	

OBSERVATION SHEET A-5

Unit Number & Title:	1 – Computer Hardware Installation
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-5

How the activity meets the requirements of the grading criterion:				
A-5 [Level 1] – Create a local user account				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.3 marks: Step is partially correct or completed with guidance. • 0.6 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.3*	*0.6*	
The user account window is accessed.	☐	☐	☐	
The account name is set.	☐	☐	☐	
The password for the user account is created.	☐	☐	☐	
The new user account is created.	☐	☐	☐	
The appropriate user account is selected.	☐	☐	☐	
Student's accumulated mark for A-5 [Level 1]				

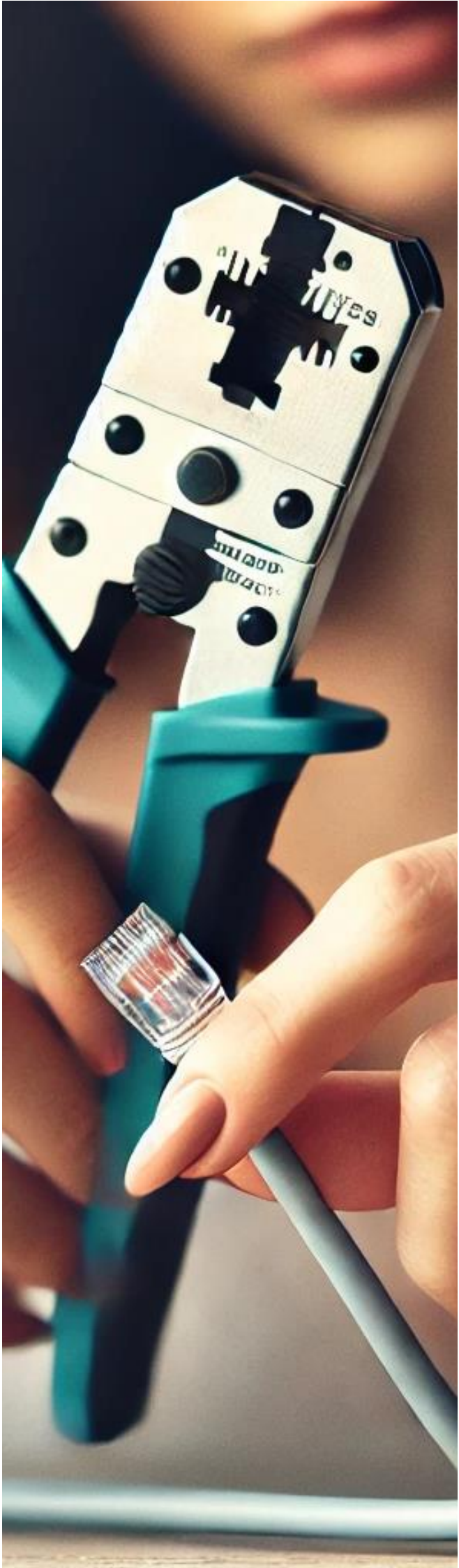
A-5 [Level 2] – Customise a user profile based on particular requirements				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
Personalisation feature has been set.	☐	☐	☐	
Accessibility feature has been set.	☐	☐	☐	
Control settings have been set.	☐	☐	☐	
Student's accumulated mark for A-5 [Level 2]				

A-5 [Level 3] – Set up an operating system online user account				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
Student logs in the Operating System using an administrator account.	☐	☐	☐	
The window to set up a Microsoft online account is opened.	☐	☐	☐	
Provided e-mail address credentials have been used to set up the Microsoft account.	☐	☐	☐	
Student logs in the Operating System using the credentials for the newly created Microsoft online account.	☐	☐	☐	
Student's accumulated mark for A-5 [Level 3]				
Student's total mark for A-5 out of a maximum of 10 marks				

Other comments: _____ _____ _____ _____			
Teacher's Signature:		Date:	

UNIT 2

NETWORKING



UNIT DESCRIPTION

In this unit, candidates will become acquainted with basic networking terminology and how networks are used to share data and resources between computer systems. Such knowledge will be attained through the skills the candidates will acquire when setting up a network whereby data can be shared between computer systems over wired and/or wireless infrastructures. This entails that the candidates will learn to plan a network by choosing the appropriate network devices, build the necessary wall trunking including termination of wall ports, crimping CAT5/6 cables, as well as set up the wired and wireless network. Candidates will also learn how to organise and connect the necessary cables and devices in a network cabinet while ensuring network connectivity.

Knowing that networks make use of rules when communicating with each other, candidates will become familiar with common networking protocols. Furthermore, they will acquire the necessary knowledge in relation to network addressing and subnetting.

Given that networks are all about sharing data and resources, candidates will learn how to share files/folders and devices between different computer systems using appropriate sharing permissions. Moreover, ways to secure the network from possible network security threats will also be covered. To this end, candidates will learn how using third-party internet security suites, firewalls and router settings, the network can be protected from threats and unauthorised access.

LEARNING OUTCOMES

At the end of the unit, candidates can:

LO 1. Setup the infrastructure for a small-scale network.

LO 2. Test network connectivity.

LO 3. Share data and devices on a network.

LO 4. Secure a network from possible threats.

UNIT CONTENT

<table>
<tr><th>Subject Focus</th><th colspan="3">Network Infrastructure</th></tr>
<tr><td>LO 1.</td><td colspan="3">Setup the infrastructure for a small-scale network.</td></tr>
<tr><td rowspan="4">K-1.</td><td>K-1. Define a network.</td><td>K-1. Name FOUR elements that make up a network.</td><td>K-1. Outline TWO advantages and TWO disadvantages of networks.</td></tr>
<tr><td colspan="3">Network: group of devices; connected together.</td></tr>
<tr><td colspan="3">Network elements: end devices, intermediate devices, data transmission medium, data, protocols</td></tr>
<tr><td colspan="3">Advantages: e.g. sharing of data, sharing of hardware devices, sharing of software, communication.
Disadvantages: e.g. security risks, user privacy concerns, network failures, initial setup and maintenance costs.</td></tr>
<tr><td rowspan="3">K-2.</td><td>K-2. Name FOUR different types of networks.</td><td>K-2. Outline TWO different types of networks based on geographical area.</td><td>K-2. Differentiate, based on TWO aspects, between client-server and peer-to-peer architectures.</td></tr>
<tr><td colspan="3">Types of networks: e.g. BAN, PAN, CAN, HAN, LAN, WAN.</td></tr>
<tr><td colspan="3">Differences between network architectures based on: e.g. cost, network management, security.</td></tr>
<tr><td rowspan="4">K-3.</td><td>K-3. Match FOUR networking tools with their use.</td><td>K-3. Name TWO wired and TWO wireless data transmission media.</td><td>K-3. Explain, based on TWO aspects, why a data transmission medium is suitable for a given situation.</td></tr>
<tr><td colspan="3">Tools: e.g. cable crimper, punch down tool, cable tester, wire stripper, fish tape, side cutter, pipe cutter.</td></tr>
<tr><td colspan="3">Wired data transmission media: e.g. twisted pair cable, coaxial cable, fibre optic cable.
Wireless data transmission media: e.g. infrared, Wi-Fi, Bluetooth, microwaves (4G, 5G).</td></tr>
<tr><td colspan="3">Explanation based on data transmission properties: e.g. distance, bandwidth, interference, durability (robustness).</td></tr>
</table>

<table>
<tr><td rowspan="4">K-4.</td><td>K-4. Identify FOUR network devices symbols used in network plans.</td><td>K-4. Select the most suitable models for TWO network devices for a given situation.</td><td>K-4. Explain, based on ONE aspect, why each of the two network device models are appropriate for a given situation.</td></tr>
<tr><td colspan="3">Network devices symbols: e.g. PC, laptop, network printer, router, switch, modem, repeater, access point.

N.B. For assessment purposes, CISCO symbols should be used.</td></tr>
<tr><td colspan="3">Network devices: e.g. router, switch, modem, repeater, access point.

N.B. For assessment purposes, candidates are to select the best model for each of the two given network devices. Hence, for each network device (two in total) candidates are to be provided with the specifications of two models of the particular network device, from which they are to choose the model which best suits the given situation.</td></tr>
<tr><td colspan="3">Explanation based on the specifications of the network devices: e.g. number of ports, connectivity medium, power source (over Ethernet/transformer/direct electrical mains), coverage area, speed/signal rate.

N.B. For assessment purposes, candidates might be asked to explain the selected models based on different aspects.</td></tr>
<tr><td rowspan="4">C-1.</td><td>C-1. Choose TWO network devices necessary to setup a network for a given scenario.</td><td>C-1. Illustrate the placement of TWO network devices on a given architectural design for a given scenario.</td><td>C-1. Justify TWO network devices and their placement on the given architectural design for a given scenario.</td></tr>
<tr><td colspan="3">Network devices: e.g. router, switch, modem, repeater, access point.

