THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training

Assessment and Training

Package

For an

ICT PRACTITIONER

Qualification Level: 1

Occupational Cluster: Information and Communication Technology

February 2021

Assessment and Training Package

For an

ICT PRACTITIONER

Qualification Level: 1

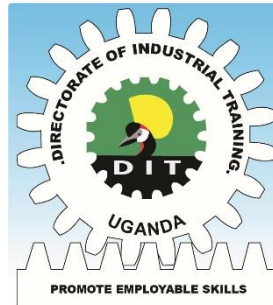**Occupational Cluster: Information and Communication Technology**

Under BTVET Act, 2008, the functions of the Directorate of Industrial Training are:

(a)   To identify the needs of the labour market for occupational competencies that fall under the UVQF.
(b)   To regulate apprenticeship schemes.
(c)   To foster and promote entrepreneurial values and skills, as an integral part of the UVQF.
(d)   To secure adequate and sustainable financing for the efficient operations of the Directorate.
(e)   To accredit training institutions or companies as assessment centres.
(f)   To determine fees payable under the Act.
(g)   To develop, apply, expand and improve the purposeful application of Uganda vocational qualifications defined in the UVQF.
(h)   To assess and award Uganda Vocational Qualifications.
(i)   To promote on-the-job training in industry for apprenticeship, traineeship and indenture training and for other training such as further skills training and upgrading.
(j)   To prescribe the procedure for the making of training schemes.

Further to the above provisions, there is an established Uganda Vocational Qualifications Framework (UVQF), under part V of the BTVET Act, 2008. It is stated that:

The purpose of the UVQF is to;
(a)   Define occupational standards in the world of work.
(b)   Define assessment standards.
(c)   Award vocational qualifications of learners who meet the set standards of different studies.
(d)   Provide guidelines for modular training.

The UVQF shall follow principles of Competence Based Education and Training (CBET) which include:
(a)   Flexible training or learning modules.
(b)   Positive assessment and certification.
(c)   Assessment of prior learning.
(d)   Recognition of formal and non-formal training.
(e)   Self-paced or individual learning.
(f)   Work place learning.

For award and recognition of certificates, the BTVET Act, 2008 provides that:

(1)   The Directorate and other examination boards established under the Act shall award certificates and diplomas for Business, Technical or Vocational Education and Training under the UVQF.

(2)   The Certificates and Diplomas to be awarded shall be in the form prescribed by the Minister on the recommendation of the Industrial Training Council.

(3)   The Certificates and Diplomas awarded under the Act shall be recognised in the Uganda education system and by the labour market.

Under the TVET Implementation Standards 2020, the proposed new mandate of the Directorate of Industrial Training shall be restricted to promoting the highest standards in the quality and efficiency of industrial training in the country and ensuring an adequate supply of properly trained manpower at all levels in the industry and the world of work.

The functions shall include:
(a)   Regulating Industrial Training and Trainers.
(b)   Developing Industrial Training Curricula.
(c)   Harmonising Curricula and Certificates of competence.
(d)   Assessing Industrial Training.
(e)   Development of Occupational Standards and Assessment and Training Packages (ATPs) for Trade Testing for the industry and world of work.
(f)   Awarding certificates in that respect.

At operational level in the Directorate, the Qualification Standards Department performs development tasks related to concepts, procedures and instruments for establishment of the UVQF in close collaboration with both public and private stakeholders in vocational training.

In particular, the Department organises and coordinates the development of Assessment and Training Packages for use in competence-based vocational training as well as standards-based assessment and certification.

The Directorate has therefore produced this Assessment and Training Package for use in implementing Competence-Based Education and Training mechanisms.

Table of Contents

Word from Permanent Secretary

The Kajubi Report (1989) and the Uganda Government White Paper on Education Review (1992) emphasised that the Uganda Secondary School Education should be vocationalised.

The World Bank Report on education in Uganda 2007 observed that although Uganda was experiencing steady economic growth on one hand, the secondary education curriculum was inadequately addressing the social and economic needs of the country on the other. The Report further noted that it is not the very top academic cadres that contribute most to the growth of the GDP but rather the competent middle level technicians that are flexible and technologically literate that the economy needs in the labour market at all levels.

Correspondingly, the NDP III 2020/21- 2024/5 highlights (i) low labour productivity (ii) high youth unemployment (38%) (iii) low transition rates from training to employment (35%) as some of the key challenges to Human Capital Development in Uganda.

In order to overcome these challenges, NDP III 2020/21- 2024/5, under objective 2 peaks the need to train the learners for the urgently needed skills and mainstream a dual education and training system. This paved way for the development of the lower secondary school vocational curriculum which supports both academic and vocational training.

The afore is in line with the Uganda Vision 2040. Under section 261, it emphasises that learners will be accorded opportunities to excel in the skills areas they are placed into. These will range from sports and cut to technical and vocational training. Hitherto, section 262 clearly states that the entire education system will be changed to emphasise practical skills, attitude and moral values.
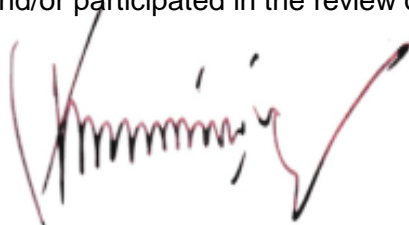
Government of Uganda through the Ministry of Education and Sports rolled out the New Lower Secondary Curriculum in secondary schools countrywide during the first term of the academic year 2020. The overall goal of this curriculum is to produce graduates with employable skills and who are competitive in the labour market. It should be emphasised that vocational training will produce graduates who are employable. In the New curriculum, emphasis will be on equipping learners with employable skills and competencies. This will enable learners perform the requisite duties of the specified occupations. This is the reason why the lower secondary school vocational curriculum was tailored to the assessment requirements of the world of work.

Reading from the Curriculum Framework page 12, it is stated that the learners will be assessed by DIT. Upon assessment and certification, the graduates will be employable and competitive in the labour market. It's against this background that DIT, within its mandate vested in the BTVET Act, 2008 comes on board to take the lead in the development of the requisite Assessment and Training Packages (ATPs) for the various occupations that will be assessed under the Lower Secondary Curriculum.

The ATPs can be used by any training provider and/or those who wish to present themselves for Occupational Assessment and Certification.

Herewith, the Directorate of Industrial Training presents the Assessment and Training Package for training, assessment and certification of an ICT Practitioner **QUALIFICATION LEVEL 1.**

Finally, I thank all individuals, organisations and review partners who have contributed and/or participated in the review of this noble document.

Alex Kakooza
Permanent Secretary

Executive Summary

This Assessment and Training Package is a Competence-Based Education and Training (CBET) tool and consists of three major parts:

0.1 **PART I: The Occupational Profile (OP) of an ICT Practitioner.** This Occupational Profile which was reviewed by ICT Practitioners practicing in the world of work mirrors the duties and tasks that ICT Practitioners are expected to perform.

