National Technical and Vocational Qualification Framework

N T V Q F

Competency Standards
For
Computer Operation
NTVQ, Level 1- 2

Bangladesh Technical Education Board

Agargoan, Sher-E-Bangla Nagar
Dhaka-1207

Table of Contents

Introduction

The Technical and Vocational Education and Training (TVET) sector in Bangladesh is now implementing the reform initiatives to strengthen training, assessment and certification. One of the reforms is developing Competency Standards that responds to the needs of the industry both local and international. Strategies include using the existing international standards from Australia and New Zealand, as bases for developing the CS and contextualize it in the Bangladesh context.

Competency Standards are nationally agreed and industry-determined competencies required for effective work performance. These are presented in a consistent format following sequence such as:

- Unit Title
- Unit Code
- Nominal Hours
- Unit descriptor
- Elements and performance criteria
- Range of Variables
- Evidence Guide

The Competency Standards are the core element for training, assessment and certification of skilled workers. Candidates who are successful in the assessment will receive a qualification in the National Technical and Vocational Qualification Framework (NTVQF).

This document contains Course structures for each qualification. This structure contains the Unit code, unit title and nominal hours for the competencies.

The Competency Standards for Computer Operation were developed by the Technical Sub Committee (TSC) that was established under the Industry Skills Council for Information Technology (ISCIT). The members are primarily from industry with representatives from the Bangladesh Technical Education Board (BTEB) and the Directorate of Technical Education (DTE), Workers Association, and Training Institutions involved in this occupation. The Standards and Curriculum Development Committee (SCDC) of BTEB reviewed this document.

The development of Competency Standards was assisted by the Bangladesh Technical Education Board (BTEB) funded by BTEB. The BTEB is being implemented in cooperation with the DTE Government of Bangladesh.

Endorsed by   Approved by:
Industry Skills Council   Bangladesh Technical Education Board
Date: (BTEB)
                                                Date:

Bangladesh NTVQF with Job Classifications

NTVQF LEVELS	EDUCATION SECTORS			Job Classification
	Pre-Vocation Education	Vocational Education	Technical Education	
NTVQF 6			Diploma in engineering or equivalent	Middle Level Manager /Sub Assistant Engr. etc.
NTVQF 5		National Skill Certificate 5 (NSC 5)		Highly Skilled Worker / Supervisor
NTVQF 4		National Skill Certificate 4 (NSC 4)		Skilled Worker
NTVQF 3		National Skill Certificate 3 (NSC3)		Semi-Skilled Worker
NTVQF 2		National Skill Certificate 2 (NSC 2)		Medium-Skilled Worker
NTVQF 1		National Skill Certificate 1 (NSC 1)		Basic Skilled Worker
Pre-Voc 2	National Pre-Vocation Certificate NPVC 2			Pre-Vocation Trainee
Pre-Voc 1	National Pre-Vocation Certificate 1 NPVC 1			Pre-Vocation Trainee

The pre-vocational levels prepare the participant for training while learning programs at the various levels of the NTVQF prepare the participant for the workforce.
At the completion of the pre-vocational programs the participants would move into training programs at the NTVQF levels.

NTVQF Level Descriptors

NTVQF Level	Knowledge	Skill	Responsibility	Job Class.
6	• Comprehensive actual and theoretical knowledge within a specific study area with an awareness of the limits of that knowledge.	• Specialised and restricted range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems	• Manage a team or teams in workplace activities where there is unpredictable change • Identify and design learning programs to develop performance of team members	Supervisor / Middle Level Manager /Sub Assistant Engr. etc.
5	• Very broad knowledge of the underlying, concepts, principles, and processes in a specific study area	• Very broad range of cognitive and practical skills required to generate solutions to specific problems in one or more study areas.	• Take overall responsibility for completion of tasks in work or study • Apply past experiences in solving similar problems	Highly Skilled Worker / Supervisor
4	• Broad knowledge of the underlying, concepts, principles, and processes in a specific study area	• Range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information	• Take responsibility, within reason, for completion of tasks in work or study • Apply past experiences in solving similar problems	Skilled Worker
3	• Moderately broad knowledge in a specific study area.	• Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	• Work or study under supervision with some autonomy	Semi-Skilled Worker
2	• Basic underpinning knowledge in a specific study area.	• Basic skills required to carry out simple tasks	• Work or study under indirect supervision in a structured context	Medium Skilled Worker
1	• Elementary understanding of the underpinning knowledge in a specific study area.	• Limited range of skills required to carry out simple tasks	• Work or study under direct supervision in a structured context	Basic Skilled Worker
Pre-Voc 2	• Limited general knowledge	• Very limited range of skills and use of tools required to carry out simple tasks	• Work or study under direct supervision in a well-defined, structured context.	Pre-Vocation Trainee
Pre-Voc 1	• Extremely limited general knowledge	• Minimal range of skills required to carry out simple tasks	• Simple work or study exercises, under direct supervision in a clear, well defined structured context	Pre-Vocation Trainee

National Competency Standards for Computer Operation (NTVQF Level 1 - 2)

S. No.	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic – Compulsory (2 UoCs required)				**100**
1	GN1002A1	Apply OSH practices in the workplace	1	30
2	GN2003A1	Use English in the workplace	2	70
Sector Specific – Compulsory (3 UoCs required)				**160**
3	ITSS1010A1	Operate a Computer and allied devices	1	40
4	ITSS1008A1	Type Text and Documents in English and Bangla	1	90
5	ITSS1007A1	Use Internet	1	30
Occupation Specific – Compulsory (8 UoCs required)				**450**
6	ITCO1011A1	Operate Word Processing Application	1	100
7	ITCO1012A1	Operate Spreadsheet Application	1	70
8	ITCO1013A1	Operate Presentation Package	1	60
9	ITCO2014A1	Create Database and customize settings	2	60
10	ITCO2015A1	Retrieve Database Information	2	50
11	ITCO2016A1	Create forms of the database	2	40
12	ITCO2017A1	Generate database reports	2	50
13	ITCO2018A1	Test and use database	2	20
		Total Nominal Learning Hours		710

Course Structure
for
National Skills Certificate in Computer Operation
(NTVQF Level 1)

S. No.	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic – Compulsory (2 UoCs required)				**30**
1	GN1002A1	Apply OSH practices in the workplace	1	30
Sector Specific – Compulsory (5 UoCs required)				**160**
2	ITSS1010A1	Operate a Computer and allied devices	1	40
3	ITSS1008A1	Type Text and Documents in English and Bangla	1	90
4	ITSS1007A1	Use Internet	1	30
Occupation Specific – Compulsory (7 UoCs required)				**230**
5	ITCO1011A1	Operate Word Processing Application	1	100
6	ITCO1012A1	Operate Spreadsheet Application	1	70
7	ITCO1013A1	Operate Presentation Application	1	60
On-the job training				160
Total Nominal Learning Hours				580

Course Structure
for
National Skills Certificate in Computer Operation
(NTVQF Level 2)

S. No.	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic – Compulsory (3 UoCs required)				**70**
1	GN2003A1	Use English in the workplace	2	70
Occupation Specific – Compulsory (22 UoCs required)				**220**
2	ITCO1014A1	Design Database Table and customize settings	2	60
3	ITCO1015A1	Create forms of the database	2	40
4	ITCO1016A1	Retrieve Database Information	2	50
5	ITCO1017A1	Generate database reports	2	50
6	ITCO1018A1	Test and use database	2	20
On- the job training				216
Total Nominal Learning Hours				290

List of Abbreviations used in this Competency Standard.