N.B. For assessment purposes, the scenario presented to the candidates might require more than TWO network devices, but candidates should still be asked to choose only TWO. Additional devices should be specified in the question and included in the given architectural design. If the presented scenario requires a PC and/or laptop and/or network printer these are to be specified in the question and included in the given architectural design.</td></tr>
<tr><td colspan="3">Network plan: proper placement of network devices/symbols on architectural design plan.</td></tr>
<tr><td colspan="3">Justification of network devices based on: choice of network devices; placement of network devices.</td></tr>
</table>

A-1.	A-1. Prepare the necessary tools and materials needed to build the requested network wall trunking model.	A-1. Build the requested network wall trunking model.	A-1. Connect the network wall trunking model to a network cabinet.
	Preparation: tools (pipe cutter, measuring tape, screwdriver, side cutter, wire stripper, punch down tool, label machine), materials (conduit pipe, clips, screws, cable, surface box, faceplate, keystone, labels), cut conduit pipe to length, cut cable to length.		
	Network wall trunking model: fix surface box appropriately in place; connect conduit pipe to surface box using an adaptor; fix conduit in place; pass cable through conduit pipe; strip cable; untwist pairs and put cables in keystone according to standard; punch down cables to the slots of the keystone; clip the keystone to the faceplate; screw faceplate to the surface box; network wall trunking model is according to the provided design.		
	Connect network wall trunking model to network cabinet: strip cable; untwist pairs; put cables in patch panel slots according to standard; punch down cables to the slots; fix patch panel to the network cabinet; label patch panel ports; label cable and wall port; test connectivity.		
A-2.	A-2. Install a switch within a network cabinet.	A-2. Prepare a CAT5e/6 cable for crimping.	A-2. Crimp a CAT5e/6 cable.
	Installing a switch within a network cabinet: prepare the necessary resources; attach the L-brackets to the sides of the chassis; slide the chassis into the rack; secure chassis using screws; connect switch to the respective patch panel ports; connect switch to power source.		
	Preparation: cut cable to length; strip cable; untwist pairs; put cables in the RJ-45 connector in order according to T568A or T568B standard. ***N.B.*** *For assessment purposes, the types of cabling to be used should be male-to-male straight or male-to-male crossover.*		
	Cable crimping: crimp cable using correct crimping techniques; ensure secure attachment of connector; test cable for functionality; overall appearance.		

Subject Focus	Network Addressing and Troubleshooting		
LO 2.	Test network connectivity.		
K-5.	K-5. Define the term network protocol.	K-5. Identify whether the **FOUR** given protocols are secure or not.	K-5. Outline the use of **FOUR** different networking protocols.
	Network protocol: set of rules; defines how devices on a network communicate with one another.		
	Secure and insecure protocols: • Secure protocols: e.g. HTTPS, FTPS, SFTP, POP3S; WPA2, WPA3; • Insecure protocols: e.g. HTTP, FTP, POP3, SMTP.		
	Uses of networking protocols: e.g. web browsing, sending emails, receiving emails, file transfer, wireless. ***N.B.*** *For assessment purposes, one might consider asking candidates to outline the use of the protocols assessed at K-5 Level 2.*		
K-6.	K-6. Categorise **FOUR** addresses as IPv4, IPv6 and MAC addresses.	K-6. Differentiate, based on **ONE** aspect, between IP and MAC addresses.	K-6. Describe **TWO** purposes of subnetting.
	Categories: IPv4 address, IPv6 address, MAC address		
	Differences based on: purpose, format, address assignment method). ***N.B.*** *For assessment purposes both IPv4 and IPv6 addresses can be considered.*		
	Purposes of subnetting: e.g. to divide a network into smaller logical segments, to improve network performance and speed, to boost network security.		
C-2.	C-2. Identify the value of **FOUR** components available within a given network diagnostic tool result.	C-2. Interpret the result obtained from a network diagnostic tool.	C-2. Discuss **ONE** potential cause which can lead to a given network diagnostic tool result.
	Components of a network diagnostic tool result: • Ping command: destination IP address, packet size, total number of replies, packets sent, packets received, packets lost, percentage of packet loss, round-trip times (minimum, maximum, average); • Traceroute command: destination IP address, maximum number of hops,		

	total number of hops, round-trip time for a particular hop. ***N.B.*** *For assessment purposes candidates are to be provided with a screenshot of the result obtained following a ping or traceroute command.*		
C-2	Interpretation of results: e.g. loss of data packets, long/high round-trip times, request timed out, unreachable destination, multiple timeouts. ***N.B.*** *For assessment purposes the provided result obtained following a ping or traceroute command should reflect an issue with the network connection.*		
	Potential causes: e.g. network congestion, inefficient routing, destination is down, firewall blocking, incorrect IP address, network segment is down.		
A-3.	A-3. Connect two networks via a router.	A-3. Obtain IP addresses for the computers connected to the two networks.	A-3. Test network connectivity between computers.
	Connecting two wired LANs via a router: physically connect network cables between router and switches; physically connect end devices to switches; connect devices to a power source. ***N.B.*** *For assessment purposes, two end devices, preferably desktop computers, are to be connected to each of the two switches.* ***N.B.*** *For assessment purposes, end devices and router interfaces should be pre-configured.*		
	Obtaining IP addresses: switch on computers and devices; access command prompt; use ipconfig command to access the network configuration for one end device (computer system); obtain the IP address for one of the computers on the network; obtain IP addresses for the remaining computers forming part of the two joined networks. ***N.B.*** *For this criterion candidates are to be provided with a template where they can write down their findings.*		
	Testing network connectivity: ping end devices connected to the same LAN; ping end devices connected on different LANS; carry out tests to check all possible connections; appropriately document results. ***N.B.*** *For this criterion candidates are to be provided with a template where they can document the results.*		

Subject Focus	Sharing over a Network		
LO 3.	Share data and devices on a network.		
K-7.	K-7. List **FOUR** different types of file and folder sharing permissions.	K-7. Determine the most appropriate file/folder sharing permission for given scenario/s.	K-7. Explain why a file/folder sharing permission is the most appropriate for a given scenario/s.
	File and folder sharing permissions: e.g. read, write, read and execute, modify, full control, list folder contents. ***N.B.*** *For assessment purposes both file and folder sharing permissions should be considered.*		
	N.B. *For assessment purposes, candidates are required to determine TWO file/folder sharing permissions. They can be provided with either ONE scenario for which they need to determine TWO file/folder sharing permissions (example ONE permission for each of TWO different users) or else they are provided with TWO scenarios for which they need to determine ONE file/folder sharing permission for each situation.*		
	N.B. *For assessment purposes, candidates are required to explain why the file/folder sharing permissions they opted for in K-7 Level 2 are appropriate for the given scenario/s.*		
A-4.	A-4. Setup sharing settings to allow file/folder and device sharing between computers on a network.	A-4. Share a file/folder between computers on a network.	A-4. Share a device between computers on a network.
	Setting up sharing settings: access Network and Sharing Centre; access the advanced sharing settings; allow computer to see and be visible to other network computers; allow file and printer sharing; repeat process on the computers on the network.		
	Sharing a file/folder: locate file/folder to be shared; share file/folder; set appropriate sharing permissions; access file/folder from another account; test sharing permissions from another account. ***N.B.*** *User accounts are to be located on different computer systems.*		
	Sharing a device: locate device to be shared; share device; add device to another account set on a different computer system; test that device has been successfully shared. ***N.B.*** *For assessment purposes, a printer can be considered as the sharing device. In this case, a document or a test page should be printed, in order to test that the printer has been successfully shared. This printout is to be kept as evidence.*		

<table>
<tr><th>Subject Focus</th><th colspan="3">Network Security</th></tr>
<tr><td>LO 4.</td><td colspan="3">Secure a network from possible threats.</td></tr>
<tr><td rowspan="4">K-8.</td><td>K-8. List FOUR network security threats.</td><td>K-8. Outline TWO signs that indicate that a network is under a security threat.</td><td>K-8. Describe TWO importances of protecting a network from security threats.</td></tr>
<tr><td colspan="3">Security threats: e.g. malware, botnet, hacking, denial of service attack, phishing, spam.</td></tr>
<tr><td colspan="3">Signs indicating a network security threat: e.g. slow network performance, unusual network traffic, logins from unusual locations, unexpected pop-up messages, frequent system crashes/reboots, anti-malware alerts, suspicious emails.</td></tr>
<tr><td colspan="3">Importance of network protection: e.g. ensure the smooth running of the network, keep information safe, prevent unauthorised access, ensure regulatory compliance with laws and regulations such as GDPR.</td></tr>
<tr><td rowspan="4">C-3.</td><td>C-3. Outline TWO repercussions of an unsecured network for a given scenario.</td><td>C-3. Outline TWO protection measures to secure a network for a given scenario.</td><td>C-3. Justify ONE protection measure to secure a network for a given scenario.</td></tr>
<tr><td colspan="3">Repercussions of unsecured network: e.g. identity and personal information theft, criminal activity using your network, stealing of bandwidth, stealing of data, use of unauthorised hardware, deletion of data.

N.B. For assessment purposes, a wired network or a wireless network or a combination of both can be considered.</td></tr>
<tr><td colspan="3">Network protection measures: e.g. firewall, anti-malware, restore point, security updates, disk freezing, sand boxing, backups, WPA2, WPA3, hide SSID, MAC address filtering, access point username and password, update access point/router firmware, turn off Wi-Fi Protected Setup (WPS).

N.B. For assessment purposes, a wired network or a wireless network or a combination of both can be considered.</td></tr>
<tr><td colspan="3">Justification of protection measure based on: e.g. effectiveness, ease of installation/setup.

N.B. For assessment purposes, a wired network or a wireless network or a combination of both can be considered.</td></tr>
</table>

A-5.	A-5. Protect a device using a third-party internet security suite.	A-5. Block a website.	A-5. Protect a wireless router from unauthorised access.
	Protection of device: install third-party internet security suite; check for software updates; run a quick system scan; remove threat/s from an external storage device.		
	Block a website: access settings to block a website; add the website URL to the list of blocked websites; test that the website has been blocked.		
	Protection of a wireless router from unauthorised access: change router admin username and password; change network name (SSID); activate wireless security (WPA2/WPA3); filter by MAC address; test for MAC address filtering functionality.		

