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MOBILE PHONE TECHNICIAN



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CBT Curriculum

National Vocational Certificate Level 4

Version 1 - November 2019



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Introduction

Mobile technology has become one of the fastest growing technologies in the world. Today people use mobile phones to stay in touch with friends and family, to share stories and photographs in social media, and to carry out financial transactions. This widespread ownership and use of mobile phones have been creating need of trained professionals in the field of Mobile Phone Repairer. The course development will address the need of professionals who can repair Mobile Phones.

Based upon demand of the concerned industry, competency-based qualifications for Mobile Phone Technician are developed under the National Vocational Qualification Framework (NVQF) (Level 1 to 4). These qualifications mainly cover the competencies along with the related knowledge, skills and attitude which are essential for getting a job or self-employment. The qualifications are also in line with the vision of Pakistan's National Skills Strategy (NSS), National TVET Policy and National Vocational Qualification Framework (NVQF).

The National Vocational & Technical Training Commission (NAVTTTC) has approved the Qualification Development Committee (QDC). The QDC consists of experts from the relevant industries from different geographical locations across Pakistan and academicians who were consulted during the development process to ensure their input and ownership of all the stakeholders. The National Competency Standards could be used as a reference document for the development of curricula to be delivered by the training institutions.

Course objective is to prepare a student/trainee who can be able to assembly, disassemble, Service & checking components of mobile Phones PCB (printed circuit board) with using proper tools. On completion of the course he/she will be able to diagnose & repair any kind of mobile phone's software & hardware faults and can easily Read mobile phone block & layout Diagrams diagnose problems and repair it by using proper tips and techniques.

On successful completion of the course the student will be able to join as a customer support executive in any existing mobile service center & repairing Center or can establish his/her own business of mobile phones.



Purpose of the Training program:

Purpose of the training is to provide skilled manpower to improve the existing capacity of Electronics sector. This training will provide the requisite skills to the trainees to Repair Mobile Phones. It will enable the passed out to meet the challenges in the field of Mobile phone industry. Furthermore, it would augment endeavours of TVET sector to prepare such a work force of skilled labour who would be globally acceptable

The core purpose of this qualification is to produce employable mobile phone technician who could repair mobile phones according to national and international standards. In addition, this qualification will prepare unemployable youth to employee in electronics sector.

Overall objectives of Training program:

The Mobile Phone Technician qualifications level 1- 4 consists of both the theoretical and practical details required to repair a Mobile phone. The main objectives of the qualification are to prepare a student/trainee who can be able to assembly, disassemble, Service & checking components of mobile Phones PCB (printed circuit board) with using proper tools

Competencies to be gained after completion of course:

The detail of the competency standards included in this qualification are given below:

National Vocational Certificate level 1, Mobile Phone Technician in (Electronics Sector)

1. Contribute to Work Related Health and Safety (WHS) Initiatives
2. Analyze Workplace Policy and Procedures
3. Perform Advanced Communication
4. Develop Advance Computer Application Skills
5. Manage Human Resource Services
6. Develop Entrepreneurial Skills
7. Repair Software of mobile phones
8. Manage Mobile Phone Storage.



Job opportunities:

The Pass outs of this course may find job / employment opportunities in the following areas:

- Work as Mobile Phone Technician (Helper – Level 1)
- Work as Mobile Phone Technician (Assistant – Level 2)
- Work as Mobile Phone Technician (Technician – Level 3)
- Work as Mobile Phone Technician (Supervisor – Level 4)

Entry level of Trainees:

The entry for National Vocational Certificate level 4, in Mobile Phone Technician are given below:

Title	Entry requirements
National Vocational Certificate level 4, “Mobile Phone Technician” in (Electronics Sector)	Entry for assessment for this qualification is open. However, entry into formal training institute for this qualification is person holding National Vocational Certificate level 3, “Mobile Phone Technician” in (Electronics Sector) or middle with 1 year work experience.

Minimum qualification for Teachers:

- Should have completed intermediate or equivalent qualifications
- Must be a holder of G II certificate or Three years DAE in Electronics Technology.
- Must be able to communicate effectively.
- Must have at least 4 years teaching experience.

Recommended Trainer/Trainee ratio

Generally, Trainer/Trainee ratio for CBT&A courses is 1:20



Medium of instruction:

Urdu, local language.