General

BTEB – Bangladesh Technical Education Board
DTE – Directorate of Technical Education
ISC – Industry Skills Council
NPVC – National Pre-Vocation Certificate
NTVQF – National Technical and Vocational Qualification Framework
SAARC – South Asian Association for Regional Cooperation
SCDC – Standards and Curriculum Development Committee
TVET – Technical and Vocational Education and Training
UoC – Unit of Competency
TSC – Technical Sub Committee
CO – Computer Operation
IT – Information Technology

Occupation Specific Abbreviations

OSH – Occupational Safety and Health
PPE – Personal Protective Equipment

GENERIC UNITS

Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	GN1002A1: Apply OSH practices in the workplace
Nominal Hours	30 hours
Unit Descriptor	This unit covers the knowledge, skills and attitude required to identify and apply OSH in the workplace. This also covers identifying, controlling and reporting OSH hazards, conducting of work in a safe manner, following emergency response procedure and maintaining and improving health and safety in the workplace.
Elements of Competency	**Performance Criteria** **Bold and Italicized** terms are elaborated in the Range of Variable Training Components
1. Identify, control and report OSH hazards	1.1 Immediate work area is routinely checked for OSH hazards prior to commencing and during work. 1.2 **Hazards** and unacceptable performance are identified and corrective action is taken within the level of responsibility. 1.3 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.4 Safety Signs and symbols are identified and followed
2. Conduct work safely	2.1. Apply OSH practices in the workplace. 2.2. Appropriate **personal protective equipment (PPE)** is selected and worn.
3. Follow emergency response procedures	3.1. Emergency situations are identified and reported according to workplace reporting requirements. 3.2. Emergency procedures are followed as appropriate to the nature of the emergency and according to workplace procedures. 3.3. **Workplace procedures** for dealing with accidents, fires and emergencies are followed whenever necessary within scope of responsibilities.
4. Maintain and improve health and safety in the work place	4.1 Risks are identified and appropriate control measures are implemented in the work area. 4.2 Recommendations arising from risk assessments are implemented within level of responsibility. 4.3 Opportunities for improving OSH performance are identified and raised with relevant personnel. 4.4 Safety records according to **company policies** are maintained.

Range of Variables	
Variable	**Range** (May include but not limited to)
1. Company policies	1.1. Job-related Standard Operating Procedures (SOPs) and OSH-specific procedures. Examples of OSH procedures include consultation and participation, emergency response, response to specific hazards, incident investigation, risk assessment, reporting arrangements and issue resolution procedures
2. Workplace procedures	2.1. OSH system and related documentation including policies and procedures 2.2. Standard Operating Procedures (SOPs) 2.3. information on hazards and the work process, hazard alerts, safety signs and symbols 2.4. Labels 2.5. Material Safety Data Sheets (MSDSs) and manufacturers' advice.
3. Hazards	3.1 OSH incidents include near misses, injuries, illnesses and property damage, noise, handling hazardous substances, other hazards 3.2 Working with and near moving equipment/load shifting equipment 4.3 Broken or damaged equipment or materials
4. Personal Protective equipment	4.1 Goggles 4.2 ear muffs 4.3 ear plugs 4.4 Gloves 4.5 Clothing 4.6 Apron 4.7 Helmet 4.8 Boots
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate 1.1 Identified, controlled and reported OSH hazards 1.2 Followed work safety. 1.3 Followed emergency response procedures. 1.4 Maintained and improved health and safety in the workplace.
2. Underpinning knowledge	2.1. Personal protective equipment - Hand gloves, safety shoes, safety goggles, masks, apron, 2.2. Identification of tools and equipment 2.3. Hazardous events 2.4. Tools, equipment, machinery and relevant accessories.

	2.5. Communication
	2.6. Job roles, responsibilities and compliance
	2.7. Workplace laws
3. Underpinning skill	3.1. Ability to use the appropriate PPE.
	3.2. Ability to identify tools and equipment.
	3.3. Ability to quick response and to take safety precautions for different hazardous situations.
	3.4. Ability to operate and use tools, equipment, machinery and accessories properly as per SOP (Company standards).
	3.5. Ability to communicate with peers and supervisors.
	3.6. Ability to apply in the workplace.
4. Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties
	4.4 Environmental concerns
	4.5 Eagerness to learn
	4.6 Tidiness and timeliness
	4.7 Respect for rights of peers and seniors in workplace
	4.8 Communication with peers, sub-ordinates and seniors in workplace
5. Resource implication	The following resources must be provided:
	5.1 Tools, equipment and physical facilities appropriate to perform activities.
	5.2 Materials, consumables to perform activities.
6. Methods of assessment	6.1 Demonstration with oral questioning
	6.2 Direct observation
	6.3 Written test
	6.4 Portfolio
	6.5 Log book
7. Context of assessment	7.1 Competencies may be assessed in the work place or a simulated work place

Accreditation Requirements
Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	GN2003A1: Use English in the workplace
Nominal Hours	70 hours
Unit Descriptor	This unit specifies the competency required to able to read, write and understand basic English in the workplace.
Elements of Competency	Performance Criteria *Bold and Italicized* terms are elaborated in the Range of Variable Training Components
1. Read and understand workplace documents in English	1.1 *Workplace documents* are read and understood. 1.2 *Visual information* is interpreted.
2. Write simple routine workplace documents in English	2.1 Simple routine workplace documents are prepared using key words, phrases, simple sentences and visual aids where appropriate. 2.2 Key information is written in the appropriate places in standard forms.
3. Listen to conversation in English	3.1 Active listening in English language is demonstrated to the required workplace standard.
4. Perform conversation in English	4.1 Conversation is performed in English with peers, customers and management to the required workplace standard.
Range of Variables	
Variable	Range may include but are not limited to
1. Workplace documents	1.1 Schedules and itineraries 1.2 Agenda 1.3 Simple reports such as progress and incident reports 1.4 Job sheets 1.5 Operational manuals 1.6 Brochures and promotional material 1.7 Visual and graphic materials 1.8 Standards 1.9 OSH information
2. Visual information	2.1. Signs 2.2. Maps 2.3. Diagrams 2.4. Forms 2.5. Labels 2.6. Graphs 2.7. Charts

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	The assessment required evidence that the candidate
	1.1 used basic English in the workplace
	1.2 read and understood workplace documents in English
	1.3 constructed simple routine workplace documents in English
	1.4 listened to conversation in English
	1.5 communicated with peers, customers and management using English to the required workplace standard
2. Underpinning knowledge	2.1. Read workplace documents in English
	2.2. Write simple routine workplace documents in English
	2.3. Listen to conversation in English
	2.4. Perform conversation in English
	2.5. Interaction skills (i.e., teamwork, interpersonal skills, etc.)
	2.6. Job roles, responsibilities and compliances
3. Underpinning skill	3.1. Ability to read and understand workplace documents in English, using appropriate vocabulary and grammar, and standard spelling and punctuation.
	3.2. Ability to write simple routine workplace documents in English, such as: Schedules and agendas, job sheets, operational manuals and brochures, and promotional material.
	3.3. Ability in active listening in English language is demonstrated to the required workplace standard.
	3.4. Ability to perform conversation in English with peers, customers and management, to the required workplace standard.