0.2 **PART II: Training Modules** in the form of guidelines to train ICT Practitioners both on the job as well as in training centres (or combinations of both venues of learning). The Training Modules herein have been reviewed basing on the Occupational Profile and hence are directly relevant for employment.

0.3 **PART III: Assessment Instruments** in the form of performance (Practical) and written (theory) test items that can and should be used to assess whether a person complies with the requirements of employment as an ICT Practitioner. These assessment instruments were reviewed jointly by job practitioners (ICT Practitioners) and instructors based on the occupational profile and training modules.

0.4 While the Occupational Profile (OP) contained in PART I of this document provides the information on **WHAT a person is expected to do** competently in the world of work, the test items, - including performance criteria- of PART III qualify the **HOW and/or HOW WELL a person must do the job**.

0.5 The modular format of the curriculum (PART II) allows learners to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration allowing flexibility for learners to move directly into an entry level job, go for further modules or advance to higher levels of training. Modular courses allow more learners to access the training system because training centres as well as companies can accommodate more learners in a given period of time.

0.6 In addition to improved access, equity and relevance of BTVET, the UVQF will also enable people who are convinced to have acquired competencies laid down in this ATP through prior training and on-the-job experience to access assessment and certification directly; be it on the basis of a single module, a group of modules or all modules pertaining to the occupation at once. This achievement will facilitate Recognition of Prior Learning (RPL).

0.7   The parts of this Assessment and Training Package were sequentially reviewed as follows:

    i   Part 1: Occupational Profile: ***August 2020***
    ii   Part 2: Training Modules: ***August 2020***
    iii   Part 3: Assessment Instruments (initial bank): ***August 2020***

This ATP (or parts of it) may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

DIT takes responsibility of any shortcomings that might be identified in this publication and welcomes suggestions for effectively addressing the inadequacies. The suggestion can be communicated to DIT through P.O. Box 20050, Kampala or through email uvaf.dit@gmail.com.

Patrick Byakatonda
Ag Director

Acknowledgement

The Qualifications Standards Department of DIT acknowledges the valuable contributions to the review of this Assessment and Training Package by the following persons, Institutions and organisations:

- Members of the DIT Industrial Training Council.

- The Director and staff of DIT.

- Ministry of Education and Sports.

- The practitioners from the world of work.

- Teachers and instructors of ICT practitioner from various secondary schools.

- ICT Curriculum Specialists from NCDC.

- Examination specialists from UNEB.

- The facilitators involved in guiding the development panels in their activities.

- The Government of Uganda for financing the development of this ATP.

Abbreviations and Acronyms

A&C	Assessment and Certification
ATP	Assessment and Training Packages
CBET	Competency Based Education and Training
DIT	Directorate of Industrial Training
ITC	Industrial Training Council
GoU	Government of Uganda
LWA	Learning-Working Assignment
MC	Modular Curriculum
MoES	Ministry of Education and Sports
OP	Occupational Profile
PEX	Practical Exercise
PTI	Performance (Practical) Test Item
QS	Qualification Standards
RPL	Recognition of Prior Learning
TIB	Test Item Bank
TVET	Technical Vocational Education and Training
UVQ	Uganda Vocational Qualification
UVQF	Uganda Vocational Qualifications Framework
WTI	Written (Theory) Test Item
ICT	Information Technology
IP	Internet Protocol
IEEE	Institute of Electrical and Electronics Engineering

Key Definitions

Assessment Assessment is the means by which evidence is gathered and judged to decide if an individual has met the stipulated assessment standards or not. Testing is a form of formal assessment.

Certification Certification is a formal procedure to issue a certificate (qualification) to an individual that has demonstrated during formal assessment that he/she is competent to perform the tasks specified in the occupational profile.

Competence (Occupational) competence is understood as the ability to perform tasks common to an occupation at an acceptable level.

CBET Competence-based education and training means that programs:
1. have content directly related to work
2. focus is on 'doing something well'
3. assessment is based upon industry work standards, and
4. curricula are developed in modular form

Duty A Duty describes a large area of work in performance terms. A duty serves as a title for a cluster of related Tasks (see also: TASK).

Learning-Working Assignment (LWA) LWA are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment LWAs are real work situations /assignments.

Modules Modules are part(s) of a curriculum. Modules can be considered as "self-contained" partial qualifications which are described by learning outcomes or competencies and which can be assessed and certified individually.

Occupational Profile (OP) An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment.

Occupational Profiles developed by practitioners from the world of work enhance the relevance of training and learning to the requirements of the world of work.

Occupational Profiles define what a person is supposed to do in performance terms. It also contains generic information regarding related knowledge and skills, attitudes/behavior, tools, materials and equipment required to perform as well as trends/ concerns in the occupation.

Occupational profiles are the reference points for developing modular curricular and assessment standards.

Qualification   A qualification is a formal recognition for demonstrating competence, based on formal assessment against set standards. A qualification is provided to the individual in form of a certificate specifying the nature of the competence.

Task   Job tasks represent the smallest unit of job activities with a meaningful outcome. Tasks result in a product, service, or decision. They represent an assignable unit of work and have a definite beginning and ending point. Tasks can be Performed and measured. *(Also see: Duty)*

1.0 ATP-PART I

Occupational Profile for an ICT PRACTITIONER

1.1   The OCCUPATIONAL PROFILE (OP) for "ICT Practitioner" below defines the *Duties* and *Tasks* a competent ICT PRACTITIONER is expected to perform in the world of work (on the job) in Uganda and the East African region today.

1.2   Since it reflects the skill requirements of work life, the Occupational Profile is the reference document for the subsequent development of training modules and assessment instruments (test items) which are directly relevant to employment in Ugandan and the East African businesses and industries.

1.3   To ensure that the Occupational Profile is relevant for employment in Uganda and East Africa, the DIT used the method of "occupational/job profiling.[1]

This approach involves the brainstorming of a panel of 8 to 12 competent job practitioners guided by trained and experienced facilitators. During a two-day workshop the panelists defined the duties and tasks performed in employment, as well as the prerequisite skills, knowledge, attitudes, tools and equipment, and the future trends and concerns in the occupation/job.

1.4   The panelists, facilitators and coordinators who participated in developing this Occupational Profile are listed on the following page.