Duration of the course:

The proposed curriculum is composed of **08** modules that will be covered in **380** learning hours. It is proposed that the course may be delivered in **Three months** period. The distribution of contact hours is given below:

Total	-	380 hours.
Theory	-	76 hours (20%)
Practical	-	304 hours (80%)

Sequence of the modules

Following is the structure of the course:

NVQF Level	Module #	Title	Category	Theory (hours)	Practical (hours)	Total (hour)	Credits hours	Total Credit Hours
4	A	Contribute to Work Related Health and Safety (WHS) Initiatives	Generic	06	24	30	03	38
	B	Analyze Workplace Policy and Procedures	Generic	06	24	30	03	
	C	Perform Advanced Communication	Generic	06	24	30	03	
	D	Develop Advance Computer Application Skills	Generic	08	32	40	04	
	E	Manage Human Resource Services	Generic	04	16	20	02	
	F	Develop Entrepreneurial Skills	Generic	06	24	30	03	
	G	Repair Software of mobile phones	Technical	30	120	150	15	
	H	Manage Mobile Phone Storage.	Technical	10	40	50	5	
TOTAL				76	304	380	38	
Percentage.				20%	80%			



Overview of the Curriculum for Mobile Phone Technician (Level 4)

Module Title and Aim	Learning Units	Theory Days/hours	Workplace Days/hours	Timeframe of Modules
<p>Module A: Contribute to Work Related Health and Safety (WHS) Initiatives</p> <p>Aim: This unit describes the skills and knowledge required to manage the identification, review, development, implementation and evaluation of effective participation and consultation processes as an integral part of managing work health and safety (WHS).</p>	<p>LU1. Contribute to initiate work-related health and safety measures</p> <p>LU2. Contribute to establish work-related health and safety measures</p> <p>LU3. Contribute to ensure legal requirements of WHS measures</p> <p>LU4. Contribute to review WHS measures</p> <p>LU5. Evaluate the organization's WHS system</p>	06	24	30
<p>Module B: Comply with Workplace Policy and Procedures</p> <p>Aim: This unit describes the skills and knowledge required to implement a workplace policy & procedures and to modify the policy to suit changed circumstances. It applies to individuals with managerial responsibilities who undertake work developing approaches to create, monitor and improve strategies and policies within workplaces and engage with a range of relevant stakeholders and specialists.</p>	<p>LU1. Manage work timeframes</p> <p>LU2. Manage to convene meeting</p> <p>LU3. Decision making at workplace</p> <p>LU4. Set and meet own work priorities at instant</p> <p>LU5. Develop and maintain professional competence</p> <p>LU6. Follow and implement work safety requirements</p>	06	24	30



<p>Module C: Perform Advanced Communication</p> <p>Aim: This unit describes the performance outcomes, skills and knowledge required to develop communication skills used professionally. It covers plan and organise work and conduct trainings at workplace, along with demonstrating professional skills independently</p>	<p>LU1. Demonstrate professional skills LU2. Plan and Organize work LU3. Provide trainings at workplace</p>	<p>06</p>	<p>24</p>	<p>30</p>
<p>Module D: Develop Advance Computer Application Skills</p> <p>Aim: This unit provides an overview of Microsoft Office programs to create personal, academic and business documents following current professional and/or industry standards, i.e. Data Entry, Power Point Presentation and managing data base and graphics for Design. It applies to individuals employed in a range of work environments who need to be able to present a set range of data in a simple and direct forms</p>	<p>LU1. Manage Information System to complete a task LU2. Prepare Presentation using computers LU3. Use Microsoft Access to manage database LU4. Develop graphics for Design</p>	<p>08</p>	<p>32</p>	<p>40</p>



<p>Module E: Manage Human Resource Services</p> <p>Aim: This unit describes the skills and knowledge required to plan, manage and evaluate delivery of human resource services, integrating business ethics. It applies to individuals with responsibility for coordinating a range of human resource services across an organization. They may have staff reporting to them.</p>	<p>LU1. Determine strategies for delivery of human resource services LU2. Manage the delivery of human resource services LU3. Evaluate human resource service delivery LU4. Manage integration of business ethics in human resource practices</p>	<p>04</p>	<p>16</p>	<p>20</p>
<p>Module F: Develop Entrepreneurial Skills</p> <p>Aim: This Competency Standard identifies the competencies required to develop entrepreneurial skills, in accordance with the organization's approved guidelines and procedures. You will be expected to develop a business plan, collect information regarding funding sources, develop a marketing plan and develop basic business communication skills. Your underpinning knowledge regarding entrepreneurial skills will be sufficient to provide you the basis for your work.</p>	<p>LU1. Develop a business plan LU2. Collect information regarding funding sources LU3. Develop a marketing plan LU4. Develop basic business communication skills</p>	<p>06</p>	<p>24</p>	<p>30</p>