	3.5. Work effectively with others:
	  o listening and questioning skills
	  o ability to follow simple directions

4. Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties
	4.4 Environmental concerns
	4.5 Eagerness to learn
	4.6 Tidiness and timeliness
	4.7 Respect for rights of peers and seniors in workplace

		4.8	Communication with peers, sub-ordinates and seniors in workplace
5.	Resource implication	The following resources must be provided:	
		5.1	Tools, equipment and physical facilities appropriate to perform activities.
		5.2	Materials, consumables needed to perform activities.
6.	Methods of assessment	6.1	Demonstration with oral questioning
		6.2	Direct observation
		6.3	Written test
		6.4	Portfolio
		6.5	Log book
7.	Context of assessment	7.1	Competencies may be assessed in the work place or a simulated work place

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SECTOR SPECIFIC UNITS

Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITSS1010A1: Operate a Computer and allied devices
Nominal Hours	40 hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to operate a personal computer, Use word processor to create documents, use common spread sheets, create presentation using office applications, save works and print documents.
Elements of Competency	Performance Criteria *Italicized* terms are elaborated in the Range of Variable Training Components
1. Follow OSH practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Start up a Computer	2.1 *Peripherals* are checked and connected with system unit 2.2 Power cords / adapter are connected properly with computer and power outlets socket 2.3 Computer is switched on gently. 2.4 PC *desktop / GUI settings* are arranged and customized as per requirement.
3. Perform basic setting	3.1 Power option properties are changed as appropriate 3.2 Non responding application terminated as specified 3.3 System information, operating system & version, date & time display system, color settings and available RAM are identified and changed as specified 3.4 Keyboard language set according to the instructions 3.5 Fonts are installed following standard procedures 3.6 Screen resolution are changed as requirement
4. Operate computer	4.1 Files and folders are created 4.2 Files and folders are *manipulated* as per requirement. 4.3 Properties of files and folders are viewed and searched. 4.4 *Storage devices* are scanned using antivirus software 4.5 Control panel settings are practiced 4.6 *Storage devices* are formatted as per requirement. 4.7 Storage devices are defragmented as per standard Procedure 4.8 Backups are taken as required 4.8 Password is used and changed
5. Manage custom and antivirus software	5.1 Custom and antivirus software are installed properly 5.2 Drives, folders and files are scanned using current version of software 5.3 Scanning software or virus definition are updated Regularly

6. Manage Printer and Printer settings	6.1 Printers are installed on computer according to manufacturer's instruction.
	6.2 Document Printed from an application
	6.3 Print paused, restarted or cancelled using print manager
7. Shutdown computer.	7.1 unsaved file and folders are closed
	7.2 Open software is closed and hardware devices are switched off.
	7.3 Computer is switched off gently
	7.4 Power at the respective power outlets is switched off.

Range of Variables

Variable	**Range** (May include but not limited to:)
1. Peripherals	1.1 Monitor
	1.2 Keyboard
	1.3 Mouse
	1.4 Modem
	1.5 Scanner
	1.6 Printer
2. D**esktop settings**	2.1. Icons
	2.2. Taskbar
	2.3. View
	2.4. Resolutions
3. Storage devices	3.1 Hard drive
	3.2 Flash drive
	3.3 Flash memory
4. *Manipulated*	4.1 opened
	4.2 copied
	4.3 renamed
	4.4 deleted
	4.5 sorted

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment required evidence that the candidate
	1.1 Started Computer gently
	1.2 Arranged and customized *Desktop settings* are as per requirement.
	1.3 Created, opened, copied, renamed, deleted and sorted files and folders as per requirement.
	1.4 Formatted *Memory devices*
2. Underpinning knowledge	2.1 System Unit,
	2.2 Peripherals
	2.3 Operating system
	2.4 Desktop items
	2.5 Control panel
	2.6 File and folders
	2.7 Type of storage devices

		2.8	Antivirus
		2.9	Use of Password
3	Underpinning skill	3.1	Start computer
		3.2	Navigate to desktop
		3.3	Manage desktop icons
		3.4	Manipulate files and folders
4	Required attitude	4.1	Commitment to occupational health and safety
		4.2	Promptness in carrying out activities
		4.3	Sincere and honest to duties
		4.4	Environmental concerns
		4.5	Eagerness to learn
		4.6	Tidiness and timeliness
		4.7	Respect for rights of peers and seniors in workplace
		4.8	Communicate effectively with peers, sub-ordinates and seniors in workplace
5	Resource implication	**Following Resources must be provided-**	
		5.1	Relevant tools, Equipment, software and facilities needed to perform the activities.
		5.2	Required learning materials.
6	Methods of assessment	6.1	Written test.
		6.2	Demonstration
		6.3	Oral questioning
		6.4	**Portfolio**
7	Context of assessment	7.1	Competencies may be assessed in the work place or a simulated work place environment.

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITSS1008A1: Type text and documents in English and Bangla.
Nominal Hours	**90 hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to type text and documents systematically both in English and Bangla
Elements of Competency	**Performance Criteria** ***Italicized*** terms are elaborated in the Range of Variable Training Components
1. Follow OSH practices	1.1 Safe work practices are observed according to workplace procedures. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures.
2. Install the Typing Tutor software	2.1. Required ***Hardware*** and ***software*** are ready to use. 2.2. Typing tutor software are collected and selected 2.3. English Typing tutor software is installed. 2.4. Specialized Bangla Typing tutor software is installed
3.Practice text typing in English and Bangla	3.1 Typing tutor software is started. 3.2 English Home key drilling are practiced systematically 3.3 Intermediate level typing speed(30 cpm) are Achieved by repetitive practice. 3.4 Specialized Bangla Typing tutor / software are installed. 3.5 Bangla Home key typing are practiced systematically 3.6 Text documents are typed repeatedly for increasing typing speed up to 20 cpm
4. Type documents	4.1 ***Word processor*** is started. 4.2 Text document are typed. 4.3 Intermediate level typing speed (30 cpm) in English and (20 cpm) in Bangla are achieved.
Range of Variables	
Variable	**Range** (May include but not limited to)
1.Hardware	1.1 Computer 1.2 Keyboard 1.3 Mouse
2. Software	2.1. Operating System 2.2. Anti-virus Software 2.3. Microsoft Office 2.4. Open Office 2.5. Typing Tutor 2.6. Bangla Typing Software 2.7. Google docs

3. Common Keyboard layouts	3.1 Avro 3.2 Bijoy 3.3 Nikosh
4.Word processor	4.1 Notepad 4.2 WordPad 4.3 MS word

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment required evidence that the candidate 1.1 Performed Intermediate level typing speed (30 cps) in English and (20 cps) in Bangla are achieved
2. Underpinning knowledge	2.1 Computer operation 2.2 Type of type tutor 2.3 Position of home keys 2.4 keyboard layout
3. Underpinning skill	3.1 Start and enter PC to work 3.2 Identify keys for typing systematically 3.3 Using Typing tutor
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers, sub-ordinates and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Hardware and software tools and physical facilities appropriate to perform activities. 5.2 Learning Materials, consumables needed to perform activities.
6. Methods of assessment	6.1 Written test 6.2 Demonstration 6.3 Oral questioning
7. Context of assessment	Competencies may be assessed in the work place or a simulated work place.

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITSS1007A1: Use Internet
Nominal Hours	30 hours
Unit Descriptor	This unit covers the Knowledge, skills and attitude required to access information using internet, Use internet to search, find and manage resources as well as use electronic mail for information transfer effectively.
Elements of Competency	**Performance Criteria** *Italicized* terms are elaborated in the Range of Variable.
1. Access resources from internet	1.1 Appropriate internet *browsers* are selected and installed. *1.2* Internet browser is opened and web address / URL is written/selected in /from address bar to access *information.* 1.3 *Search engines* are used to access information 1.4 Video / Information are shared /downloaded / uploaded from / to web site/*social media.* 1.5 *Web based resources* are used. 1.6 Cookies and malware are managed 1.7 *Netiquette*' (or web etiquette) principles are searched and followed. 1.8 *ICT rules and regulations* are followed
2. Use and manage Electronic mail	2.1. *Email services* are identified and selected to create a new email address 2.2. Email account is created. 2.3. Document is prepared, attached and sent to different types of recipient. 2.4. Email is read, forwarded, replied and deleted as per requirement. *2.5.* Custom email folders are created and *manipulated.* *2.6.* Email message is printed.
3.Use Internet apps services.	*3.1* *Apps* are identified *3.2* *Google apps* are identified *3.3* Apps are accessed *3.4* Apps services are taken and used