Job Expert Panel

Asiimwe Paddy Junior
Makerere University

Bazira Sseggwanyi Paul
Seeta High School

Bwambale Joram
St. Mary's College Kisubi

Walimbwa W. Benjamin
Kings College Buddo

Catherine Namuyiga Salasamba
Mengo Senior School

Matovu K. David
UCC, Tororo

Tumwine David
UCC-Kabale

Musoke Wilberforce
UNEB

Tuhame K. Moses
NCDC

Mugabo Israel
Airtel Uganda

Dorris Ann Nazzina
Upstate Consultancy

Dennis Kibiye
IPLINK Consults

Kusaasira Joshua
Andela Uganda

Taremwa James Mark
Triangle Geomatics LTD

Barnis Arinda Drago
Summit Brothers LTD

Jjuuko Titus Bazira
Neriko Electronics

Ddamulira Stephen Kateeba
UNEB

Businge Stephen Kateeba
Ntinda VTI

Co-ordinator
Mukyala Ruth
Directorate of Industrial Training

Facilitator
Mr. Mwesigwa Isaac
Directorate of Industrial Training

Funded by
The Government of Uganda

THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training

Occupational Profile
For an
''ICT PRACTITIONER''

Developed by: Qualifications Standards
Department of Directorate of Industrial Training

Dates of workshop: 21st- 25th September 2020

NOMENCLATURE: ICT PRACTITONER

Definition: AN ICT PRACTITONER is a person who utilizes computer systems and network services for work.

JOB ORGANISATION CHART FOR A ICT PRACTITONER

Internal Links	Technical Links		External Links
- Human Resource personnel - Accountant - Sales manager - Procurement officer - Marketer - Administrator - Secretary - Public Relations Officer - Estates Manager - Security Personnel - Managers	**PEERS** - Electrician - Printery personnel - Computer technician - Computer Cafe Personnel - Programmers - Graphics designers - Software and hardware developers - Software and hardware vendors - Network service providers - Content management service	**ICT PRACTITIONER (COMPUTER SPECIALIST)** ↑ **ICT PRACTITIONER (COMPUTER SUPPORT OFFICER)** ↑ **ICT PRACTITIONER (COMPUTER APPLICATION USER)**	- Regulatory bodies (NITA-URA, UCC, NEMA) - Media - Insurance companies - Educational institutions - MoGLSD - Professional bodies (CISCO, IEEE, Microsoft, Oracle etc.)

1. ICT Practitioner Level I (**COMPUTER APPLICATIONS USER):** Is a person who uses basic computer applications to accomplish work assignments.

2. ICT Practitioner Level II (**COMPUTER SUPPORT OFFICER):** Is a person who monitors, maintains and provides technical support to IT systems.

3. ICT Practitioner Level III (**COMPUTER SPECIALIST):** Is a person who analyses, supports, troubleshoots and evaluates computer systems.

Duties and Tasks

A. PLAN COMPUTER WORKS	**A1**. Carry out feasibility study	**A2**. Prepare budget	**A3**. Determine resources
	A4. Determine work location	**A5**. Develop work schedules	**A6.** Prepare marketing plan
	A7. Prepare procurement plan		

B. DEVELOP SOFTWARE	**B1.** Identify need for software	**B2.** Define requirements	**B3.** Analyse system
	B4. Design system	**B5.** Develop system	**B6.** Test system
	B7. Implement system	**B8.** Document system	**B9.** Train users
	B8 Maintain system		

C. MAINTAIN COMPUTER SYSTEM	**C1.** Develop maintenance schedules	**C2.** Service computer system	**C3.** Diagnose computer system
	C4. Analyse computer system faults	**C5.** Establish action plan	**C6.** Execute action plan
	C7. Verify functionality of the system		

D. SETUP A NETWORK	**D1.** Design network	**D2.** Generate network plan	**D3.** Configure network
	D4. Test network	**D5.** Maintain network	**D6.** Expand network

E. MANAGE DATA	E1. Capture data	E2. Secure data	E3. Transfer data
	E4. Set up computer system	E5. Power computer system	E6. Create files and folders
	E7. Enter data	E8. Update data	E9. Process data
	E10. Store data	E11. Backup data	E12. Recover data

F. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIROMENTAL PROTECTION PRACTICES	F1. Comply with personal health and safety regulations	F2. Display safety signs	F3. Manage waste
	F4. Interpret user manuals	F5. Administer first aid	F6. Sensitise workers on communicable and non-communicable diseases
	F7. Perform firefighting		

G. PERFORM ADMINISTRATIVE TASKS	G1. Develop ICT guidelines	G2. Develop strategic plans	G3. Manage human resources
	G4. Comply with policies and regulations	G5. Manage finances	G6. Market products
	G7. Keep records	G8. Procure supplies	

Additional Information

Related Knowledge & Skills

1. Programing
2. Computer hardware and software specifications
3. Web technologies
4. Computer networking
5. Software installations
6. Types of viruses
7. Encryption methods
8. Communication and interpersonal skills
9. Safety and health precautions
10. Operating a computer
11. ICT literacy
12. Basic calculus
13. Intellectual property rights
14. ICT policies and regulations
15. ICT Laws and ethics
16. Planning
17. Budgeting
18. Computer maintenance
19. Designing systems
20. Testing systems
21. Capturing data
22. Managing fraud
23. Editing data
24. Baking up data
25. Formatting data
26. Updating data
27. Creating files

Tools, Equipment and Materials

1. Computers
2. Software
3. Extract cables
4. Cameras
5. Portable storage media
6. Internet connectivity
7. Ethernet cables
8. Electricity
9. Hammer
10. Blower
11. RJ-45 connectors
12. Crimping tool
13. Screw driver
14. Slicers
15. Oscilloscope
16. Air conditioners
17. Firefighting equipment
18. Plyers
19. Anti-static wrist strap
20. Micro fibre cloth
21. Anti-static mat
22. Soft brushes
23. Hub
24. Switch
25. Router
26. Bridge
27. Gateway
28. Modem
29. Repeater
30. Access point
31. Multi-meter
32. Network cable tester
33. Uninterrupted power supply
34. Extension cable
35. Tape measure
36. Soldering gun
37. Soldering wire
38. Solder sucker
39. Driller
40. Tweezer
41. Spectrum analyser

Attitude / Traits / Behaviors

1. Smart
2. Punctual
3. Respectful
4. Hardworking
5. Honest
6. Organised
7. Responsible
8. Ethical
9. Duty consciousness
10. Disciplined
11. Safety conscious
12. Innovative
13. Caring
14. Accountable
15. Enthusiastic
16. Creative
17. Flexibility
18. Team player
19. Negotiation
20. Critical thinking and problem solving
21. Professionalism

Future Trends and concerns

1. Technological advancements
2. Use of lightening conductors
3. Unfavorable government policies
4. Ergonomics
5. E-waste management
6. Netiquette
7. Digital literacy
8. Ethical and legal practice
9. Multi-cultural awareness
10. Inclusiveness (Diversity)
11. Global citizenship
12. Peer 2 peer networks
13. Price fluctuations
14. Cyber crime
15. Viruses
16. Internet of things

2.0 ATP – PART II

Training Modules for an ICT PRACTITIONER

2.1   A curriculum is a "guide /plan for teaching and learning" which provides a guide to teachers, instructors and learners. In the envisaged system of competence-based or outcome-oriented education and training (CBET), Curricula are no longer the benchmark against which assessment is conducted. It is rather the Occupational Profile that provides the benchmark for Curriculum development as well as assessment.

