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ELECTRICAL MACHINE WINDING TECHNICIAN



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COMPETENCY STANDARDS

National Vocational Certificate Level 1-4

Version 1 - September, 2018



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- Competency Standard T: Perform Basic Communication (Specific)

- Competency Standard U: Perform Basic Computer Application (Specific)

- Competency Standard V: Apply Work Health and Safety Practices (WHS)

- Competency Standard W: Identify and Implement Workplace Policy and Procedures
- Competency Standard X: Communicate at Workplace

- Competency Standard Y: Perform Computer Application Skills

- Competency Standard Z: Manage Personal Finances



Competency Standard Aa: Contribute to Work Related Health and Safety (WHS) Initiatives
Competency Standard Ab: Analyse Workplace Policy and Procedures
Competency Standard Ac: Perform Advanced Communication
Competency Standard Ad: Develop Advance Computer Application Skills
Competency Standard Ae: Manage Human Resource Services
Competency Standard Af: Develop Entrepreneurial Skills



1. Introduction

Technical and Vocational Education and training (TVET) sector in Pakistan is passing through a transition period of shifting from traditional way of imparting training to the Competency Based Training. In order to build capacity of the technical and vocational Training Institutes in Pakistan, through provision of demand driven Competency Based Trainings in Electrical Sector, the NAVTTTC and TVET Sector Support Program (TSSP) have joined hands together to develop qualifications for Electrical Sector. These qualifications will not only build the capacity of existing workers of the sector but would also support the youth to acquire skills best fit for this sector. The benefits and impact of development of these qualifications will be both on demand and supply side.

Based upon demand of the industry, these competency-based qualifications for “**Electrical Machine Winding Technician**” are developed under the National Vocational Qualification Framework (NVQF)(Level 1 to 4). The qualifications mainly cover the competencies envisages the related knowledge, required skills and professional attitude which are essential for getting a job or seeking self-employment.

These qualifications are also in line with the vision of Pakistan’s National Skills Strategy (NSS), National TVET Policy and National Vocational Qualification Framework (NVQF). This provides policy directions, support and an enabling environment to the public and private sectors to impart training for skills development to enhance social and economic profile. The National Vocational & Technical Training Commission (NAVTTTC) has approved the Qualification Development Committee (QDC).The QDC consist of experts from the relevant industry belonging to different geographical locations across the country 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 adopted by the training institutions across the country.



2. Detail of National Vocational Certificate Levels

The detail of competency standards included in these qualifications are given below:

National Vocational Certificate level 1, in (Electrical Sector) “Electrical Machine Winding Technician”

- Comply with Work Health and Safety Policies
- Obey the Workplace Policies and Procedures
- Follow Basic Communication Skills (General)
- Operate Computer Functions(General)
- Perform Safe Transportation of Faulty Machine

National Vocational Certificate level 2, in (Electrical Sector) “Electrical Machine Winding Technician”

- Comply Personal Health and Safety Guidelines
- Communicate the Workplace Policy and Procedure
- Perform Basic Communication (Specific)
- Perform Basic Computer Application (Specific)
- Maintain Tools/ Equipment and Machinery
- Perform on-site Inspection/testing of machine
- Carry out Mechanical De- Installation of Machine
- Ensure Electrical isolation of Machine



National Vocational Certificate level 3, in (Electrical Sector) “Electrical Machine Winding Technician”

- Apply Work Health and Safety Practices (WHS)
- Identify and Implement Workplace Policy and Procedures
- Communicate at Workplace
- Perform Computer Application Skills
- Manage Personal Finances
- Disassemble Machine at Workshop
- Estimate repair /replacement cost
- Diagnose fault of machine (motor)
- Perform Motor Rewinding
- Perform Transformer Rewinding
- Carry out Re- Assembly of Machine

National Vocational Certificate level 4, in (Electrical Sector) “Electrical Machine Winding Technician”