Range of Variables	
Variable	**Range** (May include but not limited to:)
1. Browsers	1.1 Mozilla Firefox 1.2 Google chrome 1.3 Internet explorer 1.4 Opera 1.5 Safari
2. Information	2.1. Text information 2.2. Graphics 2.3. Video 2.4. Audio 2.5. Image
3. Search engines	3.1. Google 3.2. Yahoo 3.3. AltaVista 3.4. Msn 3.5. Bing
4. Social media.	4.1 Face book 4.2 Twitter 4.3 LinkedIn 4.4 YouTube 4.5 Messenger 4.6 Skype
5. Web based services	5.1 Drive 5.2 Calendar 5.3 Map 5.4 Translator 5.5 Docs 5.6 Search
6. Electronic messaging services	6.1 Public domain -Gmail, Yahoo, Hotmail, 6.2 Private domain-Web mail services.
7. Manipulated	7.1 Delete 7.2 Copy 7.3 Move 7.4 Sort 7.5 Archive
8.Apps services	8.1 Google apps 8.2 Yahoo services

9.Google apps	9.1 Gmail
	9.2 Google+
	9.3 Drive
	9.4 Calendar
	9.5 Translate
	9.6 Maps
	9.7 My account
	9.8 Search
	9.9 Docs
	9.10 Blogger
	9.11 Photos

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment required evidence that the candidate
	1.1 Downloaded / uploaded Video / Information from / to web site
	1.2 Prepared, attached and sent documents to different types of recipient.
2. Underpinning knowledge	2.1 Internet
	2.2 www
	2.3 Domain
	2.4 website
	2.5 web address
	2.6 URL
	2.7 Web browsers
	2.8 Search engines
	2.9 Social media
	2.10 Web based services
	2.11 Folder manipulation
	2.12 Cookies and malware
	2.13 Phishing
	2.14 Firewall
	2.15 Copyright act-2005
	2.16 National Cyber policy
	2.17 Intellectual property Rights law and their subsequent amendment
3. Underpinning skill	3.1 Access and share resources from internet
	3.2 Download /upload file, documents and video from /to web sites
	3.3 Send and receive mail through mail service.
4. Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties

		4.4	Environmental concerns
		4.5	Eagerness to learn
		4.6	Tidiness and timeliness
		4.7	Respect for rights of peers and seniors in workplace
		4.8	Communication with peers, sub-ordinates and seniors in workplace
5	Resource implication	**Following Resources must be provided-**	
		5.1	Relevant tools, Equipment, software and facilities needed to perform the activities.
		5.2	Required learning materials.
6	Methods of assessment	6.1	Written test
		6.2	Demonstration
		6.3	Oral questioning
		6.4	Portfolio
7	Context of assessment	7.1	Competencies may be assessed in the work place or a simulated work place

Accreditation Requirements

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Occupational Specific Competencies

Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	**ITCO1011A1: Operate Word Processing Application**
Nominal Hours	**100 hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to Create documents, Customize basic settings to meet page layout conventions, Format documents, create tables, Add images, print documents and save works using word-processing application package.
Elements of Competency	**Performance Criteria** ***Bold and Italicized*** terms are elaborated in the Range of Variable
1. Apply OHS practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Create documents	2.1 ***Word-processing application*** are opened 2.2 ***Documents*** are created 2.3 Text and data are added according to information requirements 2.4 Document templates used as required. 2.5 Formatting tools are used when creating the document 2.6 Documents are saved to directory
3. Customize basic settings to meet page layout conventions	3.1 Page layout are adjusted to meet information requirements 3.2 Different toolbars are opened and viewed 3.3 ***Font format*** are changed to suit the purpose of the document 3.4 ***Alignment*** and line spacing are changed according to document requirements 3.5 Margins are modified to suit the purpose of the document 3.6 Documents are opened and switched as per requirements
4. Format documents	4.1 Formatting features and styles are used as per requirement 4.2 Text are highlighted and copied from other area in the document or from another active document 4.3 Headers and footers are inserted to incorporate necessary data 4.4 Documents in other ***file format*** are saved. 4.5 Documents to ***storage device*** are saved and closed
5. Create tables	5.1 Standard table into document are iinserted 5.2 Cells are spited and /or merged to meet the information requirements 5.3 Columns and rows are inserted,deleted and modified as necessary 5.4 Text are inserted into the table 5.5 Data is ***handled*** as required 5.6 Formatting tools are used according to style requirements
6. Add Illustrations	6.1 appropriate ***Illustrations*** into document are insert and customized as necessary

	6.2 Images are ppositioned and resized according to the document formatting requirements
7.Perform mail merge operation	7.1 Sender and recipients are determined 7.2 Preparatory steps for mail merge is followed 7.3. Recipients for mail merge are added 7.4 Mail merge operation is performed 7.5 Mail is sent
8.Create references	8.1 Footnote, end note, citation are planed 8.2 Footnote and endnote are created 8.3 Citation is created
9.Print information and Shutdown computer.	9.1 *Printer* is connected with computer and power outlet properly. 9.2 Power is switched on at both the power outlet and printer. 9.3 Printer is installed and added. 9.4 Correct printer settings are selected and document is printed 9.5 Print from the printer spool is viewed or cancelled 9.6 Unsaved data is saved as per requirements. 9.7 Open software is closed and computer hardware devices are shut downed. 9.8 Power at the respective power outlets is switched off.
Range of Variables	
Variable	**Range** (May include but not limited to:)
1. Formatting tools	1.1 Bold 1.2 Italic 1.3 Underline 1.4 Strikethrough 1.5 Subscript 1.6 Superscript 1.7 Change Case 1.8 Text highlight color 1.9 Font color 1.10 Font 1.11 Font size 1.12 Clear formatting 1.13 Format painter
2. Font format	2.1 Times New Roman 2.2 Arial 2.3 NikoshBan 2.4 SutonnyMJ 2.5 Century 2.6 Century gothic 2.7 Vrinda
3. Alignment	3.1 Left 3.2 Right 3.3 Center 3.4 Top 3.5 Text direction 3.6 Cell Margins

4. Data Handled	4.1 Sort
	4.2 Repeat Header Row
	4.3 Convert to text
	4.4 Formula
5. File format	5.1 .doc
	5.2 .docx
	5.3 .pdf
	5.4 . xps
	3.2 .xml
4. Word processing Application	6.1 MS Word
	6.2 Open office
5.Storage devices	5.1 Flash drive
	5.2 Hard disk drive
	5.3 memory card
	5.4 CD/ DVD
6. Documents	6.1 Word documents
	6.2 Standard CV with different text & fonts, image and table.
	6.3 Application / Official letter with proper paragraph and indenting, spacing, styles, Illustrations, Tables, Header & Footers and symbols.
	6.4 Standard report / newspaper items with column, footnote and endnote, drop cap, indexing and page numbering.
7. Contents	7.1 Illustrations and styles
	7.2 Text
	7.3 table
	7.4 Symbols
	a. Header & Footer
8. Illustrations	8.1 Picture
	8.2 Clip Art
	8.3 Shapes
	8.4 SmartArt
	8.5 Chart
3. Printers	9.1 Dot matrix printer
	9.2 Laser Printer

Evidence Guide
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1.Critical aspects of competency	Assessment required evidence that the candidate
	1.1 Prepared Standard CV with different text & fonts, image and table.
	1.2 Prepared application / official letter with proper paragraph and indenting, spacing, styles, Illustrations, Tables, Header & Footers and symbols.
	1.3 Created standard report / newspaper items with column, footnote and endnote, drop cap, indexing and page numbering.
	1.4 Configured appropriate printer settings and printed document

2.Underpinning knowledge	2.1 Familiarization with desktop icons and bangla keyboard layout
	2.2 Different type of software and application packages
	2.3 Type of word processor and there uses
	2.4 Impotence of word-processing
	2.5 Type of printers
3.Underpinning skill	3.1 Start computer
	3.2 Run word-processing software
	3.3 Manage desktop item
	3.4 Manipulate files and folders
	3.5 Create document in wordprocessing
4.Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties
	4.4 Environmental concerns
	4.5 Eagerness to learn
	4.6 Tidiness and timeliness
	4.7 Respect for rights of peers and seniors in workplace
	4.8 Communication with peers, sub-ordinates and seniors in Workplace
5.Resource implication	**Following Resources must be provided-**
	5.1 Relevant tools, Equipment, software and facilities needed to perform the activities.
	5.2 Required learning materials.
6. Methods of assessment	6.1 Written test
	6.2 Demonstration
	6.3 oral questioning
	6.4 Portfolio
7 Context of assessment	Competencies may be assessed in the work place or a simulated work place environment.