ASSESSMENT CRITERIA

Subject Focus:	Network Infrastructure
Learning Outcome 1:	Setup the infrastructure for a small-scale network.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
K-1. Define a network.	K-1. Name **FOUR** elements that make up a network.	K-1. Outline **TWO** advantages and **TWO** disadvantages of networks.	C-1. Choose **TWO** network devices necessary to setup a network for a given scenario.	C-1. Illustrate the placement of **TWO** network devices on a given architectural design for a given scenario.	C-1. Justify **TWO** network devices and their placement on the given architectural design for a given scenario.	A-1. Prepare the necessary tools and materials needed to build the requested network wall trunking model.	A-1. Build the requested network wall trunking model.	A-1. Connect the network wall trunking model to a network cabinet.
K-2. Name **FOUR** different types of networks.	K-2. Outline **TWO** different types of networks based on geographical area.	K-2. Differentiate, based on **TWO** aspects, between client-server and peer-to-peer architectures.						
K-3. Match **FOUR** networking tools with their use.	K-3. Name **TWO** wired and **TWO** wireless data transmission media.	K-3. Explain, based on **TWO** aspects, why a data transmission medium is suitable for a given situation.				A-2. Install a switch within a network cabinet.	A-2. Prepare a CAT5e/6 cable for crimping.	A-2. Crimp a CAT5e/6 cable.
K-4. Identify **FOUR** network devices symbols used in network plans.	K-4. Select the most suitable models for **TWO** network devices for a given situation.	K-4. Explain, based on **ONE** aspect, why each of the two network device models are appropriate for a given situation.						

Subject Focus:	Network Addressing and Troubleshooting
Learning Outcome 2:	Test network connectivity.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
K-5. Define the term network protocol.	K-5. Identify whether the **FOUR** given protocols are secure or not.	K-5. Outline the use of **FOUR** different networking protocols.	C-2. Identify the value of **FOUR** components available within a given network diagnostic tool result.	C-2. Interpret the result obtained from a network diagnostic tool.	C-2. Discuss **ONE** potential cause which can lead to a given network diagnostic tool result.	A-3. Connect two networks via a router.	A-3. Obtain IP addresses for the computers connected to the two networks.	A-3. Test network connectivity between computers.
K-6. Categorise **FOUR** addresses as IPv4, IPv6 and MAC addresses.	K-6. Differentiate, based on **ONE** aspect, between IP and MAC addresses.	K-6. Describe **TWO** purposes of subnetting.						

Subject Focus:	Sharing over a Network
Learning Outcome 3:	Share data and devices on a network.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
K-7. List FOUR different types of file and folder sharing permissions.	***K-7. Determine the most appropriate file/folder sharing permission for given scenario/s.***	***K-7. Explain why a file/folder sharing permission is the most appropriate for a given scenario/s.***				***A-4. Setup sharing settings to allow file/folder and device sharing between computers on a network.***	***A-4. Share a file/folder between computers on a network.***	***A-4. Share a device between computers on a network.***

Subject Focus:	Network Security
Learning Outcome 4:	Secure a network from possible threats.

Knowledge Criteria			Comprehension Criteria			Application Criteria		
Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)	Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
K-8. List FOUR network security threats.	***K-8. Outline TWO signs that indicate that a network is under a security threat.***	***K-8. Describe TWO importances of protecting a network from security threats.***	***C-3. Outline TWO repercussions of an unsecured network for a given scenario.***	***C-3. Outline TWO protection measures to secure a network for a given scenario.***	***C-3. Justify ONE protection measure to secure a network for a given scenario.***	***A-5. Protect a device using a third-party internet security suite.***	***A-5. Block a website.***	***A-5. Protect a wireless router from unauthorised access.***

RUBRIC

Subject Focus:	Network Infrastructure
Learning Outcome 1:	Setup the infrastructure for a small-scale network.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-1		4	
	Level 1: Define a network.	1	Students are expected to define the term network clearly indicating that a network is: • a group of devices • the devices are connected together. Award 0.5 marks for each part of the definition. (**0.5 marks x 2**).
	Level 2: Name **FOUR** elements that make up a network.	1	Students are expected to name **FOUR** elements that form a network. Award 0.25 marks for each valid element. (**0.25 marks x 4**).
	Level 3: Outline **TWO** advantages and **TWO** disadvantages of networks.	2	Students are expected to outline **TWO** advantages and **TWO** disadvantages of networks. Award 0.5 marks for each correctly outlined advantage and disadvantage (**0.5 marks x 4**). Award 0.25 marks for each advantage and disadvantage stated. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-2		4	
	Level 1: Name **FOUR** different types of networks.	1	Students are expected to name **FOUR** different types of networks. Award 0.25 marks for each correct type of network. (**0.25 marks x 4**).
	Level 2: Outline **TWO** different types of networks based on geographical area.	1	Students are expected to outline **TWO** different types of networks based on their geographical area. Award 0.5 marks for each correctly outlined type of network (**0.5 marks x 2**). Award 0.25 marks each for stating the geographical area of the respective type of network. Award 0 marks for each invalid answer.
	Level 3: Differentiate, based on **TWO** aspects, between client-server and peer-to-peer architectures.	2	Students are expected to differentiate between client-server and peer-to-peer network architectures based on **TWO** aspects. Award 1 mark for each correct differentiation referring to the two types of network architectures (**1 mark x 2**). Award 0.5 marks for each differentiation referring to only one of the two types of network architectures. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-3		4	
	Level 1: Match **FOUR** networking tools with their use.	1	Students are expected to match **FOUR** networking tools with their intended use. Award 0.25 marks for each correct match (**0.25 marks x 4**).
	Level 2: Name **TWO** wired and **TWO** wireless data transmission media.	1	Students are expected to name the **TWO** wired and **TWO** wireless data transmission media. Award 0.25 marks for each correct data transmission named (**0.25 marks x 4**).
	Level 3: Explain, based on **TWO** aspects, why a data transmission medium is suitable for a given situation.	2	Students are expected to explain why a data transmission medium is suitable for a given situation, based on **TWO** aspects. Award 1 mark for each aspect appropriately explained (**1 mark x 2**). Award 0.5 marks for each aspect appropriately outlined. Award 0 marks for an invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-4		4	
	Level 1: Identify **FOUR** network devices symbols used in network plans.	1	Students are expected to identify **FOUR** network devices symbols used in network plans. Award 0.25 marks for each correctly identified network device symbol (**0.25 marks x 4**).
	Level 2: Select the most suitable models for **TWO** network devices for a given situation.	1	Students are expected to select, from a selection of given models (at least two models per device), the most suitable model for **TWO** network devices for a given situation. Award 0.5 marks for each correct model selected (**0.5 marks x 2**).
	Level 3: Explain, based on **ONE** aspect, why each of the two network device models are appropriate for a given situation.	2	Students are expected to explain, based on **ONE** aspect, why each of the models selected in K-4 Level 2 is appropriate for the given situation. Award 1 mark for each selection appropriately explained (**1 mark x 2**). Award 0.5 marks for each selection appropriately outlined. Award 0 marks for an invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
C-1		6	
	Level 1: Choose **TWO** network devices necessary to setup a network for a given scenario.	2	From a given word bank, which can also consist of CISCO network device symbols, students are expected to choose the remaining **TWO** network devices necessary to setup/complete the network for the given scenario. Award 1 mark for each correct device chosen (**1 mark x 2**).
	Level 2: Illustrate the placement of **TWO** network devices on a given architectural design for a given scenario.	2	Students are expected to illustrate the placement of the **TWO** network devices chosen in C-1 Level 1 on the given architectural design. Award 1 mark for each device correctly marked (**1 mark x 2**).
	Level 3: Justify **TWO** network devices and their placement on the given architectural design for a given scenario.	2	Students are expected to justify the selection of the **TWO** network devices chosen in C-1 Level 1 and their placement as illustrated on the architectural plan in C-1 Level 2. Award 0.5 marks for each network device selection correctly justified (**0.5 marks x 2**). Award 0.5 marks for each network device placement correctly justified (**0.5 marks x 2**). Award 0 marks for each invalid justification.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
A-1		10	
	Level 1: Prepare the necessary tools and materials needed to build the requested network wall trunking model.	3	Refer to Observation Sheet A-1, found in the section named *Observation Sheets for Unit 2*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Build the requested network wall trunking model.	3	
	Level 3: Connect the network wall trunking model to a network cabinet.	4	
A-2		10	
	Level 1: Install a switch within a network cabinet.	3	Refer to Observation Sheet A-2, found in the section named *Observation Sheets for Unit 2*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Prepare a CAT5e/6 cable for crimping.	3	
	Level 3: Crimp a CAT5e/6 cable.	4	