- Contribute to Work Related Health and Safety (WHS) Initiatives
- Analyse Workplace Policy and Procedures
- Perform Advanced Communication
- Develop Advance Computer Application Skills

- Manage Humane resources

- Develop Entrepreneurial Skills
- Repair / replace allied parts of machine (Motor)
- Repair / replace allied parts of machine (Transformer)



3. Purpose of the Qualification

The purpose of the training is to provide skilled manpower to improve the existing capacity of Electrical sector. This training will provide the requisite skills, knowledge and ability to the trainees to Repair/replace allied parts & rewind electrical machines (Motor & Transformer). It will enable the participants to meet the challenges in the field as “**Electrical Machine Winding Technician**” in the industry. Furthermore, it would improve the skill level of the technician and will prepare such a competitive skilled workforce who will be globally acceptable.

4. Main Objectives of the Qualification

The Electrical Machine Winding Technician Qualifications level 1-4 consists of theoretical and practical details along with the professional attitude of technicians required to perform the tasks assigned as per duties(competencies) as an Electrical Machine Winding Technician in electrical industries. The main objectives of the qualification are as follows:

- Comply with Work Health and Safety Policies
- Obey the Workplace Policies and Procedures
- Follow Basic Communication Skills (General)
- Operate Computer Functions(General)
- Perform Safe Transportation of Faulty Machine
- Comply Personal Health and Safety Guidelines
- Communicate the Workplace Policy and Procedure
- Perform Basic Communication (Specific)
- Perform Basic Computer Application (Specific)



- Maintain Tools/ Equipment and Machinery
- Perform on-site Inspection/testing of machine
- Carry out Mechanical De- Installation of Machine
- Ensure Electrical isolation of Machine

- Apply Work Health and Safety Practices (WHS)
- Identify and Implement Workplace Policy and Procedures
- Communicate at Workplace
- Perform Computer Application Skills
- Manage Personal Finances
- Disassemble Machine at Workshop
- Estimate repair /replacement cost
- Diagnose fault of machine (motor)
- Perform Motor Rewinding
- Perform Transformer Rewinding
- Carry out Re- Assembly of Machine
- Contribute to Work Related Health and Safety (WHS) Initiatives
- Analyse Workplace Policy and Procedures
- Perform Advanced Communication
- Develop Advance Computer Application Skills

- Manage Humane resources

- Develop Entrepreneurial Skills
- Repair / replace allied parts of machine (Motor)
- Repair / replace allied parts of machine (Transformer)



5. Date of Validation

The level 1-4 of National vocational qualification on **Electrical Machine Winding Technician** has been validated by the Qualifications Development Committee (QDC) members on 20th & 21May 2019 and will remain in currency until-----.

6. Codes of Qualifications

The International Standard Classification of Education (ISCED) is a framework for assembling, compiling and analyzing cross-nationally comparable statistics on education and training. ISCED codes for these qualifications are assigned as follows:

ISCED Classification for Electrical Machine Winding Technician level 1-4	
Code	Description
0713 E&E 24	National Vocational Certificate level 1, in (Electrical Sector) “Electrical Machine Winding Technician”
0713 E&E 25	National Vocational Certificate level 2, in (Electrical Sector) “Electrical Machine Winding Technician”
0713 E&E 26	National Vocational Certificate level 3, in(Electrical Sector) “Electrical Machine Winding Technician”
0713 E&E 27	National Vocational Certificate level 4, in (Electrical Sector) “Electrical Machine Winding Technician”



7. Members of Qualifications Development Committee

The following members participated in the qualifications development and of these qualifications:

S#	Name	Designation	Contact No	Email	Organization	Role in Q. D. C
1.	Mr. Arif Hussain Shah	Sr. Manager Electrical			Pak China Chemicals, Faisalabad	Work shop Participants
2.	Mr. Jaffar Ali	Motor Winder / Owner			Mian Electric, Lahore	Work shop Participants
3.	Mr. Aqeel Ahmad	Motor Winder / Owner			Hafiz Electric Repairing Works, Lahore	Work shop Participants
4.	Engr. Safdar Ali	Deputy Manager Technical			Millat Equipment Ltd., Lahore	Work shop Participants
5.	Mr. Muhammad Naheed	Electrical Motor Winder			Creative Electronics – Sky Power, Lahore	Work shop Participants
6.	Mr. Zafar Iqbal	Director			Zafar Electric and Mechanical Workshop, Gujranwala.	Work shop Participants
7.	Mr. Afzal Bashir	Senior Instructor			P-TEVTA, GCT, Sialkot	Work shop Participants
8.	Mr. Hakim Ali Ujjan	Assistant Professor			S-TEVTA, GCT, Hyderabad	Work shop Participants
9.	Mr. M. Mahboob Butt	Chief Instructor	0335-4004652	mmahboobbutt@gmail.com	P-TEVTA, GCT, Sahiwal	Work shop Participants
10	Mr. Umar Zaman Khan	Assistant Professor			KP-TEVTA, GCT, Swat	Work shop Participants
11	Mr. Maqsood Ahmad	Chief Instructor			PVTC / VTI, Lahore	Work shop Participants
12	Mr. Abdul Razzaq	Senior Instructor			P-TEVTA, GCT, Gujranwala	Work shop Participants
13	Mr. Ahmed Bux Lilla	Manager			Transfopower, Lahore	Work shop Participants
14	Mr. Ibrahim Sarfraz	Application Engineer			KSB Pumps, Lahore	Work shop Participants



S#	Name	Designation	Contact No	Email	Organization	Role in Q. D. C
15	Engr. Abdul Maqsood	Principal	0300-9030560	Wadood22@yahoo.com	KP-TEVTA, Mardan	DACUM Facilitator
16	Mr. Ayoub Elahi	Data Center Officer	0323-9877097	ayoubelahi@hotmail.com	UOL, Lahore	Co Facilitator
17	Mr. Saad Saeed	Provincial Coordinator			GFA, Lahore	Provincial Coordinator

8. Entry Requirements

The entry requirement for National Vocational Certificate level 1-4, in (Electrical Sector) “Electrical Machine Winding Technician” are given below:

Title	Entry requirements
National Vocational Certificate level 1, in (Electrical Sector) “Electrical Machine Rewinding Technician”	Entry for assessment for this qualification is open. However, entry into formal training institutes, based on this qualification may require skills and knowledge equivalent to middle (Grade 8).
National Vocational Certificate level 2, in (Electrical Sector) “Electrical Machine Rewinding Technician”	Entry for assessment for this qualification is open. However entry into formal training institute for this qualification is person having National Vocational Certificate level 1, in (Electrical Sector) “Electrical Machine Winding Technician” or middle.



Title	Entry requirements
National Vocational Certificate level 3, in (Electrical Sector) “Electrical Machine Winding Technician”	Entry for assessment for this qualification is open. However entry into formal training institute for this qualification is person having National Vocational Certificate level 2, in (Electrical Sector) “Electrical Machine Winding Technician” or middle with hands on experience.
National Vocational Certificate level 4, in (Electrical Sector) “Electrical Machine Winding Technician”	Entry for assessment for this qualification is open. However entry into formal training institute for this qualification is person having National Vocational Certificate level 3, in (Electrical Sector) “Electrical Machines Winding Technician” or GIII or middle with one year of work experience.