Accreditation Requirements

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITCO1012A1: Operate Spreadsheet application
Nominal Hours	70 hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to Create spreadsheets, Customize basic settings, Format spreadsheet, Incorporate object and chart in spreadsheet, use common spread sheets, save works and print documents.
Elements of Competency	Performance Criteria **Bold and Italicized** terms are elaborated in the Range of Variable Training Components
1. Follow OSH practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Create spreadsheets	2.1 Spreadsheet application opened 2.2 Spreadsheet files are created and numbers, text and symbols are entered into cells according to information requirements 2.3 **Simple formulas and functions** are entered using cell referencing where required 2.4 Formulas are corrected when error messages occur 2.5 Common tools are used during spreadsheet development 2.6 Columns and rows are edited within the spreadsheet 2.7 Auto-fill function are used to increment data where required 2.8 Spreadsheet files are saved to directory or folder
3. Customize basic settings	3.1 Page layout are adjusted to meet user requirements or special needs 3.2 Different toolbars are opened and viewed 3.3 Font settings are changed as per the purpose of the document 3.4 A**lignment** options and line spacing are changed according to spreadsheet **formatting features** 3.5 Cell are **formatted** to display different styles as required 3.6 Margin sizes are modified to suit the purpose of the spreadsheets 3.7 multiple spreadsheets are viewed concurrently
4. Format spreadsheet	4.1 Formatting features are used as required 4.2 Selected formatting features are copied from another cell in the spreadsheet or from another active spreadsheet 4.3 Use **formatting tools** as required within the spreadsheet 4.4 Information is aligned in selected cell as required 4.5 Headers and footers are inserted using formatting features 4.6 Spreadsheet are saved in another format 4.7 Spreadsheet are closed to **storage device**
5. Sort and filter data in worksheet	5.1 Work sheets are created 5.2 Data are inseted into the sheet 5.3 Data is sorted with different criteria 5.4 Data is filtered with different condition 5.5 Sorted or filtered data are printed

6. Incorporate object and chart in spreadsheet	6.1 Object is imported into an active spreadsheet
	6.2 Imported *object* are manipulated by using formatting features
	6.3 Chart are created using selected data in the spreadsheet
	6.4 Selected data are displayed in a different chart
	6.5 Chart are modified using formatting features
7.Create worksheets and charts.	7.1 Worksheets are created as per requirement
	7.2 Data is *entered*
	7.3 Functions are used for calculating and editing logical operation
	7.4 ***Sheets*** are formatted as per requirement.
	7.5 ***Charts*** are created.
	7.6 Charts/ Sheets are previewed.
	7.7 Charts/ sheet are printed
8. Print spreadsheet	8.1 Spreadsheet are viewed in print preview mode
	8.2 Basic printer options are selected
	8.3 Spreadsheet or selected part of spreadsheet are printed
	8.4 Spreadsheet are submitted to ***appropriate person*** for approval or feedback

Range of Variables	
Variable	**Range** (May include but not limited to:)
1.Application Packages	1.1 Spread sheet software(MS)
	1.2 MS Excel or open office spread sheet
2.Alignment	2.1 Right
	2.2 Left
	2.3 Centre
	2.3 Top
	2.4 Middle
	2.5 Bottom
3.Formulas	3.1 SUM
	3.2 AVERAGE
	3.3 IF
	3.4 MAX
	3.5 MIN
	3.6 COUNT
	3.7 RANK
	3.8 Date and Time
	3.9 Math and Trig.
	3.10 AND
	3.11 OR
	3.12 NOR
4.Sheets	4.1 Salary sheet with sorting, filtering and chart
	4.2 Mark/Grade /Tabulation sheets for simple result processing
5.Managed	5.1 Cell format
	5.2 page layout
	5.3 insert
	5.4 Delete ,
6.Charts	6.1 Column
	6.2 Pie
	6.3 line
	6.4 bar

7. Functions	7.1 mathematics
	7.2 Logical
	7.3 simple Statistical
8. Formatted.	8.1 Bold
	8.2 Italic
	8.3 Underline
	8.4 Font size, colour,
	8.5 Change case
	8.6 Alignment and intend

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment requirements that the candidate
	1.1 used formula to sort, filter and search data
	1.2 used functions for calculating and editing logical operation in spread sheet as per requirements.
	1.4 chart are created and viewed as per requirements.
2. Underpinning knowledge	2.1 Use of spread sheet and presentation software,
	2.2 Type of charts, Impotence of chart
	2.3 Different type of math and logical functions.
3. Underpinning skill	3.1 Start computer
	3.2 Run spreadsheet application software
	3.3 Create worksheet, chart and search data
	3.4 Manipulate files and folders
4. Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties
	4.4 Environmental concerns
	4.5 Eagerness to learn
	4.6 Tidiness and timeliness
	4.7 Respect for rights of peers and seniors in workplace
	4.8 Communication with peers, sub-ordinates and seniors in workplace
5. Resource implication	**Following Resources must be provided-**
	5.1 Relevant tools, Equipment, software and facilities needed to perform the activities.
	5.2 Required learning materials.
6. Methods of assessment	6.1 Written test
	6.2 Demonstration
	6.3 Oral Questioning
	6.4 Portfolio
7. Context of assessment	7.1 Competencies may be assessed in the work place or a simulated work place environment.

Accreditation Requirements

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	**ITCO1013A1: Operate Presentation Package**
Nominal Hours	**60 hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to Create presentation, Customize basic settings.Format presentation, add slide show effect and print presentation and notes.
Elements of Competency	**Performance Criteria** ***Bold and Italicized*** terms are elaborated in the Range of Variable Training Components
1. Follow OSH practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Create presentations	2.1. Open a presentation package application and create a simple design for a presentation according to organizational requirements 2.2. Open a blank presentation and add text and graphics 2.3. Apply existing styles within a presentation 2.4. Use presentation template and slides to create a presentation 2.5. Use various ***Illustrations*** and ***effects*** in presentation 2.6. Save presentation to correct directory
3. Customize basic settings	3.1. Adjust display to meet user requirements 3.2. Open and view different ***toolbars*** to view options 3.3. Ensure ***font settings*** are appropriate for the purpose of the presentation 3.4. View multiple slides at once
4. Format presentation	4.1. Use and incorporate organizational charts, bulleted lists and modify as required 4.2. Add ***objects*** and manipulate to meet presentation purposes 5.3. Import ***objects*** and modify for presentation purposes 4.4. Modify slide layout, including text and colours to meet presentation requirements 4.5. Use ***formatting tools*** as required within the presentation 4.6. Duplicate slides within and/or across a presentation 4.7. Reorder the sequence of slides and/or delete slides for presentation purposes 4.8. Save presentation in another ***format*** 4.9. Save and close presentation to disk

5. Add slide show effects	5.1. Incorporate preset animation and multimedia effects into presentation as required to enhance the presentation 5.2. Add slide transition effects to presentation to ensure smooth progression though the presentation 5 .3. Test presentation for overall impact 5.4. Use onscreen navigation tools to start and stop slide show or move between different slides as required
6.Create template using master slide	6.1 Blank presentation is opened and Slide Master is clicked from view tab. 6.2 Slide layout is created and/or customized as per requirements 6.3 Theme based colors, fonts, effects and backgrounds and style are added to the presentation 6.4 Page orientation for all of the slides are set , saved and closed
7. Print presentation and notes	7.1. Select appropriate print format for presentation 7.2. Select preferred slide orientation 7.3. Add notes and slide numbers 7.4. Preview slides and spell check before presentation 7.5. Print the selected slides and submit presentation to appropriate person for feedback