Subject Focus:	Network Addressing and Troubleshooting
Learning Outcome 2:	Test network connectivity.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-5		4	
	Level 1: Define the term network protocol.	1	Students are expected to define the term network protocol whereby they indicated that it is: • a set of rules • defines how devices on a network communicate with one another. Award 0.5 marks for each part of the definition (**0.5 marks x 2**).
	Level 2: Identify whether the **FOUR** given protocols are secure or not.	1	Students are expected to identify whether the **FOUR** given network protocols are secure or not. Award 0.25 marks for each correctly identified network protocol (**0.25 marks x 4**).
	Level 3: Outline the use of **FOUR** different networking protocols.	2	Students are expected to outline the use of **FOUR** network protocols. Award 0.5 marks for each use correctly outlined (**0.5 marks x 4**). Award 0.25 marks for each use stated. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-6		4	
	Level 1: Categorise **FOUR** addresses as IPv4, IPv6 and MAC addresses.	1	Students are expected to categorise **FOUR** given addresses as IPv4, IPv6 and MAC addresses. Award 0.25 marks for each correctly categorised address. (**0.25 marks x 4**).
	Level 2: Differentiate, based on **ONE** aspect, between IP and MAC addresses.	1	Students are expected to differentiate between IP and MAC addresses based on **ONE** aspect. Award 1 mark for a valid differentiation referring to both IP and MAC addresses (**1 mark x 1**). Award 0.5 marks for a differentiation referring to only one of the two addresses. Award 0 marks for an invalid answer.
	Level 3: Describe **TWO** purposes of subnetting.	2	Students are expected to describe **TWO** purposes of subnetting. Award 1 mark for each purpose correctly described (**1 mark x 2**). Award 0.5 marks for each purpose correctly outlined. Award 0 marks for an invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
C-2		6	
	Level 1: Identify the value of **FOUR** components available within a given network diagnostic tool result.	2	Students are expected to identify the value of **FOUR** components available in the given network diagnostic tool result. Award 0.5 marks for each correctly identified value (**0.5 marks x 4**).
	Level 2: Interpret the result obtained from a network diagnostic tool.	2	Students are expected to interpret the result shown on the given network diagnostic tool result. Award 2 marks for a correct interpretation of the result (**2 marks x 1**). Award 1 mark for an outline interpretation of the result. Award 0 marks for an invalid interpretation.
	Level 3: Discuss **ONE** potential cause which can lead to a given network diagnostic tool result.	2	Students are expected to discuss **ONE** potential cause which could have led to the given network diagnostic tool result. Award 2 marks for a discussion appropriately explaining a valid potential cause (**2 marks x 1**). Award 1 mark for an outline of a valid potential cause. Award 0.5 marks for stating a valid potential cause. Award 0 marks for an invalid discussion.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
A-3		10	
	Level 1: Connect two networks via a router.	3	Refer to Observation Sheet A-3, found in the section named *Observation Sheets for Unit 2*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Obtain IP addresses for the computers connected to the two networks.	3	
	Level 3: Test network connectivity between computers.	4	

Subject Focus:	Sharing over a Network
Learning Outcome 3:	Share data and devices on a network.

Note: The grading criteria for this Learning Outcome, that is K-7 and A-4, will be assessed through a controlled assessment.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-7		4	
	Level 1: List **FOUR** different types of file and folder sharing permissions.	1	Students are expected to list **TWO** types of file sharing permissions and **TWO** different types of folder sharing permissions. Award 0.25 marks for each correct type of file and folder permission (**0.25 marks x 4**).
	Level 2: Determine the most appropriate file/folder sharing permission for given scenario/s.	1	Students are expected to determine the most appropriate file/folder sharing permission for the given scenario/s. In total students are to determine **TWO** file/folder sharing permissions for the given situation/s. Award 0.5 marks for each correct file/folder sharing permission (**0.5 marks x 2**).

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-7	Level 3: Explain why a file/folder sharing permission is the most appropriate for a given scenario/s.	2	Students are expected to explain why their selection of the **TWO** file/folder sharing permissions determined in K-7 Level 2 are the most appropriate for the given scenario/s. Award 1 mark for each valid answer explaining why the selected sharing permission is appropriate (**1 mark x 2**). Award 0.5 marks for each valid answer outlining why the selected sharing permission is appropriate. Award 0 marks for each invalid explanation.
A-4		10	
	Level 1: Setup sharing settings to allow file/folder and device sharing between computers on a network.	3	Refer to Observation Sheet A-4, found in the section named *Observation Sheets for Unit 2*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Share a file/folder between computers on a network.	3	
	Level 3: Share a device between computers on a network.	4	

Subject Focus:	Network Security
Learning Outcome 4:	Secure a network from possible threats.

Note: The grading criteria for this Learning Outcome, that is K-8, C-3 and A-5, will be assessed through a controlled assessment.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-8		4	
	Level 1: List **FOUR** network security threats.	1	Students are expected to list **FOUR** network security threats. Award 0.25 marks for each valid network security threat (**0.25 marks x 4**).
	Level 2: Outline **TWO** signs that indicate that a network is under a security threat.	1	Students are expected to outline **TWO** signs that show that a network is under security threat. Award 0.5 marks for each correctly outlined sign (**0.5marks x 2**). Award 0.25 marks for each valid sign stated. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
K-8	Level 3: Describe **TWO** importances of protecting a network from security threats.	2	Students are expected to describe **TWO** importances of protecting a network from security threats. Award 1 mark for each importance correctly described (**1 mark x 2**). Award 0.5 marks for each importance correctly outlined. Award 0.25 marks for each importance correctly stated. Award 0 marks for each invalid answer.
C-3		6	
	Level 1: Outline **TWO** repercussions of an unsecured network for a given scenario.	2	Students are expected to outline **TWO** repercussions of an unsecured network for a given scenario. Award 1 mark for each correctly outlined repercussion (**1 mark x 2**). Award 0.5 marks for each valid repercussion stated. Award 0 marks for each invalid answer.
	Level 2: Outline **TWO** protection measures to secure a network for a given scenario.	2	Students are expected to outline **TWO** protection measures to secure a network for a given scenario. Award 1 mark for each correctly outlined protection measure (**1 mark x 2**). Award 0.5 marks for each valid protection measure stated. Award 0 marks for each invalid answer.

Criteria Reference	Student should be able to:	Maximum marks	Allocation of marks
C-3	Level 3: Justify **ONE** protection measure to secure a network for a given scenario.	2	Students are expected to justify **ONE** protection measure which can be used to secure a network for a given scenario, based on **ONE** aspect. Award 2 marks for a valid justification providing adequate details as how the protection measure can protect the network in the given situation (**2 marks x 1**). Award 1 mark for a valid justification outlining how the protection measure can protect the network in the given situation. Award 0.5 marks for providing an outline of the protection measure without referring to the provided scenario. Award 0 marks for an invalid justification.
A-5		10	
	Level 1: Protect a device using a third-party internet security suite.	3	Refer to Observation Sheet A-5, found in the section named *Observation Sheets for Unit 2*, for the allocation of marks and a description of what is expected for this application criterion.
	Level 2: Block a website.	3	
	Level 3: Protect a wireless router from unauthorised access.	4	

OBSERVATION SHEETS
FOR
UNIT 2

OBSERVATION SHEET A-1

Unit Number & Title:	2 – Networking
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-1

How the activity meets the requirements of the grading criterion:				
A-1 [Level 1] – Prepare the necessary tools and materials needed to build the requested network wall trunking model				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 0.75 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*0.75*	
The following tools are prepared: • pipe cutter • measuring tape • screwdriver • side cutter • wire stripper • punch down tool • label machine	☐	☐	☐	

The following materials are prepared: • conduit pipe • clips • screws • twisted pair cable • surface box • faceplate • keystone • labels	☐	☐	☐	
Conduit pipe is cut to desired length.	☐	☐	☐	
Cable is cut to length.	☐	☐	☐	
Student's accumulated mark for A-1 [Level 1]				

A-1 [Level 2] – Build the requested network wall trunking model				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.1 marks: Step is partially correct or completed with guidance. • 0.3 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.1*	*0.3*	
Surface box is appropriately fixed into place.	☐	☐	☐	
Conduit pipe is connected to the surface box using an adaptor.	☐	☐	☐	
Conduit pipe is fixed into place using clips.	☐	☐	☐	
Cable is passed through the conduit pipe.	☐	☐	☐	
Cable is appropriately stripped.	☐	☐	☐	
Cable pairs are untwisted and put into the keystone according to the given standard.	☐	☐	☐	
Cables are punched down to the slots of the keystone.	☐	☐	☐	

The keystone is clipped to the faceplate.	☐	☐	☐	
The faceplate is screwed to the surface box.	☐	☐	☐	
The build network wall trunking model is according to the provided design.	☐	☐	☐	
Student's accumulated mark for A-1 [Level 2]				

A-1 [Level 3] – Connect the network wall trunking model to a network cabinet				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.25 marks: Step is partially correct or completed with guidance. • 0.5 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.25*	*0.5*	
Cable is appropriately stripped.	☐	☐	☐	
Cable pairs are untwisted.	☐	☐	☐	
Cables are put into the patch panel slots according to the given standard.	☐	☐	☐	
Cables are punched down to the slots of the patch panel.	☐	☐	☐	
The patch panel is fixed to the network cabinet.	☐	☐	☐	
Patch panel ports are appropriately labelled.	☐	☐	☐	
Cable and wall port are appropriately labelled.	☐	☐	☐	
Setup is tested for connectivity.	☐	☐	☐	
Student's accumulated mark for A-1 [Level 3]				
Student's total mark for A-1 out of a maximum of 10 marks				

Other comments: _____ _____ _____ _____			
Teacher's Signature:		Date:	

OBSERVATION SHEET A-2

Unit Number & Title:	2 – Networking
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-2

How the activity meets the requirements of the grading criterion:				
A-2 [Level 1] – Install a switch within a network cabinet				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.25 marks: Step is partially correct or completed with guidance. • 0.5 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.25*	*0.5*	
The necessary resources are prepared.	☐	☐	☐	
The L-brackets are attached to the sides of the chassis.	☐	☐	☐	
The chassis is slid into the rack.	☐	☐	☐	
The chassis is secured in place using screws.	☐	☐	☐	
The switch is connected to the respective patch panel ports.	☐	☐	☐	
The switch is connected to the power source.	☐	☐	☐	
Student's accumulated mark for A-2 [Level 1]				