<p>Module G: Repair Software of mobile phones</p> <p>Aim: This module covers the skills and knowledge required to Restore Factory Setting, Update Software, recover own IMEI as per Rules, Convert File system, Install Application Software and Deliver Mobile Phone set</p>	<p>LU1. Restore Factory Setting LU2. Update Software/Flash LU3. Recover / Repair own IMEI. As per Rules LU4. Convert File system LU5. Install application software Deliver Mobile phone set</p>	30	120	150
<p>Module H: Manage Mobile Phone Storage.</p> <p>This module covers the skills and knowledge required to Arrange Secure Storage, maintain conducive Environment at Store, Follow Identification System, Manage Inventory of Phone and accessories and Maintain Record of repaired Phone</p>	<p>LU1. Arrange Secure Storage LU2. Maintain conducive Environment at Store LU3. Adopt Identification System LU4. Manage Inventory of Phone and accessories Keep History Record of faulty Phone</p>	10	40	50
TOTAL		76	304	380



Module G: Repair Software of mobile phones

Objective: This module covers the skills and knowledge required to Restore Factory Setting, Update Software, recover own IMEI as per Rules, Convert File system, Install Application Software and Deliver Mobile Phone set

Duration: 150 Hours

Theory: 30Hours

Practice: 120 Hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Restore Factory Setting	<ul style="list-style-type: none"> Restore Factory settings through internal options (soft reset) Reset factory settings through keys (Hard reset) Reset factory setting through interface (Dongle reset) 	<ul style="list-style-type: none"> Knowledge of operating systems Types of Dongle, Data cables, Methods of data recovery and transfer 	Theory- 04 Hrs. Practical- 20 Hrs. Total- 24 Hrs.	<ul style="list-style-type: none"> Mobile Phones: 	Class Room and workshop
LU2. Update Software/Flash	<ul style="list-style-type: none"> Update software via internal options / Over the Air (OTA) if available Update software via dongle 	<ul style="list-style-type: none"> Flashing procedure Latest software updates and installation methods 	Theory- 04 Hrs. Practical- 20 Hrs. Total- 24 Hrs.	<ul style="list-style-type: none"> Mobile Phones 	Class Room and workshop
LU3. Recover / Repair own IMEI. as per Rules	<ul style="list-style-type: none"> Update mobile software with the latest version Repair own IMEI via dongle 	<ul style="list-style-type: none"> Methods for recovering IMEI Knowledge of Govt. Rules & Regulations regarding IMEI 	Theory- 04 Hrs. Practical- 20 Hrs. Total- 24 Hrs.	<ul style="list-style-type: none"> Mobile Phones Internet Access Dongle 	Class Room and workshop



LU4. Convert File system	<ul style="list-style-type: none"> • Install fresh stock ROM • Install Custom ROM 	<ul style="list-style-type: none"> • Methods and techniques of file systems, conversion 	Theory- 07 Hrs. Practical- 20 Hrs. Total- 27 Hrs.	<ul style="list-style-type: none"> • Mobile Phone • Internet Access 	Class Room and workshop
LU5. Install application software	<ul style="list-style-type: none"> • Install application software from internal software options • Install application software by personal computer 	<ul style="list-style-type: none"> • Types and use of different application software 	Theory- 07 Hrs. Practical- 20 Hrs. Total- 27 Hrs.	<ul style="list-style-type: none"> • Mobile Phone • Internet Access • Computer 	
LU6. Deliver Mobile phone set	<ul style="list-style-type: none"> • Perform Outgoing Quality Control (OQC) • Prepare delivery report • Obtain confirmation from customer • Negotiate Price with customer • Prepare Invoice / Bill of quantity • Take feedback from customer 	<ul style="list-style-type: none"> • Knowledge of Documentation (fault history, verification and invoices for customers and record keeping) 	Theory- 04 Hrs. Practical- 20 Hrs. Total- 24 Hrs.	<ul style="list-style-type: none"> • Delivery Report • Invoice • Feedback Form 	



Module H: Manage Mobile Phone Storage

Objective: This module covers the skills and knowledge required to Arrange Secure Storage, Maintain conducive Environment at Store, Follow Identification System, Manage Inventory of Phone and accessories and Maintain Record of repaired Phone

Duration: 50 Hours

Theory: 10 Hours

Practice: 40 Hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Arrange Secure Storage	<ul style="list-style-type: none"> Establish locker for safe storage Reserve each section for different stocks Label each section of locker with tags 	<ul style="list-style-type: none"> Safety and security procedure Techniques for labels/tags system 	Theory- 02 Hrs. Practical- 06 Hrs. Total- 08 Hrs.	<ul style="list-style-type: none"> locks 	Class Room and workshop
LU2. Maintain conducive Environment at Store	<ul style="list-style-type: none"> Ensure standard temperature in the storage area Ensure comfortable humidity in the storage area Ensure dust free environment in the storage 	<ul style="list-style-type: none"> Knowledge of standard temperature at mobile storage Knowledge about humidity at storage for mobile phones and accessories Understanding of Humidity control/reduction measures 	Theory- 02 Hrs. Practical- 10 Hrs. Total- 12 Hrs.	<ul style="list-style-type: none"> Silica gel Air tight plastic bags Plastic box Tags 	Class Room and workshop
LU3. Follow Identification System	<ul style="list-style-type: none"> Record invoice data Develop tags for received sets / items Apply tags on items as per requirement 	<ul style="list-style-type: none"> Procedure for Record keeping of mobile phones 	Theory- 02 Hrs. Practical- 08 Hrs. Total- 10 Hrs.	<ul style="list-style-type: none"> Tags 	Class Room and workshop