Range of Variables

Variable	**Range** (May include but not limited to:)
1.*Application Packages*	1.1 Power point 1.2 Peizi
2 *Illustrations*	2.1 Picture 2.2 Clip art 2.3 Photo 2.4 Shape 2.5 Smart art 2.6 Chart
3 *Effects*	3.1 Entrance 3.2 Emphasis 3.3 Exit 3.4 Motion path
4.Fonts tools	4.1 Change Case 4.2. Strikethrough 4.3 Superscript 4.4 Subscript 4.5 Text highlight colour 4.6 Font
5.Charts	5.1 Column 5.2 Pie 5.3 line 5.4 bar
6. Objects	6.1 Image 6.2 Chart

	6.3 Worksheet
	6.4 Equation
	6.5 Slide
7. Formatting tools	7.1 Bold
	7.2 Italic
	7.3 Underline
	7.4 Font size, colour,
	7.5 Change case
	7.6 Alignment and intend

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	The assessment required evidence that the candidate 1.1 used formula to sort, filter and search data 1.2 used functions for calculating and editing logical operation in spread sheet as per requirements. *1.3* created chart and viewed as per requirements.
2. Underpinning knowledge	2.1 Use of presentation software, 2.2 Type of Illustrations and effects 2.3 Charts, Impotence of chart **2.4** Multimedia elements
3 Underpinning skill	3.1 Start computer 3.2 Run Presentation package 3.3 Create Slides 3.4 Manipulate and customize animation
4 Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers, sub-ordinates and seniors in workplace
5 Resource implication	**Following Resources must be provided-** 5.1 Relevant tools, Equipment, software and facilities needed to perform the activities. 5.2 Required learning materials.
6. Methods of assessment	6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
Context of assessment	Competencies may be assessed in the work place or a simulated work place environment.

Accreditation Requirements

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITCO2014: Design Database Table and customize settings
Nominal Hours	60 Hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to open database package, create table, add fields to a table, assign data types to fields, create primary key, set field properties, create relationship between two tables, add & modify data in tables and save database to storage area.
Elements of Competency	**Performance Criteria** ***Bold and Italicized*** terms are elaborated in the Range of Variable Training Components
2. Follow OSH practices	2.1 Safe work practices are observed according to IT workplace guideline. 2.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2.Plan database table design	2.1 Pencil, pen, eraser and paper are collected to design the database as per client's requirement. 2.3 **Object** of the database are identified as per client's specification. 2.3 Entities, attributes and relationship are determined 2.4 Attribute name , data type and description /validation are defined in tabular form.
3. Incorporate basic design principles	3.1 ***Database application*** is selected as per requirement 3.2 Database application is opened 3.3 Database objects are selected as per plan requirement 3.4 ***Design tools*** are selected as per requirement 3.5 Design tools are used 3.6 Database objects are used.
4. Develop table with fields and attributes	4.1 Field name are created according to the design plan 4.2 ***Data types*** of a fields are selected 4.3 Field's ***properties*** are set 4.4 Field descriptions are written as requirement 4.5 Primary key is determined and set 4.6 Index is established 4.7 ***Additional attribute*** is set as required 4.8 Table structure, field name and field properties are edited 4.7 Table structure is saved
5. Create relationship between the tables	6.1 Common field in each table with same data type is ensured 6.2 Primary key and foreign key are assigned 6.3 Closing of all table are observed 6.4 ***Manipulation*** of ***relationship*** are performed 6.5 Database Tables are saved.
6. Shut down the computer and clean workplace	6.1 Database is closed 6.2 computer is shut down according to Standard Operating Procedure(SOP) 6.3 Clean the workplace as per company rules

Range of Variables	
Variable	**Range** (May include but not limited to:)
1. *Object*	1.1 Tables 1.3 Forms 1.3 Reports 2.3 Queries 1.5 Macro & Modules
2. *database package*	2.1 Microsoft Access, 2.2 SQL Server 2.3 MySQL
3 *Data type*	3.1 Text/ short text 3.2 Memo or Long text 3.3 Number 3.4 Date/Time 3.5 Currency 3.6 Auto Number 6.7 Yes/No 3.8 OLE Object 3.9 Calculated
4. Design tools	4.1 View 4.2 Primary key 4.3 Insert /Delete column
5. Properties	5.1 Field size 5.2 Format 5.3 Input mask 5.4 Validation rule 5.5 Index 5.6 Caption
6. Manipulation	6.1 Create 6.2 delete 6.3 Edit
7.Relationship	One to one One to many Many to many Many to one
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
2. Critical aspects of competency	The assessment required the evidence that the candidate 1.1 used design tools and database objects 1.2 identified data type 1.3 assigned primary and foreign key 1.4 Table structure, field name and field properties are edited
2. Underpinning knowledge	**2**.1 Database & database file 2.2 Database objects 2.3 Relationship

	2.4 Attributes
	2.5 Entities
	2.6 Data types
	2.7 Table
	2.8 Record
	2.9 Fields
	2.10 Naming convention
3.Underpinning skill	3.1 Operate database application
	3.2 Creation of table
	3.3 Creation of relationship
	3.4 Addition/Deletion record
	3.5 Modifying database table structure
4.Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties
	4.4 Environmental concerns
	4.5 Eagerness to learn
	4.6 Tidiness and timeliness
	4.7 Respect for rights of peers and seniors in workplace
	4.8 Communication with peers, sub-ordinates and seniors in workplace
5.Resource implication	**Following Resources must be provided-**
	5.1 Computer, relevant tools, Equipment, software and facilities needed to perform the activities.
	5.2 Required learning materials.
6. Methods of assessment	6.1 Written test
	6.2 Demonstration
	6.3 Oral question
	6.4 Portfolio
7. Context of assessment	Competencies may be assessed in the work place or a simulated work place environment.

Accreditation Requirements

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITCO2015: Create forms of the database
Nominal Hours	40 Hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to create form using wizard, Insert command buttons in the form using wizard and create form manually.
Elements of Competency	**Performance Criteria** ***Bold and Italicized*** terms are elaborated in the Range of Variable Training Components
1. Follow OSH practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Create form using wizard	2.1 Form object is selected from the object list 2.2 Create menu is selected from the ribbon 2.3 More forms tool is selected from the ribbon 2.4 Table is selected from the form wizard dialog box 2.5 Fields are selected from the available fields list 2.6 The procedure is finished by clicking the finish button 2.7 Form is saved
3 Insert command buttons on the form using wizard	3.1 Previously created form is opened in design view 3.2 Design tab is selected from menu bar 3.3 Use control wizard is activated from the design ribbon 3.4 ***Command Button*** tool is drag & dropped in the form from the design ribbon 3.5 Appropriate ***category*** is selected from the category list 3.6 Appropriate ***action*** is selected from the action list 3.7 Button insertion is finished by clicking the finish button of the Wizard
4. Create form manually	4.1 Form object is selected from the object list 4.2 Create menu is selected from the ribbon 4.3 Form design tool is selected from the ribbon 4.4 Add existing fields tool is selected under design ribbon 4.5 Table is selected from the available table list 4.6 Fields are drag & dropped in the form from the available fields list 4.7 Form is viewed in form view 4.8 Form is saved
5. Insert command buttons manually	5.1 Previously created form is opened in design view 5.2 Design tab is selected from menu bar 5.3 ***Command Button*** tool is drag & dropped in the form from the design ribbon 5.4 Property sheet is viewed by double clicking the button 5.5 Macros are Built by clicking the appropriate ***event*** under the event tab

	5.6 Records and command buttons are *Navigated*
	5.6 Form is saved
6.Manipulate the records using command buttons	6.1 Database is opened properly
	6.2 Previously created form is opened in form view
	6.3 Records are added by clicking Add new record button
	6.4 Records are deleted by clicking Delete record button
	6.5 Records are modified