A-2 [Level 2] – Prepare a CAT5e/6 cable for crimping				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 0.75 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*0.75*	
CAT5e/6 cable is cut to requested length.	☐	☐	☐	
CAT5e/6 cable is appropriately stripped.	☐	☐	☐	
Cable pairs are untwisted.	☐	☐	☐	
Cables are put in the RJ-45 connector in order according to the given standard.	☐	☐	☐	
Student's accumulated mark for A-2 [Level 2]				

A-2 [Level 3] – Crimp a CAT5e/6 cable				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
CAT5e/CAT6 cable is crimped using correct crimping techniques.	☐	☐	☐	
Cable is securely attached to the RJ-45 connector.	☐	☐	☐	
Crimped cable is tested for functionality.	☐	☐	☐	
The overall appearance of the crimped cable is appropriate.	☐	☐	☐	
Student's accumulated mark for A-2 [Level 3]				
Student's total mark for A-2 out of a maximum of 10 marks				

Other comments: _____ _____ _____ _____			
Teacher's Signature:		Date:	

OBSERVATION SHEET A-3

Unit Number & Title:	2 – Networking
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-3

How the activity meets the requirements of the grading criterion:				
A-3 [Level 1] – Connect two networks via a router				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
Network cables are physically connected between the router and the switches.	☐	☐	☐	
End devices are physically connected to the respective switches forming two networks (one per switch).	☐	☐	☐	
Devices are connected to the power source.	☐	☐	☐	
Student's accumulated mark for A-3 [Level 1]				

A-3 [Level 2] – Obtain IP addresses for the computers connected to the two networks				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.3 marks: Step is partially correct or completed with guidance. • 0.6 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.3*	*0.6*	
Computers and devices are switched on.	☐	☐	☐	
The command prompt application is accessed.	☐	☐	☐	
The ipconfig command is used to access the network configuration of one end device (computer system).	☐	☐	☐	
The IP address of one computer system connected to the network is obtained.	☐	☐	☐	
The IP addresses for the remaining computers forming part of the two joined networks are obtained.	☐	☐	☐	
Student's accumulated mark for A-3 [Level 2]				

A-3 [Level 3] – Test network connectivity between computers				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
End devices connected to the same LAN are pinged.	☐	☐	☐	
End devices connected on different LANs are pinged.	☐	☐	☐	
All possible combinations of connectivity between end devices are tested.	☐	☐	☐	

Results are appropriately documented in the provided template.	☐	☐	☐	
Student's accumulated mark for A-3 [Level 3]				
Student's total mark for A-3 out of a maximum of 10 marks				

Other comments:

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Teacher's Signature:		Date:	

OBSERVATION SHEET A-4

Unit Number & Title:	2 – Networking
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-4

How the activity meets the requirements of the grading criterion:				
A-4 [Level 1] – Setup sharing settings to allow file/folder and device sharing between computers on a network				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.3 marks: Step is partially correct or completed with guidance. • 0.6 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.3*	*0.6*	
The Network and Sharing Centre is accessed.	☐	☐	☐	
The advanced sharing settings are accessed.	☐	☐	☐	
The appropriate options to allow the computer to see, and be visible to other computers on the network is chosen.	☐	☐	☐	
The appropriate options to allow file and printer sharing are chosen.	☐	☐	☐	
The above steps are repeated on all the other computers on the network.	☐	☐	☐	
Student's accumulated mark for A-4 [Level 1]				

A-4 [Level 2] – Share a file/folder between computers on a network				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.3 marks: Step is partially correct or completed with guidance. • 0.6 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.3*	*0.6*	
The file/folder to be shared on the network is located.	☐	☐	☐	
The file/folder is shared over the network.	☐	☐	☐	
The sharing permission levels are appropriately set as requested.	☐	☐	☐	
The shared file/folder is accessed from another account set on a different computer system.	☐	☐	☐	
The sharing permissions are tested from another account set on a different computer system.	☐	☐	☐	
Student's accumulated mark for A-4 [Level 2]				

A-4 [Level 3] – Share a device between computers on network				*4 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
The device to be shared is located on the computer system on which it is installed.	☐	☐	☐	
The device is shared using default sharing permissions.	☐	☐	☐	
The shared device is added to another account set on a different computer system.	☐	☐	☐	

Test/s are carried out to check that the device has been successfully shared.	☐	☐	☐	
Student's accumulated mark for A-4 [Level 3]				
Student's total mark for A-4 out of a maximum of 10 marks				

Other comments:

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Teacher's Signature:		Date:	

OBSERVATION SHEET A-5

Unit Number & Title:	2 – Networking
Assignment Number:	
Student's Name:	
Student's ID:	
Teacher's Name:	
Task & Question Number:	
Grading Criterion:	A-5

How the activity meets the requirements of the grading criterion:				
A-5 [Level 1] – Protect a device using a third-party internet security suite				*3 marks*
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 0.75 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*0.75*	
The provided third-party internet security suite is installed.	☐	☐	☐	
Checks for software updates are carried out.	☐	☐	☐	
A quick system scan is run.	☐	☐	☐	
Threat/s from the provided external storage device are removed.	☐	☐	☐	
Student's accumulated mark for A-5 [Level 1]				

A-5 [Level 2] – Block a website				3 marks
Note: • 0 marks: Step is incorrect or not carried out. • 0.5 marks: Step is partially correct or completed with guidance. • 1 mark: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.5*	*1*	
The settings to block a website are accessed.	☐	☐	☐	
The URL of the website to be blocked is added to the list of blocked websites.	☐	☐	☐	
Tests are carried out to check that the website has been blocked.	☐	☐	☐	
Student's accumulated mark for A-5 [Level 2]				

A-5 [Level 3] – Protect a wireless router from unauthorised access				4 marks
Note: • 0 marks: Step is incorrect or not carried out. • 0.4 marks: Step is partially correct or completed with guidance. • 0.8 marks: Step is correct and carried out independently.	*Mark*			*Comments*
	0	*0.4*	*0.8*	
The router's admin username and password are changed.	☐	☐	☐	
The network name (SSID) is changed.	☐	☐	☐	
The wireless security (WPA2/WPA3) of the router is activated.	☐	☐	☐	
Wireless access has been denied through MAC address filtering.	☐	☐	☐	
Tests are carried out to check that MAC address filtering is functional.	☐	☐	☐	
Student's accumulated mark for A-5 [Level 3]				
Student's total mark for A-5 out of a maximum of 10 marks				

Other comments: _____ _____ _____ _____			
Teacher's Signature:		Date:	

PORTFOLIO

As mentioned in the Assessment section at the beginning of this document, throughout the three-year programme candidates are required to keep a portfolio, intended to showcase the candidate's work and skills obtained. In fact, throughout the scholastic years, students are required to submit different sections of this portfolio as follows:

	Components for Portfolio
Year 9	To complete the "Who am I?" and "About my choice of subject" sections
	2 self-reflections on any 2 application grading criteria for Unit 1
	At least 2 showcased projects/tasks
Year 10	2 self-reflections on any 2 application grading criteria for Unit 2
	At least 2 showcased projects/tasks
Year 11	AVC IT 3-year programme self-reflection
	Showcased projects/tasks
	Portfolio upkeeping

For this purpose, a Portfolio Template is being provided. Teachers are free to disseminate a copy of this template to their students and guide them as to whether they are to keep a digital (soft) copy of their portfolio or else a physical copy. It should be noted that while only two templates are provided in the *Showcase* section, such sheets can be duplicated as need be. Furthermore, while the provided Portfolio Template contains self-reflection sheets for all the application grading criteria catered in Units 1 and 2, as mentioned in the table above students are to submit only 2 self-reflections for each unit. It is up to the teacher to decide on which application criteria students are to carry out the self-reflections. It is highly suggested that any unused self-reflections are removed from the portfolio rather than left blank.

At the end of the Portfolio Template rubrics, intended to guide teachers while assessing students' work, are made available. These are followed by assessment marking sheets, one for each year group, which teachers are required to fill in after assessing the students' work. Portfolio-related marks obtained by the students over the three years will be accumulated and will account for 20 marks in Year 11.

2024 - 2027

PORT FOLIO

NAME SURNAME

INFORMATION TECHNOLOGY STUDENT

WHO AM I?

Photo

Name:

Surname:

Date of Birth:

Address:

E-mail:

Interests:

ABOUT MY CHOICE OF SUBJECT

Why I Chose Information Technology:

To add some points/sentences explaining why you chose this subject, such as what inspired you to choose it, what do you find interesting about it, or any personal connections you have to the topic.

My Expectations for Information Technology:

To add some points/sentences describing what you hope to gain or achieve by studying this subject. Think about the skills you want to develop, the knowledge you wish to acquire, or any specific goals you have.

SHOW CASE

TITLE

Include any evidence of the work, task or project, such as photos, screenshots and worksheets.

Description:

Date:

Teacher:

TITLE

Description:

Date:

Teacher:

Please note that evidence supporting the work described above is appended to this document. This evidence includes the artifact created as part of the aforementioned work.