2.2   This modular format of the curriculum allows learners of Information and Communication Technology (ICT) to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration allowing learners to move directly into an entry level job, do further modules and advance to higher levels of training. Modular courses allow more learners to access the training system because training centres, as well as companies can accommodate more learners in a given period of time.

2.3   The modules were reviewed jointly by both instructors and job practitioners. They were reviewed using the Occupational Profile as a reference point and taking into account the specifications of training and learning outcomes.

2.4   The modules contain "Learning-Working Assignments" (LWAs) and related "Practical Exercises" (PEXs) as key elements.

       LWAs are simulated or real job situations/assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment, LWAs are real work situations.

       PEXs are therefore sub-sets of a LWA.

2.5   In principle, and following the philosophy of Competence-Based Education and Training (CBET), the modules can be used as a guide for learning in a training Centre, at the workplace; or a combination of both.

WHO IS AN ICT PRACTITIONER QUALIFICATION LEVEL 1?

An ICT Practitioner (Level I): Is a person who uses basic computer applications to accomplish work assignments.

TRAINING MODULES FOR AN ICT PRACTITIONER UVQ LEVEL 1

Code	Module Title	Average duration	
		Contact hours	**Weeks**
UE/CAU/M1.1	Assemble Computer System	40	1
UE/CAU/M1.2	Maintain a Computer	80	2
UE/CAU/M1.3	Use Office Applications	480	12
UE/CAU/M1.4	Use the Internet/Web	80	2
UE/CAU/M1.5	Setup Computer Networks	120	3
UE/CAU/M1.6	Perform System Security	80	2
UE/CAU/M1.7	Perform Entrepreneurship Tasks	40	1
Summary	**7 Training Modules**	**920 hours**	**25 Weeks**

Note: Average duration is contact time but NOT calendar duration
It is assumed that:
- 1 day is equivalent to 8 hours of nominal learning and
- 1 month is equivalent to 160hours of nominal learning

Information given on the average duration of training should be understood as a guideline. Quick learners may need less time than indicated or vice versa.

At completion of a module, the learner should be able to satisfactorily perform the included Learning Working Assignments, their Practical exercises and attached theoretical instructions, as the minimum exposure.

Prior to summative assessment by recognised agencies, the users of these Modules Guides are encouraged to carefully consider continuous assessment using samples of (or similar) performance (practical) and written test items available in part 3 of this ATP.

Code	UE/CAU/M1.1
Module title	**M1.1: Assemble Computer System**
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (ICT PRACTITIONER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, a trainee shall be able to assemble a computer system.
Learning-Working Assignments (LWAs)	**LWA 1/1: Assemble Computer.** **LWA 1/2: Setup Computer System.** **LWA 1/3: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 1/1: Assemble Computer** PEX 1.1: Open systems case PEX 1.2: Install power supply PEX 1.3: Attach components to motherboard PEX 1.4: Install motherboard PEX 1.5: Install internal drives PEX 1.6: Install drives in external bay PEX 1.7: Install adapter cards PEX 1.8: Connect all internal cables PEX 1.9: Re-attach side panels PEX 1.10: Connect external cables PEX 1.11: Power computer
	LWA 1/2: Setup Computer System PEX 2.1: Connect computer peripherals PEX 2.2: Connect power cables PEX 2.3: Plug computer to a power source PEX 2.4: Boot computer system PEX 2.5: Check for minor computer startup failures PEX 2.6: Shutdown a computer system

	LWA 1/3: Perform Occupational Health, Safety and Environmental Protection Practices PEX 3.1: Setup workspace PEX 3.2: Interpret device manuals PEX 3.3: Perform earthing PEX 3.4: Wear protective gear PEX 3.5: Display safety signs PEX 3.6: Maintain personal hygiene PEX 3.7: Manage waste PEX 3.8: Perform firefighting PEX 3.9: Administer first aid
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be Performed and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • Tools and equipment usage • Occupational health and safety precautions • Computer peripherals • Computer components • Connecting peripherals to a system unit • Computer performance • Input and output connectors
Average duration of learning	40 hours (5 days) of nominal learning suggested to include: • *1 day of occupational theory and* • *4 days of occupational practice*
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training Centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	computer components, screw drivers, micro fiber cloth, soft brush, cable ties, antistatic, wrist strap, tweezer, first aid kit, personnel protective equipment

Minimum required materials and consumables or equivalent	storage media, paper, foam cleaner, markers
Special notes	

Code	UE/CAU/M1.2
Module title	**M1.2: Maintain Computer**
Related Qualification	Part of Uganda Vocational Qualification (ICT PRACTITIONER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to perform computer maintenance.
Learning-Working Assignments (LWAs)	**LWA 2/1: Perform Software installation** **LWA 2/2: Service computer system** **LWA 2/3: Troubleshoot computer system** **LWA 2/4: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 2/1: Perform Software Installation** PEX 1.1: Create bootable device PEX 1.2: Install operating system PEX 1.3: Install application software PEX 1.4: Upgrade operating system PEX 1.5: Configure software
	LWA 2/2: Service Computer System PEX 2.1: Disassemble computer PEX 2.2: Clean hardware components PEX 2.3: Assemble computer PEX 2.4: Update software on the computer system PEX 2.5: Partition drives PEX 2.6: Defragment disks PEX 2.7: Clear disks and application software PEX 2.8: Backup data on storage device PEX 2.9: Configure startup
	LWA 2/3: Troubleshoot Computer System PEX 3.1: Analyse computer system PEX 3.2: Replace faulty parts PEX 3.3: Rectify application error

	LWA 2/4: Perform Occupational Health, Safety and Environmental Protection Practices PEX 4.1: Maintain personal hygiene PEX 4.2: Manage waste PEX 4.3: Setup workspace PEX 4.4: Interpret device manuals PEX 4.5: Wear protective gear PEX 4.6: Display safety signs
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be performed and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • System beep and error codes and their interpretation • Internal and external computer hardware and their functionality • Operating/file systems • Utility software • Various models of system units • Tools and equipment usage • SOPs • Occupational health and safety precautions • Boot modes
Average duration of learning	80 hours (10 days) of nominal learning suggested to include: • *2 days of occupational theory and* • *8 days of occupational practice*
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.