Range of Variables

Variable	Range (May include but not limited to:)
1. Command Button	1.1 Previous
	1.2 ADD new record
	1.3 Last record
	1.4 First Record
	1.5 Find Record
	1.6 Next Record
	1.7 Delete Record
2. Category	2.1 Record navigation
	2.2 Record operation
	2.3 form operation
	2.4 Report Operation
	2.5 Application
3 Action	3.1 Find next
	3.2 Find Record
	3.3 go to first Record
	3.4 go to next Record
	3.5 go to last Record
	3.6 go to previous Record
4. Event	4.1 On Click
	4.2 On Dbl click
	4.3 On Mouse up
	4.4 On Mouse move
	4.5 On Mouse down
	4.6 On lost focus
	4.7 On Mouse got focus
	4.8 On Enter
	4.9 On KeyPress
5.Nevigate	5.1 go to first Record
	5.2 go to next Record
	5.3 go to last Record
	5.4 go to previous Record

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1.Critical aspects of competency	The assessment required evidence that the candidate
	1.1 selected field of a form as per specification

	1.2 wrote procedure by clicking the appropriate event under the event tab
	1.3 aassigned caption of the command button as per planed specification
2.Underpinning knowledge	2.1 Form
	2.2 Form properties
	2.3 Event of a form
	2.4 Procedure
	2.5 Types of Command button
	2.6 Command button action
	2.7 Macro
3.Underpinning skill	3.1 Perform plan to design table
	3.2 Create Table
	3.3 Use wizard for design
	3.4 Change form properties
	3.5 Build up Macro
	3.6 Build up expression
	3.7 Use toolbar
	3.8. Use of form view and design view
4.Required attitude	4.1 Commitment to occupational health and safety
	4.2 Promptness in carrying out activities
	4.3 Sincere and honest to duties
	4.4 Environmental concerns
	4.5 Eagerness to learn
	4.6 Tidiness and timeliness
	4.7 Respect for rights of peers and seniors in workplace
	4.8 Communication with peers, sub-ordinates and seniors in workplace
5.Resource implication	Following Resources must be provided-
	5.1 Relevant tools, Equipment, software and facilities needed to perform the activities.
	5.2 Required learning materials.
6.Methods of assessment	6.1 Written test
	6.2 Demonstration
	6.3 Oral Questioning
	6.4 Portfolio
7.Context of assessment	Competencies may be assessed in the work place or a simulated work place environment.

Accreditation Requirements

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITCO2016 : Retrieve Database Information
Nominal Hours	50 Hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to Create simple query, retrieve information and create append & Delete queries.
Elements of Competency	**Performance Criteria** ***Bold and Italicized*** terms are elaborated in the Range of Variable Training Components
1.Follow OSH practices	6.1 Safe work practices are observed according to IT workplace guideline. 6.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 7.3 Safe workplace environment are assured.
2. Create simple query and retrieve required information	2.1 Existing database and location are accessed 2.2 Query is created by ***Query Wizard*** 2.3 Field are selected from existing table 2.4 Data are sorted using ***simple query*** **2.5** Parameter is used 2.6 ***Criteria*** is used for query 2.7 Query is run and saved
3. Create append query	3.1 Existing database and location are accessed as required 3.2 Query object is selected 3.3 Design view is opened of the query 3.4 Table(s) are added in the query **3.5** Fields are selected as per requirement 3.6 Append are performed as per required table. 3.7. Query is run and saved
4. Create delete query	4.1 Existing database and location are accessed as required 4.2 Query object is selected 4.3 Design view is opened of the query 4.4 Table(s) are added in the query **4.5** Fields are selected as per requirement 4.6 Deletion is performed as per requirement. 4.7. Query is run and saved
5. Perform Filter Operations	5.1 Filter are applied to table and forms 5.2 Filter are removed from table and forms
6. Sort Records	6.1 Data sorted in a table, form and query output in ascending/ descending numerical / alphabetical order as required. 6.2 Report Based on table and query are created and saved as required
7. Shutdown the computer and clean workplace	6.1 Database is closed 6.2 computer is shut down according to Standard Operating Procedure(SOP) 6.3 Clean the workplace as per company rules

Range of Variables	
Variable	**Range** (May include but not limited to:)
1. *simple query*	1.1 Make table query 1.2 Select query 1.3 Append query 1.4 Delete query
2. Criteria	2.1 less than 2.2 greater than 2.3 equal 2.4 Not equal 2.5 field value 2.6 Parameter
3. Query wizard	3.1 Simple query wizard 3.2 Cross tab query wizard 3.3 Find duplicate query wizard 3.4 find unmatched query wizard
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1.Critical aspects of competency	The assessment required evidence that the candidate 1.1 sorted data using simple query. 1.2 used criteria for query. 1.3 performed append query as per requirement. 1.4 performed delete query as per requirement. 1.5 used parameter in query.
2.Underpinning knowledge	2.1 Query 2.2 Types of Query 2.3 Use of query 2.4 Parameter of Query 2.5 Application of query
3.Underpinning skill	3.1 Perform plan to design table 3.2 Create Table 3.3 Use wizard or design 3.4 Change form properties 3.5 Use toolbar 3.6 Create of query
4.Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers, sub-ordinates and seniors in workplace

5.Resource implication	**Following Resources must be provided-**
	5.1 Relevant tools, Equipment, software and facilities needed to perform the activities.
	5.2 Required learning materials.
6.Methods of assessment	6.1 Written test
	6.2 Demonstration
	6.3 Oral Questioning
	6.4 Portfolio
7.Context of assessment	7.1 Competencies may be assessed in the work place or a simulated work place environment.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITCO2017 : Generate Database Reports
Nominal Hours	Hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to generate customized reports using report wizard tool and report design view tools of create ribbon.
Elements of Competency	**Performance Criteria** *Italicized* terms are elaborated in the Range of Variable Training Components
1.Follow OSH practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Create reports	2.1 Reports format are planed and determined 2.2 Tables or queries are selected to be used in report design. 2.3 Report is created using report wizard tool. 2.4 Proper *report design tool* is selected during report design. 2.5 The data fields are selected from the table/query to be used in report. 2.6 Data under a specific *heading* in a report are grouped in ascending/descending order as required. 2.7 Label is added in the report.
3. Modify reports to include or exclude additional requirements	3.1 Page header, *Page footer* in a report are added or modified as necessary. 3.2 Report header, report footer in a report are added or modified as necessary. 3.3 *Gridlines* are inserted. 3.4 Row/column headings are given. 3.5 Report is saved and closed correctly. 3.6 *Band* is viewed and hidden as per requirements 3.7 Fonts name and Font size are changed as required. 3.8 *Page size* and margins are changed as required.
4. Sort Records	4.1 Data sorted in a table, form and query output in ascending/ descending numerical / alphabetical order as required. 4.2 Report Based on table and query are created and saved as required. 4.3 *SQL functions* are used at appropriate break points. 4.4 Data is sorted according to user's requirement
5. Distribute and print reports in a suitable format	5.1 Table, forms, reports are previewed to ensure the errors that are detected and corrected. 5.2 Report *orientation, paper size* changed as required. 5.3 The margins are set as per requirement. 5.4 The space between fields and records set as per requirement. 5.5 The results of query are applied in the report as required. 5.6 Fields and records are *Align* as required.