SELF REFLECTIONS

INSTALLING INTERNAL HARDWARE

SELF-REFLECTION

Task Title:	Installing Internal Hardware Components
Aim:	The aim of this task is to prepare the necessary tools and components to replace/ install/ upgrade internal hardware within a computer system while following proper health and safety procedures.
Unit:	1, Computer Hardware Installation (A-1)
Date:	

EVIDENCE

Evidence for this task may include photos preparing for and carrying out the installation and a copy of the document on which serial numbers were recorded.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I followed health and safety procedures while installing hardware.					
I prepared all necessary tools and equipment before starting the hardware installation.					
I ensured that the work area was organised and free from hazards throughout the task.					
I appropriately chose the required components for the hardware replacement/ installation/ upgrade.					
I documented the serial numbers accurately.					
I installed the required components using appropriate techniques.					
I cleaned the computer system from possible dusts.					
I reassembled and switched on the computer system following appropriate procedures.					
I successfully resolved potential issues.					
I successfully installed the necessary software.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

TESTING AND DOCUMENTING A HARDWARE INSTALLATION

SELF-REFLECTION

Task Title:	Testing and Documenting a Hardware Installation
Aim:	The aim of this task is to create a test plan which will be used to effectively test each replaced/installed/upgraded internal hardware component. Finally, the upgrade process is accurately documented.
Unit:	1, Computer Hardware Installation (A-2)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the tests, a copy of the test plan and a copy of the documentation.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I developed a comprehensive test plan that includes all installed components.					
I understand the importance of carrying out different tests to verify functionality.					
I carried out tests on each installed hardware component following the test plan accurately and methodically.					
I verified the installation was done correctly and all components were functioning as expected.					
I identified and documented any issues or malfunctions found during the tests.					
I recorded test results and observations in a clear, organized and accurate manner.					
I documented the entire upgrade process, including reasons for upgrade, suggested and actual implementation, log of serial numbers and test results.					
I ensured the documentation was thorough, easy to understand, and met all necessary standards.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

SOLDERING

SELF-REFLECTION

Task Title:	Developing a Project Requiring Soldering
Aim:	The aim of this task is to demonstrate proper soldering techniques, while following Health and Safety procedures, through a project. The soldered project is finally tested for functionality.
Unit:	1, Computer Hardware Installation (A-3)
Date:	

EVIDENCE

Evidence for this task may include photos of the process, photo of the soldered project and actual soldered project.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I know the names of the tools and equipment used during soldering.					
I chose the appropriate tools, equipment and materials for the soldering project.					
I ensured that the work area was organised throughout the task.					
I followed correct soldering techniques (e.g. adequate amount of solder).					
I securely soldered the components without causing damage to the board or component/s.					
I followed health and safety procedures during soldering.					
I inspected solder joints for proper connections and potential issues.					
I successfully resolved potential issues such as desoldering improper connections.					
I tested the soldered project and confirmed successful operation.					
I ensured that the soldered project matched the given design specifications.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

OPERATING SYSTEM INSTALLATION

SELF-REFLECTION

Task Title:	Installing and Configuring an Operating System
Aim:	The aim of this task is to demonstrate the skills needed to install an operating system, apply disk partitioning, and set a restore point effectively.
Unit:	1, Computer Hardware Installation (A-4)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the installation, screenshots indicating that the computer meets the requirements of the operating system, and screenshots for the restore point.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I verified that the computer system meets the requirements of the operating system before carrying out the installation.					
I successfully installed the operating system following the required steps and configurations.					
I applied disk partitioning correctly according to the provided requirements.					
I ensured that all partitions were created and formatted as required.					
I checked that the disk partitions were accessible and working properly after partitioning.					
I created a restore point following the operating system installation.					
I confirmed the restore point was created successfully and could be used to restore the system if need be.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

CREATION OF USER ACCOUNTS

SELF-REFLECTION

Task Title:	Creation and Customisation of User Accounts
Aim:	The aim of this task is to create a local user account, customize a user profile based on specific requirements, and set up an online user account.
Unit:	1, Computer Hardware Installation (A-5)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the task, and screenshots.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I successfully created a local user account with the correct credentials and settings					
I customized the user profile according to the given requirements including personalisation, accessibility features and control settings.					
I ensured all customised settings were properly applied and functioned as intended.					
I set up an online user account.					
I verified that the online user account was working correctly by logging into the operating system using its credentials.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

NETWORK WALL TRUNKING

SELF-REFLECTION

Task Title:	Building a Network Wall Trunking Model
Aim:	The aim of this task is to develop the skills needed to build a network wall trunking model according to the provided design and standards and finally connect it to a network cabinet.
Unit:	2, Networking (A-1)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the task, photos of the network wall trunking model and the actual model.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I prepared all the tools and materials needed when building a network wall trunking model.					
I accurately cut the conduit pipe and cable to the required lengths.					
I built the network wall trunking model following the correct steps (e.g. fix surface box, connect conduit pipe, pass cable)					
I properly stripped the cable, untwisted pairs, inserted and punched down cables into the keystone according to standards and attached keystone to faceplate.					
I made sure that the network wall trunking model matched the provided design specifications.					
I connected the network wall trunking model to the network cabinet following correct procedures (e.g. strip cable, punch down cables in patch panel, fix patch panel in place).					
I followed health and safety procedures during the entire process.					
I successfully resolved potential issues.					
I tested the model for connectivity.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task.

_____

_____

_____

INSTALLING A SWITCH IN A NETWORK CABINET AND CRIMPING A CABLE

SELF-REFLECTION

Task Title:	Installing a switch in a network cabinet and crimping a cable
Aim:	The aim of this task is to install a network switch within a network cabinet and properly crimp a CAT5e/6 cable according to networking standards.
Unit:	2, Networking (A-2)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the task, photos of the switch within the network cabinet, photos of the crimped CAT5e/6 cable and the actual crimped cable.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I prepared all necessary tools and resources for the task.					
I installed the switch securely within the network cabinet.					
I connected the switch to the patch panel port and power source.					
I accurately cut the CAT5e/6 cable to the correct length.					
I properly prepared the cable for crimping (i.e. strip the cable, untwist pairs, arrange cables in RJ-45 connector according to standard).					
I used correct crimping techniques to securely attach the RJ-45 connector to the cable.					
I tested the crimped cable for functionality and ensured it worked correctly.					
I followed health and safety procedures during the entire process.					
I successfully resolved potential issues.					
I evaluated the overall appearance and neatness of the finished crimped cable.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

CONNECTING TWO NETWORKS VIA A ROUTER

SELF-REFLECTION

Task Title:	Connecting Two Networks via a Router
Aim:	The aim of this task is to connect two wired Local Area Networks via a router, obtain the IP addresses for all computers on both networks, and finally test for network connectivity between the devices to ensure successful communication.
Unit:	2, Networking (A-3)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the task, photos of the two networks connected via router, screenshots with IP addresses, and documentation of results.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I physically connected all devices (router, switches and computers) forming a network made up of two LANs.					
I successfully powered on all network devices and computers.					
I obtained the IP addresses for all computers on both networks accurately.					
I tested for network connectivity between devices by pinging end devices within the same LAN and across different LANs.					
I appropriately documented all test results for network connectivity					
I followed health and safety procedures during the entire process.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

NETWORK SHARING SETUP

SELF-REFLECTION

Task Title:	Sharing a File/Folder and a Device over a Network
Aim:	The aim of this task is to configure network sharing settings to allow file/folder and device sharing between computers on a network and ensure that the sharing permissions are set and tested correctly.
Unit:	2, Networking (A-4)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the task, screenshots showing settings of sharing permissions, and actual printouts from the shared printer.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I correctly configured sharing settings to allow file/folder, and device sharing between computers on the network.					
I successfully shared the desired file/folder on the network.					
I appropriately set sharing permissions for the shared file/folder.					
I accessed the shared file/folder from another account and tested the sharing permissions.					
I successfully shared a printer between computers on the network.					
I successfully added the shared printer to another account on a different computer system.					
I tested and confirmed that the printer was successfully shared and accessible on the network					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

SECURING A NETWORK

SELF-REFLECTION

Task Title:	Securing a Network for Possible Threats and Unauthorised Users
Aim:	The aim of this task is to protect a computer system from network security threats using a third-party internet security suite as well as block access to unwanted website. Moreover, a wireless router is secured from unauthorized access.
Unit:	2, Networking (A-5)
Date:	

EVIDENCE

Evidence for this task may include photos carrying out the task, screenshots showing removal of threats from an external storage device, screenshots indicating a blocked website, and screenshots showing settings applied to a wireless router in order to protect it from unauthorised access.

RATING MY SKILLS

Skills	 Excellent	 Good	 Average	 Fair	 Poor
I successfully installed a third-party internet security suite.					
I updated the software with the latest updates.					
I protected the computer system by running a quick system scan and removing threats from an external storage device.					
I configured the appropriate settings and correctly blocked a website.					
I tested and confirmed that the website was successfully blocked					
I changed the router admin username and password to enhance security.					
I successfully changed the network name (SSID) for the wireless router					
I successfully activated wireless security on the router to protect against unauthorized access.					
I successfully set up MAC address filtering and tested its functionality to restrict network access.					

REFLECTING ON THE SKILLS

What did you learn from this task?

_____

_____

_____

What did you find most challenging about this task?

_____

_____

_____

Explain what you would do differently next time to improve the process and/or technique used to carry out this task

_____

_____

_____

AVC IT 3-YEAR PROGRAMME

SELF-REFLECTION

REFLECTING ON MY LEARNING JOURNEY

What are the three most important things you have learned about IT in the last three years?

- _____
- _____
- _____

Which topic did you find the most interesting (Computer Hardware, Networking, App Development)? Why?

_____

_____

_____

Which topic did you find the most challenging? How did you overcome these challenges?