9. Categorization and Levelling of the Competency Standards

Code	NVQF-Level	S#	Name of Duty or (Module)	Category	Level Description	Learning Hours	Credit Hours
101200826	Level-1	1	<ul style="list-style-type: none"> Comply with Work Health and Safety Policies 	Generic	1	30	3
101200827		2	<ul style="list-style-type: none"> Obey the Workplace Policies and Procedures 	Generic	1	20	2
101200828		3	<ul style="list-style-type: none"> Follow Basic Communication Skills (General) 	Generic	1	50	5
061100855		4	Operate Computer Functions(General)	Generic	1	50	5
0713001124		5	<ul style="list-style-type: none"> Perform Safe Transportation of Faulty Machine 	Technical	1	80	8
Total Learning & Credit Hours of Level – 1						230	23



102200844	Level-2	6	Comply Personal Health and Safety Guidelines	Generic	2	30	3
041700839		7	Communicate the Workplace Policy and Procedure	Generic	2	20	2
001100851		8	Perform Basic Communication (Specific)	Generic	2	30	3
061100856		9	Perform Basic Computer Application (Specific)	Generic	2	40	4
0713001125		10	<ul style="list-style-type: none"> ○ Maintain Tools/ Equipment and Machinery 	Technical	2	40	4
0713001126		11	<ul style="list-style-type: none"> ○ Perform on-site Inspection/testing of machine 	Technical	2	90	9
0713001127		12	<ul style="list-style-type: none"> ○ Carry out Mechanical De-Installation of Machine 	Technical	2	90	9
0713001128		13	<ul style="list-style-type: none"> ○ Ensure Electrical isolation of Machine 	Technical	2	90	9



Total Learning & Credit Hours of Level - 2						430	43
102200846	Level-3	14	Apply Work Health and Safety Practices (WHS)	Generic	3	30	3
041700840		15	Identify and Implement Workplace Policy and Procedures	Generic	3	20	2
001100852		16	Communicate at Workplace	Generic	3	30	3
061100858		17	Perform Computer Application Skills	Generic	3	40	4
041300867		18	Manage Personal Finances	Generic	3	30	3
0713001129		19	○ Disassemble Machine at Workshop	Technical	3	80	8
0713001130		20	○ Estimate repair /replacement cost	Technical	3	40	4
0713001131		21	○ Diagnose fault of machine (motor)	Technical	3	80	8
0713001132		22	○ Perform Motor Rewinding	Technical	3	100	10
0713001133		23	○ Perform Transformer Rewinding	Technical	3	90	9
0713001134		24	○ Carry out Re- Assembly of Machine	Technical	3	60	6
Total Learning & Credit Hours of Level - 3						600	60



102200848	Level-4	25	Contribute to Work Related Health and Safety (WHS) Initiatives	Generic	4	30	3
041700841		26	Analyse Workplace Policy and Procedures	Generic	4	30	3
001100853		27	Perform Advanced Communication	Generic	4	30	3
061100858		28	Develop Advance Computer Application Skills	Generic	4	40	4
041300869		29	• Manage Human Resource Services	Generic	4	20	2
041300860		30	Develop Entrepreneurial Skills	Generic	4	30	3
0713001135		31	○ Repair / replace allied parts of machine (Motor)	Technical	4	100	10
0713001136		32	○ Repair / replace allied parts of machine (Transformer)	Technical	4	80	8
Total Learning & Credit Hours of Level - 4						360	36
Total Learning & Credit Hours of the Qualification NVQF Level 1 to 4						1620	162
		TOTAL Duties (32)					

$3+2+5+5+8+3+2+3+4+4+9+9+9+3+2+3+4+3+8+4+8+10+9+6+3+3+3+4+2+3+10+8=162/32 = 5.06$ so this qualification is of level - 4



10. Detail of Competency Standards

PART-I CORE/TECHNICAL COMPETENCIE

0713001126 Perform on-site Inspection/testing of machine

Overview: This competency standard covers the knowledge & skills required to perform on site pre inspection / testing of Machine through taking feedback from the operator, Check Physical status/condition of Machine, Check data plate of machine for specifications, Conduct Megger test of the Machine, Carry out Transformer's oil test, Perform Total Turn Ratio Test of Transformer, Repair/Replace Terminal plate of Motor.