Range of Variables	
Variable	**Range** (May include but not limited to:)
1. **Report design tool**	1.1 Blank report tool 1.2 Report design tool 1.3 Label tool 1.4 Report wizard tool
2. Report orientation	2.1 Portrait 2.2 Landscape
3. Heading	3.1 Column heading 3.2 Row heading
4. Page footer	4.1 Date 4.2 Time 4.3 Page number
5. Gridlines	5.1 Horizontal gridlines 5.2 Vertical gridlines
6. SQL functions	6.1 Sum 6.2 Minimum 6.3 Maximum 6.4 Average 6.4 Count
7. Band	7.1 Report header band 7.2 Report footer band 7.3 Details band 7.4 Page header band 7.4 Page footer band
8. Paper size	8.1 Letter 8.2 A4 8.3 Legal 8.4 A3
9. Align	9.1 Left 9.2 Centre 9.3 Right 9.4 Justified
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1.Critical aspects of competency	The assessment required evidence that the candidate 1.1 used header and footer for report and page. 1.2 set space between fields and record. 1.3 sorted data in report ascending/descending. 1.4 performed data grouping as per requirement.
2.Underpinning knowledge	2.1 Report planning 2.2 Data sorting 2.3 Table 2.4 Query 2.5 Data grouping

3.Underpinning skill	3.1 Report design 3.2 Use of report design tools 3.3 Report preview 3.4 Report printing 3.5 Page/Margins setup 3.6 Report orientation 3.7 Space setup between fields and records
4.Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers, sub-ordinates and seniors in Workplace
5.Resource implication	**Following Resources must be provided-** 1.Relevant tools, Equipment, software and facilities needed to perform the activities. 5 Required learning materials.
6.Methods of assessment	1.1 Written test 1.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
Context of assessment	1.3 Competencies may be assessed in the work place or a simulated work place environment.

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Competency Standards for Computer Operation
Unit of Competency

Unit Code and Title	ITCO2018 : Test and Use database
Nominal Hours	20 Hours
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to perform data entry operation, verify the feature of database and queries,navigate the buttons and forms and view and print reports for testing.
Elements of Competency	**Performance Criteria** **Bold and Italicized** terms are elaborated in the Range of Variable Training Components
1. Follow OSH practices	1.1 Safe work practices are observed according to IT workplace guideline. 1.2 OSH hazards and incidents are reported to appropriate personnel according to workplace procedures. 1.3 Safe workplace environment are assured.
2. Perform data entry operation using various criteria for testing database	2.1 Testing sequence is planed. 2.2 Database is opened in exclusive mode. 2.3 Forms are opened. 2.4 **Different types of data** are input for testing. 2.5 **Errors** are detected and listed. 2.6 Correction is done. 2.7 Data entry is performed for recheck database.
3. Verify the features of database	3.1 Database is opened in exclusive mode. 3.2 Tables, forms and reports are viewed in design and other view. 3.3 **Properties** of the tables, forms and report are tested. 3.4 Format of the text is modified if required. 3.5 **Alignment** of the fields and records in the reports are changed as per client's requirements. 3.6 Report and query operation are run according to criteria/parameter is verified.
4. Navigate the buttons and forms	4.1 Database is opened in exclusive mode. 4.2 Forms are viewed in form view. 4.3 **Buttons** of the forms are clicked. 4.4 Functions of the buttons are tested to verify the usability for every event. 4.5 Correction is done in the case of improper function of the buttons.
5. Verify the database queries	5.1 Database is opened in exclusive mode. 5.2 Query is opened in design view. 5.3 Parameter/criteria are given/set. 5.4 Query is run. 5.5 Error is detected if any and corrected by modification if required. 5.6 Query is run by setting various **logical, conditional** and **arithmetical operators**. 5.7 Malfunctions are corrected if required.

6.View and print reports for testing	6.1 Table, forms, reports are previewed to ensure the errors that are detected and corrected. 6.2 Report orientation, paper size changed as required. 6.3 The margins are set as per requirement. 6.4 The space between fields and records set as per requirement. 6.5 The results of query are applied in the report as required. 6.6 *Alignment* fields and records as required.

Range of Variables

Variable	Range (May include but not limited to:)
1. Error	1.1 Logical errors 1.2 Runtime errors
2 Features	2.1 Caption 2.2 Validation rules 2.3 Validation text 2.4 Input mask 2.5 Indexed 2.6 Format
3 *Alignment*	3.1 Left 3.2 Right 3.3 Justified 3.4 Centre
4 Buttons	4.1 Add new 4.2 Go to first 4.3 Go to last 4.4 Go to Next 4.5 Close form 4.6 Quite application
5. Logical operator	5.1 AND 5.2 OR 5.3 NOT 5.4 XOR
6 **Conditional operator**	6.1 <> 6.2 <= 6.3 >= 6.4 =
7. **Arithmetical operators**	7.1 + 7.2 - 7.3 * 7.4 /
*8.*Different types of data	8.1 Text 8.2 Number 8.3 Date/Time 8.4 OLE object 8.5 Yes/No 8.6 Look up wizard 8.7 Auto number

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	The assessment required evidence that the candidate 1.1 detected logical errors. 1.2 detected runtime errors. 1.3 run queries according to the set criteria/parameter 1.4 viewed/print the report as per requirement	
2 Underpinning Knowledge	1.1 Table properties 1.2 Forms properties 1.3 Report properties 1.4 Button's properties 1.5 Errors handling	
3 Underpinning skill	3.1 Modify Table/Form/Report/Query design 3.2 Set/assign properties of fields 3.3 Assign procedures/macros to command buttons 3.4 Print reports 3.5 Run queries 3.6 Preview reports	
4 Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers, sub-ordinates and seniors in Workplace	
5 Resource implication	**Following Resources must be provided-** 5.1 Relevant tools, Equipment, software and facilities needed to perform the activities. 5.2 Required learning materials.	
6 Methods of assessment	6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio	
12. Context of assessment	a. Competencies may be assessed in the work place or a simulated work place environment.	

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ACKNOWLEDGEMENTS

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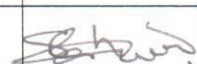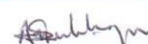## Standard And Curriculum Development Committee
National Competency Standards
For
Computer Operation
(IT Sector), Level-1-2
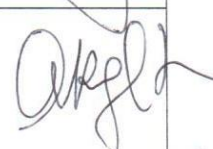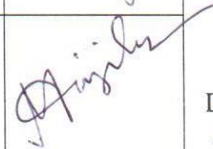
Meeting held on 01-11-2016 to 02-11-2016 At 9.30 AM

Sl No.	Name & Designation of Members	Address and Contract Number	Designation of (SCDC)	Signature	Remarks
01.	Mr. Shafquat Haider, Chairman	ISC, House - 120 (1st Floor), Road – 13, Block – E, Banani, Dhaka – 1213, Mobile: 01711532597, Email: ciproco@bol-online.com	Chair Person		
02.	Mr. A.K.M. Nazrul Haider, Senior Advisor	Flora Systems Ltd, Zahed Plaza 8th floor, 30, Gulshan Avenue, Dhaka Mobile No. - 01711539997 Email : nzhaider@yahoo.com	Member		
03.	Engr. Mujibur Rahman IT Consultant	CIPROCO Computers Ltd, House No-120 (1st Floor), Road No-13, Block-E, Banani, Dhaka, Email: mujib2001bd@yahoo.com, Mobile: 01714069793	Member		CS Documents Approved
04.	Mr. Shah Kamal Sohail	House # 31, Road # 68, Gulshan-2, Dhaka-1212, Email: shah.ksohail@gmail.com, Mobile: 01711556622	Member		
05.	Mr. Zahed Ahmed Chowdhury, Chief Instructor (Computer)	Dhaka Polytechnic Institute, Dhaka	Member		
06.	Mr. Md. Abdul Hye Siddiqui, Sinior Instructor (Computer)	SFMMTTC, Darus Salam, Mirpur Road, Dhaka.	Member		
07.	Mr. Md. Jahidul Alam, Director,	Soft Star Computer, 117, Siddasory, Dhaka, Mobile: 01819853018, Email: jahiedulam@gmail.com	Member		
08	Mr. Md. Khorshed Alam, Deputy Controller,	BTEB, Dhaka	Member		
09	Dr. Md. Shah Alam Majumder, Specilist (C.A)	BTEB, Dhaka	Member		