_____

_____

_____

How do you feel about your overall learning experience in this program? (Choose a face)

 Very Happy	 Happy	 Average	 Unhappy	 Very Unhappy

Where your initial expectations when choosing IT met by the end of the programme?

_____

_____

_____

SKILLS AND KNOWLEDGE GAINED

What new skills have you learned in each of the following areas?

Computer Hardware Installation: _____

_____

Networking: _____

_____

App Development: _____

_____

How confident do you feel in applying these skills in real-life scenarios? (Choose a face)

 Very Confident	 Confident	 Average	 Somewhat Confident	 Not Confident

MY FEELINGS ABOUT SPECIFIC TOPICS

For each statement below, choose a face that best shows how you feel.

Skills	 Very Happy	 Happy	 Average	 Unhappy	 Very Unhappy
I enjoyed learning about computer hardware installation.					
I found networking interesting and fun.					
App development was easy to understand.					
I felt confident using the skills I learned in the program.					
I had enough support from my teacher/s throughout the three years.					
I am proud of what I have achieved in this program.					

PERSONAL GROWTH AND DEVELOPMENT

In what ways has this program helped you develop important life skills, such as problem-solving, teamwork, or time management? Provide examples.

_____

_____

_____

How did you feel about your growth in these life skills? (Choose a face for each skill)

Skills	 Excellent	 Good	 Average	 Fair	 Poor
Problem-Solving					
Teamwork					
Time Management					

FUTURE GOALS AND ASPIRATIONS

Are there any areas in IT that you would like to explore further? Why?

_____

_____

_____

How excited are you about continuing your learning in IT? (Choose a face)

 Very Excited	 Excited	 Average	 Not Very Excited	 Not Excited

RUBRICS

Application Grading Criteria Self-Reflection Assessment Rubric (25 Marks Total)

Criteria	5 marks	4 marks	3 marks	1 – 2 marks
Evidence of Task Execution	Provides clear, relevant evidence (e.g., screenshots, photos) showing successful completion of task; evidence aligns with task requirements.	Provides evidence of task completion; most evidence aligns with task requirements.	Limited evidence provided; evidence may not clearly align with task requirements.	Little or no evidence provided; evidence does not align with task requirements.
Skill Rating	Accurately rates skills based on performance (e.g., excellent, good, average, etc.).	Provides skill ratings; most ratings align with performance.	Provides basic skill ratings; some inconsistency between ratings and performance.	Ratings are missing or unjustified; ratings do not align with task performance.
Understanding and Reflection on Task	Thorough and insightful reflection on the task; clearly articulates what was learned with specific examples; identifies challenges with depth.	Good reflection on the task; explains what was learned and identifies challenges with some examples.	Basic reflection; provides limited details on what was learned and some identification of challenges, but lacks depth or specific examples.	Minimal reflection; vague or incomplete responses; lacks clarity on what was learned, or challenges faced.
Reflection on Improvement	Clearly identifies what could be done differently next time; provides specific steps or techniques to improve performance.	Identifies some improvements; provides a few steps or techniques for better performance.	General reflection on improvement; lacks specific steps or details on how to improve.	Little or no reflection on improvement; no clear steps or techniques suggested for better performance.
Engagement and Presentation	Demonstrates high engagement; responses are well-organized, clear, and detailed; presentation is neat and professional.	Shows good engagement; responses are mostly well-organized and clear; presentation is mostly neat.	Some engagement; responses are somewhat organized but lack clarity or detail; presentation is acceptable.	Minimal engagement; responses are disorganized or incomplete; presentation is untidy or lacks effort.

AVC IT 3-Year Programme Self-Reflection Assessment Rubric (25 Marks Total)

Criteria	5 marks	4 marks	3 marks	1 – 2 marks
Reflecting on My Learning Journey	Insightful reflection on learning, with clear and detailed responses; shows deep understanding of key learnings, interests, and challenges.	Good reflection with clear responses; demonstrates understanding of key learnings, interests, and challenges but lacks some detail.	Basic reflection; provides limited details on learnings, interests, and challenges; lacks depth.	Minimal reflection; vague or incomplete responses; lacks clarity or detail.
Skills and Knowledge Gained	Clearly identifies and explains new skills gained in each area; accurately self-assesses confidence.	Identifies new skills gained; self-assessment of confidence is mostly accurate.	Limited identification of new skills; self-assessment is mostly accurate.	Few or no new skills identified; self-assessment is missing or inaccurate.
My Feelings About Specific Topics	Consistently uses the smiley scale to accurately express feelings about various topics; responses align well with written reflections.	Uses the smiley scale appropriately; most responses align with written reflections.	Inconsistent use of the smiley scale; some responses do not match written reflections.	Rarely or does not use the smiley scale; responses do not align with written reflections.
Personal Growth and Development	Provides specific examples of life skills development; uses face scale appropriately to assess growth in these skills.	Provides examples of life skills development with some detail; uses face scale appropriately for most skills.	Limited examples of life skills development; some use of the face scale but lacks detail or consistency.	Few or no examples of life skills development; does not use the face scale or uses it incorrectly.
Future Goals and Aspirations	Clearly articulates future IT goals and areas of interest; provides detailed reasons for future aspirations; uses the face scale accurately to express excitement.	Identifies future IT goals and areas of interest; provides reasons for aspirations; uses the face scale appropriately.	Vague or generic future goals; limited reasons for aspirations; some inconsistency in using the face scale.	Future goals unclear or missing; little to no reasons for aspirations; does not use the face scale.

Rubric for Assessing Portfolio Upkeep and Showcased Projects/Tasks (25 Marks Total)

Criteria	5 marks	4 marks	3 marks	2 marks	1 mark
Upkeep and Organization	Portfolio is exceptionally well-maintained and neatly organised; all sections are complete and clearly labelled.	Portfolio is well-maintained and mostly organised; most sections are complete and labelled.	Portfolio is adequately maintained but lacks some organisation; some sections may be incomplete or missing labels.	Portfolio is poorly maintained, lacks organisation, and multiple sections are incomplete or missing.	Portfolio is very poorly maintained, disorganized, and lacks most required content.
Reflective Content on "About My Choice of Subject"	Reflection is highly detailed and insightful, clearly articulating reasons for choosing the subject with specific examples. Includes thoughtful expectations about what the student hopes to gain from the subject.	Reflection is clear and provides good reasons for choosing the subject, with some examples or details. Outlines expectations with some thoughtfulness.	Reflection provides basic reasons for choosing the subject, with limited examples or details. Expectations are mentioned but lack depth.	Reflection is vague or incomplete, with minimal reasons for choosing the subject and lacks clear expectations.	Reflection is missing or provides no meaningful reasons for choosing the subject; expectations are absent or unclear.
Number of Showcased Projects/Tasks	Includes a comprehensive number of projects/tasks, showcasing a wide range of skills and knowledge.	Includes ample projects/tasks and showcases a good range of skills and knowledge.	Includes ample projects/tasks but lacks a diversity of skills or knowledge.	Includes only a few projects/tasks with minimal evidence of skills or knowledge.	Lacks in the number of projects/tasks; limited or no evidence of skills or knowledge.

Criteria	5 marks	4 marks	3 marks	2 marks	1 mark
Quality of Showcased Projects/Tasks	All showcased projects/tasks are presented with thorough evidence (e.g. photos, screenshots, worksheets, artefacts); demonstrates high quality work and depth of understanding.	Most showcased projects/tasks include good evidence; demonstrates good quality work and understanding.	Some showcased projects/tasks include basic evidence; demonstrates average quality and understanding.	Few showcased projects/tasks have sufficient evidence; demonstrates minimal level of work quality or understanding.	Showcased projects/tasks lack evidence; demonstrates poor work quality and limited understanding.
Description of Showcased Projects/Tasks	All showcased projects/tasks are accompanied by thorough descriptions that clearly explain the purpose and outcomes.	Most showcased projects/tasks have good descriptions that adequately explain the purpose and outcomes.	Some showcased projects/tasks have basic descriptions that mention the purpose, or outcomes but lack detail or depth.	Few showcased projects/tasks have minimal descriptions that do not adequately explain the purpose or outcomes.	Showcased projects/tasks lack descriptions or have descriptions that are unclear, incomplete, or irrelevant.