Competency Units	Performance Criteria
A1. Take feedback from the operator	The trainee will be able to: P1: Perform site visit P2: Collect information from the machine operator regarding the fault P3: Record the data
A2. Check Physical status/condition of Machine	The trainee will be able to: P1: Perform physical checking of machine by: <ul style="list-style-type: none">➤ Seeing➤ Touching➤ Smelling P2. Check for loose fitting P3. Check for open / loose / burnt connections P4. Check for true connections as per circuit diagram
A3. Check data plate of machine for specifications	The trainee will be able to: P1: Locate the Data/Name Plate of Machine



	<p>P2: Read data of Machine P3: Record data of Machine</p>
<p>A4. Conduct Megger test of the Machine</p>	<p>The trainee will be able to: P1: Identify the required tools and equipment for conduct of Megger Test P2: Collect the required tools and equipment P3: Disconnect the Supply Cables P4: Perform testing with Megger</p> <ul style="list-style-type: none"> ➤ Ground/Earth Fault ➤ Short Circuit ➤ Open Circuit <p>P5: Record test result</p>
<p>A5. Carry out Transformer's oil test</p>	<p>The trainee will be able to: P1: Identify the required tools and equipment P2: Collect the required tools and equipment P3: Disconnect the Supply Cables P4: Take Oil Sample for test P5: Perform oil testing</p> <ul style="list-style-type: none"> ➤ High Voltage/Breakdown Test ➤ Moisture Test ➤ Flash Point Test <p>P6: Record test results</p>
<p>A6. Perform Transformer Turn Ratio Test</p>	<p>The trainee will be able to: P1: Identify the required tools and equipment P2: Collect the required tools P3: Disconnect the Supply Cables P4: Perform TTR Test P5: Compare TTR test result with the specifications as per Data Plate P6: Record test result</p>
<p>A7. Check Terminals/Terminal plate of Machine</p>	<p>The trainee will be able to: P1: Inspect the Terminal Plate of Machine P2: Check the physical condition of nut bolts P3: Check space/gap between the terminals</p>



	<p>P4: Check the condition of linking strips for connection</p> <p>P5: Check the space condition for rusting/corrosion between terminals</p>
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Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Prepare a list of PPEs
- Demonstrate the use of at least one of the PPEs in front of assessor as per assessors directions
- Perform first aid treatment against electric shock/minor injury.
- Operate fire extinguisher.
- Differentiate between safe and unsafe tools.
- Perform Megger Test (Open/Short Circuit and Ground Fault)
- Perform Transformer Oil Test (High Voltage/Breakdown Test, Moisture Test, Flash Point Test)
- Perform Total Turn Ratio Test
- Check for loose, burnt, short and true connections



0713001128 Ensure Electrical Isolation of Machine

Overview: This competency standard covers the knowledge & skills required to Ensure Electrical isolation of Machine through 'Prepare for work' , Ensure Use of PPE's , Isolate Machine from Electrical Supply , Perform Tagging of Machine ,Document the Electrical Isolation of Machine, Communicate with machine operator and other personnel, De-energise machine .



Competency Units	Performance Criteria
B1. Prepare for Work to ensure Electrical Isolation of Machine	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Prepare the required tags for isolation
B2. Wear PPE's	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Ensure functional condition of PPE's P4: Wear PPE's as per job requirement
B3 . Isolate Machine from Electrical Supply	The trainee will be able to: P1: Identify the machine for isolation P2: Collect the required tools for isolation P3: Identify the supply Sources/points to be isolated P4: Identify the supply disconnecting devices P4: Take on board the concerned department for electrical isolation P5: Switch off the supply sources



B4. Perform Tagging of Machine	The trainee will be able to: P1: Ensure electrical isolation P2: Collect required tagging P3: Perform tagging of faulty Machine
B5. Document the Electrical Isolation of Machine	The trainee will be able to: P1: Enlist the tagged Machines P2: Document nature of the faults P3: Record the electrical isolation of machine
B6. Communicate with machine operator and other personnel	The trainee will be able to: P1: Identify nature of fault of machine P2: Diagnose the causes of fault P3: Communicate nature of fault of machine to operation department P4: Prepare memo/(MWR) Maintenance Work Request for maintenance of machines
B7. De-Energize Machine	The trainee will be able to: P1: Identify the required tools and equipment for De-energize the machine P2: Collect the required tools and equipment for De-energize the machine P3: Identify the part of the machine to be De-energize P4: Perform de-energizing of machine



Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

5. **Portfolio**
6. **Assignment(s)/Project(s)**
7. **Relevant Certification(s)**
8. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Identify the required PPE's
- Identify the required tools and equipment
- Identify the supply Sources/points to be isolated
- Identify the supply disconnecting devices
- Identify nature of fault of machine
- Diagnose the causes of fault
- Identify the part of the machine to be De-energized
- Perform de-energizing of machine



0713001127 Carry out Mechanical De- Installation of Machine

Overview: This competency standard covers the knowledge & skills required to Carry out Mechanical De- Installation of Machine through Prepare for work, Isolate Machine from Pneumatic Supply, Isolate Machine from Fuel Supply, Isolate Machine from Gear Box , Isolate Machine from Pulley , Perform De-Coupling of Machine , De- Install Machine from Foundation

Competency Units	Performance Criteria
C1. Prepare for work to Carry out Mechanical De-Installation of Machine	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation
C2. Isolate Machine from Pneumatic/hydraulic Supply	The trainee will be able to: P1: Wear the required PPE's P2: Identify the required tools and equipment P3: Locate the main valve of Pneumatic/hydraulic supply to the machine P4: Close the main valve of Pneumatic/hydraulic supply to the machine P5: Identify parts to be isolated from pneumatic/hydraulic supply P6: Perform isolation of all the pneumatic/hydraulic supplies to the machine P7: Perform dead plugging of all the pneumatic/hydraulic supplies P8: Maintain Record of pneumatic/hydraulic supplies isolation P9: Perform Tagging of the isolated pneumatic/hydraulic supplies



C3. Isolate Machine from Fuel Supply	The trainee will be able to: P1: Wear the required PPE's P2: Identify the required tools and equipment P3: Locate the main valve of fuel supply to the machine P4: Close the main valve of fuel supply to the machine P5: Identify parts to be isolated from fuel supplies P6: Perform isolation of all the fuel supplies to the machine P7: Perform dead plugging of all the fuel supplies P8: Maintain Record of fuel supplies isolation P9: Perform Tagging of the isolated fuel supplies
C4. Isolate Machine from Gear Box	The trainee will be able to: P1: Wear the required PPE's P2: Identify the required tools and equipment P3: Locate the gear box of the machine P4: Perform marking on driver, driven and foundation for proper alignment and placement of parts P5: Perform isolation of Gear Box P6: Record isolation of Gear Box P7: Perform Tagging on Gear Box and driven end
C5. Isolate Machine from Pulley	The trainee will be able to: P1: Wear the required PPE's P2: Identify the required tools and equipment P3: Locate the pulley of the machine P5: Perform isolation of pulley P6: Record isolation of pulley P7: Perform Tagging on pulley and its allied parts



C6. Perform De-Coupling of Machine	The trainee will be able to: P1: Wear the required PPE's P2: Identify the required tools and equipment P3: Locate the parts of the machine to be De-coupled P4: Perform marking on parts to be De-coupled for realignment/readjustment P5: Perform De-coupling of the machine P6: Record De-coupling of the machine P7: Perform Tagging on De-coupled parts of the machine
C7. De- Install Machine from Foundation	The trainee will be able to: P1: Wear the required PPE's P2: Identify the required tools and equipment P3: Identify machine to be de-installed from foundation P4: Perform de-installation of machine from foundation P5: Record de-installation of machine P6: Perform tagging on the de-installed machine

Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

- 9. Portfolio
- 10. Assignment(s)/Project(s)
- 11. Relevant Certification(s)
- 12. Relevant Job/Experience Letter