14

Minimum required tools/ equipment/ implements or equivalent	screw drivers, micro fiber cloth, soft brush, cable ties, antistatic, multi-meter, soldering gun, cleaning towel, blower, bootable software kit basic office software and utilities toolkit, computer set, installation media, external drive
Minimum required materials and consumables or equivalent	paper, backup storage media, foam cleaner, thermal heat sink paste, ink, cartridges for printers, super-glue, WD-40 (water displacing formula 40 lubricant, degreaser, rust remover)
Special notes	None

Code	UE/CAU/M1.3
Module title	**M1.3: Use Office Applications**
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (ICT PRACTITIONER UVQ 1)
Qualification Level	1
Module purpose	After completion of this module, a trainee shall be able to enter, manipulate, present and print information using electronic office applications.
Learning-Working Assignments (LWAs)	**LWA 3/1: Manage Files and Folders** **LWA 3/2: Prepare Word Documents** **LWA 3/3: Prepare Power Point Presentation** **LWA 3/4: Prepare Microsoft Excel Spreadsheet** **LWA 3/5: Create Microsoft Access Database** **LWA 3/6: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** *1. The learning exercises may be repeated until the trainee acquires targeted competence;* *2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 3/1: Manage Files and Folders** PEX 1.1: Create folder PEX 1.2: Create file PEX 1.3: Save files into folders PEX 1.4: Rename folder PEX 1.5: Copy/cut folder PEX 1.6: Paste folder PEX 1.7: Delete folder PEX 1.8: Sort/search files and folders PEX 1.9: Familiarise with desktop PEX 1.10: Explore the computer
	LWA 3/2: Prepare Word Documents PEX 2.1: Create word document PEX 2.2: Save document PEX 2.3: Format document PEX 2.4: Edit document PEX 2.5: Review document PEX 2.6: Print document

	LWA 3/3: Prepare Power Point Presentation PEX 3.1: Create presentation PEX 3.2: Save presentation PEX 3.3: Format presentation PEX 3.4: Edit presentation PEX 3.5: Link slides to internal and external data PEX 3.6: Setup slideshow PEX 3.7: Print presentation PEX 3.8: Share presentation
	LWA 3/4: Prepare Microsoft Excel Spreadsheet PEX 4.1: Create workbook PEX 4.2: Save workbook PEX 4.3: Format data PEX 4.4: Work with spreadsheet functions PEX 4.5: Work with formulas PEX 4.6: Visualise data PEX 4.7: Print worksheet
	LWA 3/5: Create a Microsoft Access Database PEX 5.1: Design database PEX 5.2: Create database PEX 5.3: Save database PEX 5.4: Create forms PEX 5.5: Create and run queries PEX 5.6: Link external data PEX 5.7: Generate reports PEX 5.8: Print reports
	LWA 3/6: Perform Occupational Health, Safety and Environmental Protection Practices PEX 6.1: Maintain personal hygiene PEX 6.2: Manage waste PEX 6.3: Setup workspace PEX 6.4: Interpret device manuals PEX 6.5: Display safety signs PEX 6.6: Observe computer ergonomics
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be performed and demonstrated during LWAs and PEXs.
Pre-requisite modules	None

Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • Database principles (Primary key, Validation rules, Default values, Foreign keys, Data types, Memo) • Mail merge • Data and file linking • Slide master • Animations transition and various slide templates in Microsoft power point presentation • Basic statistical functions • Structured query language • Database models • Data integrity • Data manipulation • Document formatting • Treatment and behavior of different forms of data in formulas and functions • Securing of electronic office documents • English language proficiency • Methods of written communication • Occupational health, safety and environmental precautions • Devices and peripherals usage • Software installation
Average duration of learning	480 hours (60 days) of nominal learning suggested to include: • *5 days of occupational theory and* • *55 days of occupational practice*
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank
Minimum required tools/ equipment/ implements or equivalent	printer, scanner, photocopier, digital cameras, computer set, ergonomic tables and chairs, storage media, functional network, electronic power usage protectors, basic office software and utilities tool kit, power source,
Minimum required materials and consumables or equivalent	printing paper, printer tonner, mice and mice pads, keyboards,
Special notes	• Trainers should use windows operating systems and their applications.

ATP:Part II
[Training Modules]

	• Instructors and teachers should train candidates of these modules with real life data and documents like production of: (formal letters, circulars, Memos, tabulated data, vouchers, receipts, invoices)
	• Trainers are highly encouraged to deploy teaching methods that promote hands on skills acquisition and development like Think-pair share, gallery walks, jig show, fish bowl, demonstrations, problem and project based learning
	• Make use of several formative assessment strategies to ensure and enhance learning
	• Afford candidates enough time to practice on their own

Code	UE/CAU/M 1.4
Module title	**M1.4 Use the Internet/Web**
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (ICT PRACTITIONER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, a trainee shall be able to utilise the internet/web resources.
Learning-Working Assignments (LWAs)	**LWA 4/1: Use Browser** **LWA 4/2: Use Email Service** **LWA 4/3: Use Social Media** **LWA 4/4: Transfer Files** **LWA 4/5: Use Cloud** **LWA 4/6: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** *1. The learning exercises may be repeated until the trainee acquires targeted competence;* *2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 4/1: Use a Browser** PEX 1.1: Download browser PEX 1.2: Install browser PEX 1.3: Configure browser PEX 1.4: Browse web page PEX 1.5: Perform search with browser PEX 1.6: Install plugins PEX 1.7: Transfer files
	LWA 4/2: Use Email Service PEX 2.1: Create account PEX 2.2: Compose email PEX 2.3: Customise account PEX 2.4: Read email PEX 2.5: Manage address book

	LWA 4/3: Use Social Media PEX 3.1: Create an account PEX 3.2: Post content PEX 3.3: Advertise using social media PEX 3.4: Manage account
	LWA 4/4: Use Cloud PEX 4.1: Signup to cloud computing service PEX 4.2: Upload files PEX 4.3: Download files PEX 4.4: Share data
	LWA 4/5: Use an E-commerce Site PEX 5.1: Signup for an account PEX 5.2: Search items and add to cart PEX 5.3: Compare different markets
	LWA 4/6: Perform Occupational Health, Safety and Environmental Protection Practices PEX 6.1: Maintain personal hygiene PEX 6.2: Comply with ICT standards PEX 6.3: Setup workspace PEX 6.4: Interpret documentations PEX 6.5: Perform firefighting PEX 6.6: Display safety signs PEX 6.7: Observe ICT ethics PEX 6.8: Observe safe browsing behavior
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be Performed and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • Information security threats • Networking principles • Network protocols • Internet facility usage • Health and safety precautions • Web servers • Email severs

21

	• File servers • Web browsers
Average duration of learning	80 hours (10 days) of nominal learning suggested to include: • *2 days of occupational theory and* • *8 days of occupational practice*
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	printer, scanner, photocopier, computer set, ergonomic tables and chairs, storage media, functional network, electronic power usage protectors, basic office software and utilities tool kit, power source, internet facility
Minimum required materials and consumables or equivalent	printing paper, printer tonner, mice and mice pads, keyboards
Special notes	None