SELF-REFLECTIONS ASSESSMENT MARKING SHEET (YEAR 9)

Subject	Applied Vocational Certificate in Information Technology		
Cohort		**Student ID**	
Student's Name			
Teacher's Name			
School			

Assessment for Self-Reflection 1

Criteria	Maximum Mark	Achieved Mark
Evidence of Task Execution	5	
Skill Rating	5	
Understanding and Reflection on Task	5	
Reflection on Improvement	5	
Engagement and Presentation	5	
Total Mark	**25**	

Assessment for Self-Reflection 2

Criteria	Maximum Mark	Achieved Mark
Evidence of Task Execution	5	
Skill Rating	5	
Understanding and Reflection on Task	5	
Reflection on Improvement	5	
Engagement and Presentation	5	
Total Mark	**25**	

Total Student's Mark out of 50 marks *(i.e. Self-Reflection 1 + Self-Reflection 2)*			
Student's Mark out of 5 marks *(i.e. Total ÷ 10)*			
Teacher's signature		**Date**	

SELF-REFLECTIONS ASSESSMENT MARKING SHEET (YEAR 10)

Subject	Applied Vocational Certificate in Information Technology		
Cohort		**Student ID**	
Student's Name			
Teacher's Name			
School			

Assessment for Self-Reflection 1

Criteria	Maximum Mark	Achieved Mark
Evidence of Task Execution	5	
Skill Rating	5	
Understanding and Reflection on Task	5	
Reflection on Improvement	5	
Engagement and Presentation	5	
Total Mark	**25**	

Assessment for Self-Reflection 2

Criteria	Maximum Mark	Achieved Mark
Evidence of Task Execution	5	
Skill Rating	5	
Understanding and Reflection on Task	5	
Reflection on Improvement	5	
Engagement and Presentation	5	
Total Mark	**25**	

Total Student's Mark out of 50 marks *(i.e. Self-Reflection 1 + Self-Reflection 2)*			
Student's Mark out of 5 marks *(i.e. Total ÷ 10)*			
Teacher's signature		**Date**	

SELF-REFLECTION AND PORTFOLIO ASSESSMENT MARKING SHEET (YEAR 11)

Subject	Applied Vocational Certificate in Information Technology		
Cohort		**Student ID**	
Student's Name			
Teacher's Name			
School			

Assessment for 3-Year Programme Self-Reflection

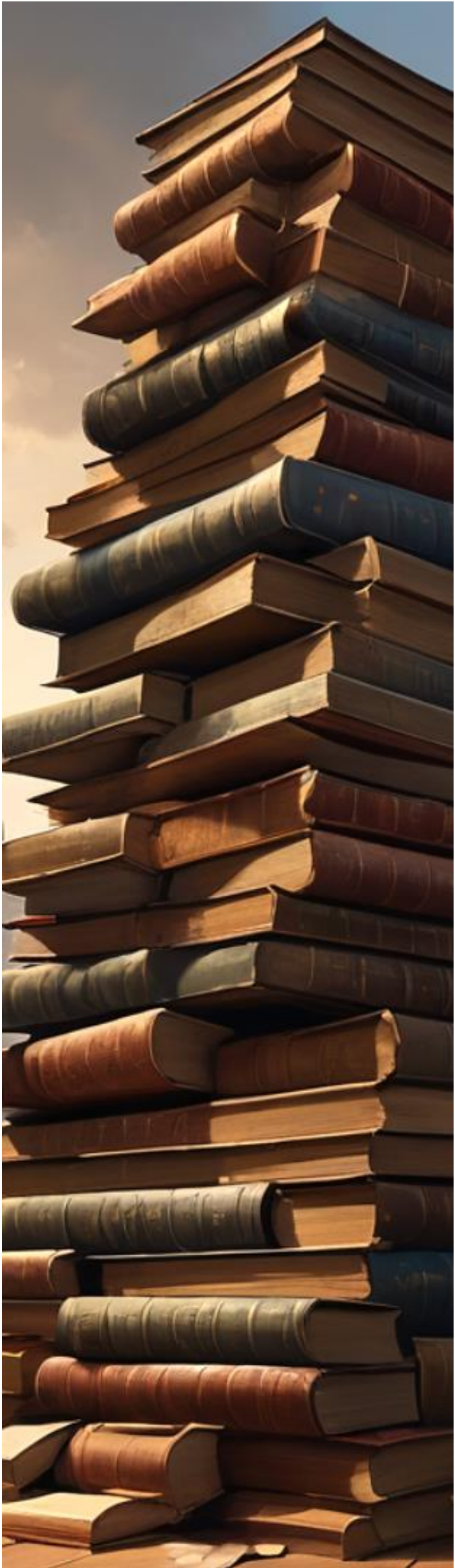
Criteria	Maximum Mark	Achieved Mark
Reflecting on My Learning Journey	5	
Skills and Knowledge Gained	5	
My Feelings About Specific Topics	5	
Personal Growth and Development	5	
Future Goals and Aspirations	5	
Total Mark	**25**	

Assessment for Portfolio Upkeep and Showcased Projects/Tasks

Criteria	Maximum Mark	Achieved Mark
Upkeep and Organization	5	
Reflective Content on "About My Choice of Subject"	5	
Number of Showcased Projects/Tasks	5	
Quality of Showcased Projects/Tasks	5	
Description of Showcased Projects/Tasks	5	
Total Mark	**25**	

Total Student's Mark out of 50 marks *(i.e. 3-Year Programme Self-Reflection + Portfolio Upkeep and Showcased Projects/Tasks)*			
Student's Mark out of 10 marks *(i.e. Total ÷ 5)*			
Teacher's signature		**Date**	

APPENDIX



APPENDIX 1: UNIT DISTRIBUTION PLAN

Unit Distribution Plan for Scholastic Year _____

School:

Teachers:

Internal Verifier:

Period	Activity	Person/s involved
	Writing Assignment Brief 1	
	Handing over of Assignment Brief 1 to IV	
	Internal Verification of Assignment Brief 1	
	Assignment Brief 1 issued	
	Assignment Brief 1 deadline	
	Correction of Assignment 1	
	Handing over of Students Work for Assignment 1 to IV	
	Internal Verification of Students Work for Assignment 1	
	Writing Assignment Brief 2	
	Handing over of Assignment Brief 2 to IV	
	Internal Verification of Assignment Brief 2	
	Assignment Brief 2 issued	
	Assignment Brief 2 deadline	
	Correction of Assignment 2	
	Handing over of Students Work for Assignment 2 to IV	
	Internal Verification of Students Work for Assignment 2	
	Controlled Assessment is held	
	Correction of Controlled Assessment	
	Handing over of Students Controlled Assessment to IV	
	Internal Verification of Students Controlled Assessment	
	Moderation	

APPENDIX 2: ASSESSMENT FRONT SHEET

APPLIED VOCATIONAL CERTIFICATE

ASSESSMENT FRONT SHEET

Subject		**Cohort**	
Unit Number		**Assessment Number**	
Assessment Title			
Date Set		**Date Due**	
Class/Group		**Student ID**	
Student Name		**Student Surname**	
School			

Criteria										**TOTAL**
Maximum Mark										
Mark Achieved										

Assessor's feedback

	Name and Surname	**Signature**	**Date**
Internal Verifier Assignment Brief Approval			
Teacher / Assessor Confirmation of Mark			
Internal Verifier Assessment Decision Approval (*if sampled*)			
Student's Signature Upon receiving marks and feedback on corrected work			

APPENDIX 3: MINIMUM REQUIRED RESOURCES

The aim of this section is to provide a list of the resources needed to teach and assess the subject. It should be noted that this list is not intended to be exhaustive. Resources should be available for use for the maximum capacity the IT workshop can hold, which is generally 16 students.

Generic Resources

- Computer lab/workshop with ample electrical power outlets and work-station tables
- Modern computers equipped with mice, keyboards and monitors
- Interactive whiteboard/ Digital panel/ Projector
- Internet access
- Lockable storage cabinets to store candidates' work, tools and consumables
- A4 colour printer
- USB flash drives (one per candidate)
- External storage hard disk
- Digital video cameras complete with external storage and tripod
- Health and Safety equipment including First Aid box and fire extinguisher

Unit 1: Computer Hardware Installation

- Functional computers with mice, keyboards and monitors intended for hardware installation
- Internal hardware components intended to be installed in the computers as part of a computer upgrade, installation or replacement (RAM, CPU and heat sink, hard disk drives, optical disk drives, graphics cards, sound cards, wireless network cards, USB port extenders, Power Supply Units)
- Internal hardware components (not necessarily functional) which are NOT compatible with computer systems to be used for Replacement/Installation/Upgrade (RIU)
- Computer repair toolkits including different screwdrivers, such as Phillips and flat head screwdrivers, and tweezers
- Anti-static bench mats
- Anti-static wrist bands and earthing leads
- Cleaning cabinet / Compressed air cans / Mini air compressor
- Rubbing alcohol
- Compound paste
- Variable temperature-controlled soldering irons and soldering stands
- Soldering iron bit cleaners
- Solder
- Side cutters
- Long nose pliers
- Wire stripper pliers

- Desoldering pumps
- Desoldering braid (wick)
- Magnifying glass
- Third-hand tools
- Fume extractors
- Safety glasses
- Digital multimeters
- Consumables in relation to the soldering projects such as Veroboard, sensors, battery cases, LEDs, sensors, batteries, etc.
- Software:
    - Operating System e.g. Windows 10 plus Key for installation
    - Third-party diagnostic software tool e.g. CPU-Z, Speccy
    - Drivers required by internal hardware components

Unit 2: Networking

- Functional computers with network ports, mice, keyboards and monitors
- Sample wired data transmission media e.g. CAT5e, CAT6, fibre optic cable, coaxial cable
- Sample connectors for wired data transmission media e.g. RJ-45, ST, BNC, RG6
- Ethernet cable roll e.g. CAT5e or CAT6
- RJ-45 connectors
- Readily crimped Ethernet cables
- Desktop switches for connecting two wired LANs via a router
- Wireless routers (including wired interfaces)
- Wireless devices such as smartphones, tablets or laptops
- Printers (or any other devices) to be shared on the network
- Network cabinet including rack management systems
- Patch panels and labels for patch panel
- Power distribution units for network cabinet
- Switches including brackets to fix inside the network cabinet
- Screwdrivers of different types and sizes of screwdrivers
- Side cutters
- Wire stripper pliers
- Punch down tools
- Network cable crimping pliers
- LAN cable testers
- Mini hand saw or pipe cutter
- Measuring tape
- Label machine

- Consumables in relation to the network wall trunking model such as wooden board, surface box, RJ-45 network wall face cover including keystone, conduit pipe, conduit pipe adaptors, clips, screws, etc.
- Software:
    - Internet Security Suite e.g. Avast, Comodo