<p>LU4. Manage Inventory of Phone and accessories</p>	<ul style="list-style-type: none"> • Prepare list of items • Arrange items as per inventory list • Store tagged items 	<ul style="list-style-type: none"> • Knowledge Inventory systems 	<p>Theory- 02 Hrs. Practical- 08 Hrs. Total- 10 Hrs.</p>	<ul style="list-style-type: none"> • Record register • Lose paper 	<p>Class Room and workshop</p>
<p>LU5. Maintain Record of repaired Phone</p>	<ul style="list-style-type: none"> • Keep record of repaired mobile phones • Check record for the received mobile phones • Update record of the repair mobile phones 	<ul style="list-style-type: none"> • Knowledge of computerized record keeping 	<p>Theory- 02 Hrs. Practical- 08 Hrs. Total- 10 Hrs.</p>	<ul style="list-style-type: none"> • Record register • Lose paper 	



List of Personal Protective Equipment

(FOR A CLASS OF 25 STUDENTS)

Name of Trade		Mobile Phone Technician	
Duration of Course		3 Months	
Sr. #	Description	Quantity	
1.	Safety gloves,	30	
2.	Appropriate safety glasses,	30	
3.	Breathing apparatus,	30	
4.	Fire extinguishers,	30	
5.	Fire blankets,	30	
6.	Respirators, masks,	30	
7.	Fire hoses,	04	

Complete List of Tools, Equipment, Machines and Consumables

Tools

S#	Description	Quantity
1.	Precision screw driver	25
2.	Screw driver kit	25
3.	Tweezers	25
4.	Brushes	25
5.	Blade cutter	25
6.	Nose cutter	25



7.	Point cutter	25
8.	Cutter plier	25
9.	Long Nose plier	25
10.	PCB holder	25
11.	Hard tweezers	25
12.	Magnifying glass	25
13.	Opener's kit	25
14.	Suction openers	25
15.	Magnifying lamp	25
16.	Wrist wire	25
17.	Clipping tools(clips)	25
18.	seizer	25
19.	Steel wire	25
20.	Rubber pads	25
21.	Glass openers	25

Equipment for Hardware

S#	Description	Quantity
1.	Digital Multi meter	25
2.	Oscilloscope	5
3.	Soldering Iron	25
4.	Soldering Station/SMD work station	25
5.	Digital variable Power supply	5
6.	B. G. A. Kit	25
7.	Ultrasonic PCB Cleaner	5



Equipment for Display repair

S#	Description	Quantity
1.	Hot gun	25
2.	Smoke Absorber	5
3.	Hot air blower	5
4.	Hot plate display separator	5
5.	Freezer for separation of OLED	5
6.	Flex binding machine	5
7.	Mini electric grinder kit (EMC)	5
8.	UV lamp	5
9.	Glass laminating machine	5
10.	De-bubblers machine	5
11.	PCB Oven	5

Equipment for Software

S#	Description	Quantity
1.	Octopus Box (with cable Samsung + LG)	5
2.	J Tag	5
3.	EFT Dongle	5
4.	CM2 Dongle	5
5.	Sigma Key	5
6.	ATF Dongle	5
7.	ZXW (Hardware) Schematic diagram Dongle	5



Consumables

S#	Description	Quantity
1.	Soldering wire	25 rolls
2.	Gloves	25 Nos
3.	Jumper wire	
4.	IC Paste	
5.	Solder paste	
6.	Cleaning sponge	25
7.	Paste flux	
8.	Cleaning cloth	
9.	Chemical for washing mobile phone	
10.	UV Gum	
11.	Double tape	
12.	Heat resistance tape	
13.	Adhesive Glue	
14.	Thinner	
15.	CTC	
16.	Shiner	
17.	Rubber adhesive glue	
18.	WD-40	
19.	Thinner	
20.	Cotton	



List of Stationary

S#	Description	Quantity
1.	Handbooks	5
2.	Design books	5
3.	Pencils	30
4.	Rubber	30
5.	Sharpeners	30
6.	Paper Cutter	5
7.	Seizers	5
8.	Colors	5 each color (Red, Green, Yellow, Blue, white and Black)
9.	White charts	50 Nos
10.	Brown sheets	100 Nos
11.	White board markers	5 Dozen
12.	Permanent markers	2 Dozen
13.	File cover and files	50 Nos.