Code	UE/CAU/M 1.5
Module title	**M 1.5: Setup Computer Networks**
Related Qualification	Part of Uganda Vocational Qualification (ICT PRACTITIONER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, a trainee shall be able to create, test, use and configure a simple network.
Learning-Working Assignments (LWAs)	**LWA 5/1: Terminate Network Cable** **LWA 5/2: Connect Devices to Network** **LWA 5/3: Configure Local Area Network** **LWA 5/4: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** *1. The learning exercises may be repeated until the trainee acquires targeted competence;* *2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 5/1: Terminate Network Cable** PEX 1.1: Terminate straight through PEX 1.2: Terminate crossover PEX 1.3: Terminate a rollover
	LWA 5/2: Configure Wireless Local Area Network PEX 2.1: Set up wireless access point PEX 2.2: Connect nodes onto the network PEX 2.3: Configure IP addresses PEX 2.4: Transfer files from one PC to another
	LWA 5/3: Configure Wired Local Area Network PEX 3.1: Identify network devices PEX 3.2: Setup wired LAN with at least 3 nodes PEX 3.3: Configure IP addresses PEX 3.4: Transfer files from one PC to another
	LWA 5/4: Perform Occupational Health, Safety and Environmental Protection Practices PEX 4.1: Maintain personal hygiene PEX 4.2: Manage waste PEX 4.3: Setup workspace PEX 4.4: Interpret device manuals

	PEX 4.5: Wear protective gear
	PEX 4.6: Display safety signs
	PEX 4.7: Perform firefighting
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be Performed and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • Cable termination • Color coding used in terminating network cables • LANs and peer to peer networks • IP addressing • Communication media • Network topologies • Network architectures • Security and safety of networks • Command line interface • Networking devices and their uses
Average duration of learning	120 hours (15 days) of nominal learning suggested to include: • *3 days of occupational theory and* • *12 days of occupational practice*
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training Centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	router, switch, pliers, cable ties, cable testers, crimping tool, strippers, cutters, punch down tool, printer, scanner, photocopier, computer set, ergonomic tables and chairs, storage media, electronic power usage protectors, utilities tool kit, power source.
Minimum required materials and consumables or equivalent	ethernet cables, RJ54, internet, RJ45 sockets, the internet, printing paper, printer tonner, mice and mice pads, keyboards, cable color chart, cartridges,
Special notes	None

Code	UE/CAU/M 1.6
Module title	**M 1.6: Perform System Security**
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (ICT PRACTITIONER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, a trainee shall be able to protect information and system resources with respect to security services.
Learning-Working Assignments (LWAs)	**LWA 6/1: Protect Data from Unauthorised Access** **LWA 6/2: Protect Hardware from Physical Damage** **LWA 6/3: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** *1. The learning exercises may be repeated until the trainee acquires targeted competence;* *2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 6/1: Protect Data from Unauthorized Access** PEX 1.1: Identify possible threats and attacks PEX 1.2: Manage user accounts PEX 1.3: Install firewalls PEX 1.4: Perform system updates PEX 1.5: Install antiviruses PEX 1.6: Perform routine data backups
	LWA 6/2: Protect Hardware from Physical Damage PEX 2.1: Protect computer system from power surges PEX 2.2: Conduct fire drills. PEX 2.3: Replace worn out hardware parts
	LWA 6/3: Perform Occupational Health, Safety and Environmental Protection Practices PEX 3.1: Maintain personal hygiene PEX 3.2: Manage waste PEX 3.3: Setup workspace PEX 3.4: Interpret device manuals PEX 3.5: Wear protective gear PEX 3.6: Display safety signs

	PEX 3.7: Perform firefighting
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be Perform and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • Computer viruses and malware • Security threats and attacks (eavesdropping, surveillance, industrial espionage etc.) • Cybercrimes (identity theft, pharming, cracking, hacking, piracy, fraud, sabotage, data alteration, cyber stalking)
Average duration of learning	80 hours (10 days) of nominal learning suggested to include: • *2 days of occupational theory and* • *8 days of occupational practice*
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	Telephone set/mobile phone, computer, CCTV cameras, alarm systems, smart cards, computer padlocks, computer set, functional network, electronic power usage protectors, utilities tool kit, power source.
Minimum required materials and consumables or equivalent	antivirus, firewalls, anti spyware, password management software, internet, operating system, network management software
Special notes	None

Code	UE/CAU/M 1.7
Module title	**M 1.7: Establish Computer Service Enterprise**
Related Qualification	Part of Uganda Vocational Qualification (ICT PRACTITIONER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, a trainee will be able to perform basic book keeping, market builders, services and do basic pricing
Learning-Working Assignments (LWAs)	**LWA 7/1: Plan Computer Works** **LWA 7/2: Market Computer Services** **LWA 7/3: Carryout Basic Book Keeping** **LWA 7/4: Perform Administrative Tasks** **LWA 7/5: Perform Occupational Health, Safety and Environmental Protection Practices** ***Note:*** *1. The learning exercises may be repeated until the trainee acquires targeted competence;* *2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 7/1: Plan Computer Works** PEX 1.1: Carry out feasibility study PEX 1.2: Prepare budget PEX 1.3: Prepare production plan PEX 1.4: Prepare marketing plan PEX 1.5: Prepare procurement plan PEX 1.6: Prepare work schedules PEX 1.7: Prepare enterprise structural layout PEX 1.8: Determine business location **LWA 7/2: Market Computer Services** PEX 2.1: Promote computer services PEX 2.2: Brand computer services PEX 2.3: Price computer services PEX 2.4: Sell computer services PEX 2.5: Communicate with clients **LWA 7/3: Carryout Basic Book Keeping** PEX 3.1: Prepare system documentation PEX 3.2: Record computer services offered. PEX 3.3: Prepare financial records

27

	LWA 7/4: Perform Administrative Tasks
	PEX 4.1: Draft ICT guidelines
	PEX 4.2: Formalise business
	PEX 4.3: Manage finances
	PEX 4.4: Procure resources
	PEX 4.5: Manage human resources
	PEX 4.6: Communicate with stakeholders
	LWA 7/5: Perform Occupational Health, Safety and Environmental Protection Practices
	PEX 5.1: Maintain personal hygiene
	PEX 5.2: Manage waste
	PEX 5.3: Setup workspace
	PEX 5.4: Interpret device manuals
	PEX 5.5: Wear protective gear
	PEX 5.6: Display safety signs
	PEX 5.7: Perform firefighting
	PEX 5.8: Comply with regulations and policies
Occupational health and safety	Practices, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be performed and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	*For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:* • Types of records and record keeping • Marketing and promotional strategies • Business planning and management • Financial management • Business registration • Human resource management • Resource mobilisation • Taxation and legal obligations
Average duration of learning	40 hours (5 days) of nominal learning suggested to include: • *2 days of occupational theory and* • *3 days of occupational practice,*

Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	calculator, telephone set/mobile phone, stamp, computer, printer, photocopier
Minimum required materials and consumables or equivalent	pens, pencil, paper, rulers, fliers, brochures, banners, posters, business cards, receipt book, invoice.
Special notes	None

3.0 ATP- PART III

Assessment Instruments for an ICT PRACTITIONER

3.1   Assessment of occupational competence is the procedure by which evidence is gathered and judged to decide if an individual (candidate) has met the stipulated assessment standards.

3.2   Assessment of occupational competence should comprise of both practical (performance) testing and written (theory/knowledge) testing.

3.3   Based on the Occupational Profile and Training Modules, a combined panel of job practitioners and Instructors reviewed a substantial number of test items for assessing (practical) performance as well as items for assessing occupational knowledge (theory) all stored in an electronic Test Item Bank (TIB) at the Directorate of Industrial Training.

3.4   Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business enterprises. They comprise of a test assignment for candidates and assessment criteria and/or scoring guides for assessors' use.

3.5   Written Test items (WTI) for written testing of occupational theory, (knowledge) are presented in different forms which include:
- Short answer test items.
- Multiple choice test items
- Matching test items,

These WTIs herein focus on functional understanding as well as trouble-shooting typically synonymous with the world of work.

3.6   Composition of assessment/test papers will always require good choices of different types of WTI in order to ensure the assessment of relevant occupational knowledge required of candidates to exhibit competence.

3.7   The test items contained in the Test Item Bank may be used for continuous/ formative assessment during the process of training as well as for summative assessment of candidates who have acquired their competences non-formally or informally.

3.8   In this document, samples of test items for assessing both performance (practical) and occupational knowledge (theory) of a Computer Application User are included.

Overview of Test Item Samples Included

No	Type of test Items	Numbers included
1.	Written (theory) - short answer	2
2.	Written (theory) - multiple choice	2
3.	Written (Theory) - matching with generic	2
4.	Written (Theory) - work sequence	1
5.	Performance (Practical) test items	1
Total		8

WRITTEN TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 1			
Occupational Title:	ICT Practitioner			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C1			
Date of OP:	September 2020			
Related modules:	M1.6			
Time allocation:	2 minutes			

Test Item	List any three measures that can be taken to protect computers against physical damage.
Answer spaces	(i) ………………………………………. (ii) ………………………………………. (iii) ……………………………………
Expected key (answers)	(i) Use of standard furniture (ii) Use of proper earthing (iii) Use of well-ventilated rooms (iv) Use of insulated cables (v) Use of cable trunking (vi) Use of computer covers

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 2			
Occupational Title:	ICT Practitioner			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C1			
Date of OP:	September 2020			
Related modules:	M1.6			
Time allocation:	2 minutes			

Test Item	Write down any four computer security threats
Answer spaces	(i) ……………………………………………………. (ii) ……………………………………….………. (iii) ………………………………………………….. (iv) ………………………………………………………
Expected key (answers)	(i) Computer viruses (ii) Unauthorised access (iii) Hardware theft (iv) Software theft (v) System failure (vi) Information theft

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 3			
Occupational Title:	ICT Practitioner			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C2			
Date of OP:	September 2020			
Related modules:	M1.1			
Time allocation:	2 minutes			

Test Item	Which one of the following sets consists of only peripheral devices?
Distracters and correct answer	A. CPU, motherboard, mouse, flash disk. B. Mouse, printer, keyboard, speaker. C. Motherboard, system unit, printer, CPU. D. Flash disk, keyboard, CPU, system unit.

Key (answer)	B

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 4			
Occupational Title:	ICT Practitioner			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C1			
Date of OP:	September 2020			
Related modules:	M1.1			
Time allocation:	1 minute			

Test Item	……………….. Is an internal component of a computer.
Distracters and correct answer	A. Mouse B. RAM C. Keyboard D. Compact Disc

Key (answer)	B

DIT/QS	**Test Item Database** **Written (Theory) Test Item- no. 5**			
Occupational Title:	ICT Practitioner			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause-Effect	Work-sequence
		√		
Complexity level:	C2			
Date of OP:	September 2020			
Related Modules:	M1. 6			
Time allocation:	3 minutes			

Test Item	Match the following areas of computer security with their protective measures.

Column A (Security areas)	
1	Physical security
2	Data security
3	User safety
4	Electrical power security

Column B (Protective measures)	
A	Standard Furniture
B	Booting computers
C	Back up
D	Burglar proofing
E	Surge protector
F	Printer setup

Key (answer)	1: D, 2: C, 3: A, 4: E

DIT/QS	Test Item Database Written (Theory) Test Item- no. 6		
Occupational Title:	ICT Practitioner		
Competence level:	Level 1		
Code no.			
Test Item type:	Short answer		
	Multiple choice		
	Matching item	Generic	Cause-Effect	Work-sequence
		√		
Complexity level:	C2		
Date of OP:	September 2020		
Related Modules:	M1. 6		
Time allocation:	3 minutes		

Test Item	Match the following devices with their purposes.

Column A (Devices)	
1	Monitor
2	Hard drive
3	VGA Cable
4	Power Supply Unit

Column B (Purposes)	
A	Connects monitor to system unit
B	Converts AC to DC
C	Stores Data
D	Displays information
E	Produce hard copies
F	Connect computer to printer

Key (answer)	1:D, 2:C, 3:A, 4:B

DIT/QS	Test Item Database Written (Theory) Test Item- no. 7			
Occupational Title:	ICT Practitioner			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause-Effect	Work-sequence
				√
Complexity level:	C 2			
Date of OP:	September 2020			
Related Modules:	M1.3			
Time allocation:	4 minutes			

Test Item	Re-arrange the following steps taken when generating a printed report from a database in their chronological order.

Column A (chronology	Column B (work steps) in wrong chronological order	
1st	A	Modify data
2nd	B	Enter data
3rd	C	Open database application
4th	D	Print report
5th	E	Generate form
6th	F	Create tables
7th	G	Generate queries
8th	H	Generate report
9th	I	Link tables
10th	J	Create new database
11th	K	Create table properties

Key (answer)	1-C, 2-J, 3-F, 4-K, 5-I, 6-E, 7-B, 8-G, 9-A, 10-H, 11-D

PERFORMANCE TEST ITEMS (Samples)

DIT/ QS	Test Item Database Performance Test Item- no. 8
Occupational Title:	ICT Practitioner
Competence level:	Level 1
Code no.	
Test Item:	Set up a desktop computer, install windows 10 operating system, install office suite packages and make a peer to peer connection.
Complexity level:	C 2
Date of OP:	September 2020
Related modules:	M1.1, M1.2, M1.5
Related skills and knowledge:	Knowledge of disassembling and assembling computer systems, Operating system installation, networking
Required tools, Materials and Equipment:	Monitor, mouse, keyboard, bootable storage media, system unit, VGA cable, desktop power cable, UPS power backup, utility software.
Time allocation:	4 hours
Preferred venue:	Computer laboratory
Remarks for candidates	♦ Candidates should be in possession of the necessary personnel protective equipment
Remarks for assessors	♦ Provide candidates with all required resources. ♦ Ensure computers are compatible with windows 10 operating system

#	Assessment criteria	Scoring guide	Max. Score	
			Process	**Result**
1	Preparation before task	Cleaned work area		1
		Selected hardware components		3
		Assembled hardware components on desk/work area		1
2	Setting up of desktop computer system	Connected VGA cable to VGA port on the monitor	2	
		A firm VGA cable observed		1
		Connected VGA cable to VGA port on the system unit	2	

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
		Connected keyboard to the back end of the system unit	3	
		Connected mouse to the back end of the system unit	3	
		Connected power cable to the monitor	2	
		Connected power cable to system unit	2	
		Connected monitor to socket	2	
		Connected system unit to socket	2	
		Tested desktop system		2
		Bios display performed on monitor		3
3	Installation of windows 10 operating system	Connected bootable storage media device		2
		Booted computer system to the boot menu	4	
		Selected boot device	3	
		Pressed any key for booting possess to continue	2	
		Selected language to install	2	
		Selected time and currency format	3	
		Selected keyboard or input method	2	
		Clicked "Next" button	1	
		Clicked "Install now" button	1	
		Entered windows 10 key and clicked next	1	
		Checked "Accept" button	1	
		Clicked "Next" button	1	
		Clicked custom installation option	2	
		Partitioned hard disk	4	
		Selected primary partition	2	
		Clicked next	1	
		Rebooted computer	2	
		Created user account	2	
		Desktop performed		4
4	Installation of office packages	Inserted office package storage media in the computer		2
		Double clicked installer/ setup	2	

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
		Clicked next to all dialog boxes for completion	3	
		Home screen for every package performed		4
5	Setting up of a peer to peer connection (windows 10)	Created folder to be shared	2	
		Made folder shareable by everyone	3	
		Set permissions for shared folder	4	
		Navigated to advanced sharing setting	3	
		Allowed device to be discovered on the network	4	
		Device discoverable on the network		3
	Total		74	23
	TOTAL SCORE (Process + Result) 100%		**(X) x100** **97**	

4.0 ATP- PART IV

<u>INFORMATION ON DEVELOPMENT PROCESS</u>

4.1   Occupational Profile Development (September 2020)

The Occupational Profile was exclusively developed by job practitioners who were working in the ICT Practitioner occupation. The job expert panel, guided by DIT Facilitators defined duties and tasks performed and provided additional generic information regarding the occupation.

4.2   Training Module Development (September 2020)

Based on the <u>Occupational Profile</u> for ICT Practitioner of September 2020, Training Modules were developed by job practitioners, guided by DIT Facilitators.

4.3   Test Item Development (September 2020)

Based on the <u>Occupational Profile</u> for ICT Practitioner of September 2020, and Training Modules, Test Items were developed by combined panels of instructors and job practitioners, guided by DIT Facilitators.

4.4   Quality check (February 2021)

The quality checking panel comprised of a team with exceptional technical expertise and experience as job practitioners, lecturers and national curriculum development specialist.

4.5   The rationale for the Assessment and Training Package development was to link Vocational Education and Training to the real world of work by bridging Occupational Standards to Training Standards through industry-led Standards-Based Assessment.

Active participation of both instructors and job practitioners' panels consolidated the development philosophy.

The panelists worked as teams in workshop settings complemented by off-workshop field research and literature review activities including international benchmarking.

4.5   Development Panel

The participating panels of Job Practitioners required at different stages were constituted by members from the following organisations:

	Name	Institution/ Organisation
1.	Asiimwe Paddy Junior	Makerere University
2.	Bazira Sseggwanyi Paul	Seeta High School
3.	Bwambale Joram	St. Mary's College Kisubi
4.	Walimbwa W. Benjamin	Kings College Buddo
5.	Catherine Namuyiga Salasamba	Mengo Senior School
6.	Matovu K. David	Uganda Collage of Commerce - UCC, Tororo
7.	Tumwine David	Uganda Collage of Commerce - UCC-Kabale
8.	Mugabo Israel	Airtel Uganda
9.	Musoke Wilberforce	Uganda National Examination Board - UNEB
10.	Ddamulira Stephen Kateeba	Uganda National Examination Board - UNEB
11.	Tuhame Moses. K	National Curriculum Development Centre – NCDC
12.	Kusaasira Joshua	Andela Uganda
13.	Dennis Kibiye	IPLINK Consults
14.	Jjuuko Titus Bazira	Neriko Electronics
15.	Businge Stephen Kateeba	Ntinda VTI
16.	Taremwa James Mark	Triangle Geomatics LTD
17.	Barnis Arinda Drago	Summit Brothers LTD

4.6   Facilitator team

This Assessment and Training Package was developed by a Facilitator team listed below:
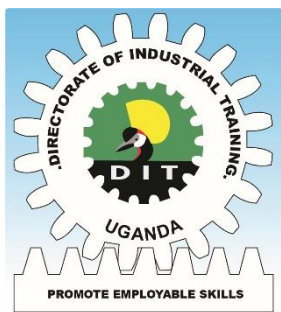
1. **Team Leader**:   Ms. Mukyala Ruth Ag. Deputy Director/QS Department, DIT

2. **Facilitator:**   Mr. Mwesigwa Isaac,

3. **DIT Data Entrants:** Ms. Naava Esther

                             Mr. Ntabuzi Peter

                             Mr. Mirondo Edward

4. **Compiled by:**   Ms. Naava Esther, Mr Masolo Joshua, Mr. Ntabuzi

                             Peter Mirondo Data Entrant DIT.

5. **Edited by:**   Ms. Mukyala Ruth Ag. Deputy Director/QS Department, DIT

6. **Coordinated by**:   Mr. Byakatonda Patrick, Ag. Director, DIT;

4.7   Time of Reference:

This Assessment and Training Package was developed in September 2020 and quality checked in February 2021. It may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

References:

TEXT BOOK	AUTHOR
An Introduction to Computer Networks Second Edition	Peter Lars Dordal
Generating and e-mailing feedback to students using MS Office.	Denton, P.
Building a Foundation with Microsoft Office 2019 & 365	Alec Fehl, Alex Scott, Ben Linford, and Ian Ewell
Microsoft Office 2019 Inside Out	Joe Habraken
Laptop Repair Complete Guide; Including Motherboard Component Level Repair Instructions	Garry Romaneo
An Introduction to Troubleshooting and Repairing Laptop Computers	Morris Rosenthal