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Identify parts to be isolated from pneumatic/hydraulic supply
- Perform isolation of all the pneumatic/hydraulic supplies to the machine
- Perform dead plugging of all the pneumatic/hydraulic supplies
- Perform marking on driver, driven and foundation for proper alignment and placement of parts



- Perform isolation of Gear Box
- Perform isolation of pulley
- Locate the parts of the machine to be De-coupled
- Perform de-installation of machine from foundation

071300124 Perform Safe Transportation of Faulty Machine

Overview: This competency standard covers the knowledge & skills required to Perform Safe Transportation of Faulty Machine through' Prepare for work, Install/Adjust Tri Pod and chain Block to lift the Machine, Lift the Machine through Tri Pod and chain block, Load Machine on the Loader ,Load machine on Fork Lifter ,Ensure safe shifting of Machine to Workshop , Ensure safe unloading of Machine at Workshop , Maintain Inventory Record

Competency Units	Performance Criteria
D1. Prepare for work to perform safe transportation of fault machine	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation
D2. Install/Adjust Tri Pod and chain Block to lift the Machine	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Prepare place for installation of tripod and chain block P4: Install tripod and chain block P5: Adjust tripod and chain block



D3. Lift the Machine through Tri Pod and chain block	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Identify eye bolt/hook of the machine P4: Fasten chain using U bolt shackle with eye bolt/hook of machine P5: Lift the machine up to safe and required height
D4. Load Machine on the Loader	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Ensure right positioning of loader for loading the machine P4: Perform loading of machine on the loader P5: Un-bolt the U bolt shackle of chain from eye bolt/hook of machine P6: Fasten the machine at loader
D5. Load machine on Fork Lifter	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Ensure right positioning of fork lifter to load the machine P4: Ensure safe loading of machine on the fork lifter
D6. Ensure safe shifting of Machine to Workshop	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Fasten properly machine at loader / fork lifter to avoid slipping during transportation P4: Perform safe shifting of Machine to Workshop



D7. Ensure safe unloading of Machine at Workshop	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Prepare site for safe unloading/placing of machine P4: Un load the machine from fork lifter P5: Prepare place for installation of tripod and chain block P6: Install tripod and chain block P7: Adjust tripod and chain block P8: Ensure right positioning of loader for unloading the machine P9: Bolt the U bolt shackle of chain with eye bolt/hook of machine P10: Un-fasten the machine at loader P11: Perform unloading of machine from the loader P12: Un-bolt the U bolt shackle of chain from eye bolt of machine
D8. Maintain Inventory Record	The trainee will be able to: P1: Record receiving of machine P2: Allot inventory number to machine P3: Tag machine according to inventory number

Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

- 13. Portfolio**
- 14. Assignment(s)/Project(s)**
- 15. Relevant Certification(s)**
- 16. Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Install tripod and chain block
- Adjust tripod and chain block



- Perform loading of machine on the loader
- Perform loading /unloading of machine on the fork lifter

0713001129 Disassemble Machine at Workshop

Overview: This competency standard covers the knowledge & skills required to Disassemble Machine at Workshop through Prepare for work , Shift Machine to work Bench ,Perform marking for Positions of Parts ,Perform numbering on Machine parts as per Inventory Record ,Remove the Faulty Parts ,Ensure safe and Sequential Placing of healthy parts of Machine

Competency Units	Performance Criteria
E1. Prepare for work to disassemble machine at workplace	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation
E2. Shift Machine to work bench	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Ensure safe shifting of machine to work bench P4: Record shifting of machine to work bench



Competency Units	Performance Criteria
E3. Perform marking for Positions of Parts	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Identify the parts to be marked for position marking P4: Perform marking for position of parts as per inventory record
E4. Perform numbering on Machine parts as per Inventory Record	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Identify the parts of machine for allotment of specific number P4: Perform numbering on machine parts as per inventory record
E5. Remove the faulty parts	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Identify faulty parts of machine P4: Remove the faulty parts of machine P5: Mark specific numbering on faulty parts of machine
E6. Ensure safe and Sequential Placing of healthy parts of Machine	P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Mark specific numbering on healthy parts of machine P4: Place healthy parts of machine at safe place in sequential order P5: Record the placement/location of healthy parts

Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

17. Portfolio
18. Assignment(s)/Project(s)
19. Relevant Certification(s)
20. Relevant Job/Experience Letter



Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Ensure safe shifting of machine to work bench.
- Identify faulty parts of machine
- Remove the faulty parts of machine
- Perform marking for position of parts and make inventory

0713001131 Diagnose Fault of Machine (Motor)

Overview: This competency standard covers the knowledge & skills required to diagnose fault of machine (motor) through Prepare for work, Verify pre inspection test results of machine ,Check Alignment of Rotor Shaft ,Check Bearing/ Bush of Machine ,Update Test Results of Machine ,Identify the Faulty Parts of Machine

Competency Units	Performance Criteria
F1. Prepare for work to diagnose fault of machine (Motor)	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation



Competency Units	Performance Criteria
<p>F2. Verify inspection test (on site test) results of machine</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Verify / Check numbering on machine parts as per inventory record P4: Perform testing with Megger ➤ Ground/Earth Fault ➤ Short Circuit ➤ Open Circuit P5: Record test result P6: Compare both the on site and current test results</p>
<p>F3. Check Alignment of Rotor Shaft</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Check alignment of rotor shaft with the help of dial gauge P4: Check the rotor shaft size as per bearing size P5: Check run out of the rotor shaft P6: Record result</p>
<p>F4. Check Bearing/ Bush of Machine</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Inspect the bearing/bush for ➤ noise ➤ Axial/Radial Play/Looseness ➤ Stickiness ➤ Lubrication ➤ Breakage P3: Check bearing / bush of machine P4: Record result</p>



Competency Units	Performance Criteria
F5. Update Test Results of Machine	The trainee will be able to: P1: Collect pre inspection test results of machine P2: Collect test results of machine conducted in workshop P3: Update test results of machine
F6. Identify the Faulty Parts of Machine	The trainee will be able to: P1: Check test results of machine P2: Identify faulty parts of machine P3: Perform Numbering on faulty parts of machine according to inventory record P4: Tag faulty parts of machine

Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Inspect the bearing/bush for (Noise, Axial/Radial Play/Looseness, Stickiness, Lubrication, Breakage)
- Identify faulty parts of machine
- Check alignment of rotor shaft with the help of dial gauge
- Check the rotor shaft size as per bearing size
- Check run out of the rotor shaft



0713001130 Estimate Repair/Replacement Cost

Overview: This competency standard covers the knowledge & skills required to Estimate Repair/Replacement Cost through Prepare for work , Estimate Cost of the required Materials , Estimate Transportation Charges , Estimate Labour Cost of the materials , Calculate accumulative cost of the materials , Liaise with client/customer on repair cost , Order parts , Arrange the required Materials/Parts ,

Competency Units	Performance Criteria
G1. Prepare for work to estimate repair/replacement cost	The trainee will be able to: P1: Identify the required stationary, equipment, software and materials P2: Collect the required stationary, equipment, software and materials
G2. Estimate Cost of the required Materials	The trainee will be able to: P1: Prepare list of the materials/parts required for repair/replacement P2: Estimate quantity of materials/faulty parts of machine P3: Estimate cost of the required material/parts
G3. Estimate Transportation Charges	The trainee will be able to: P1: Estimate transportation cost of pick and drop of machine P2: Estimate transportation cost on collection/purchase of material/parts of machine
G4. Estimate Labour Cost of the materials	The trainee will be able to: P1: Estimate man hours for pick and drop of machine P2: Estimate man hours for arrangement of material/parts P3: Estimate man-hours required for repair work



G5. Calculate accumulative cost of the materials	The trainee will be able to: P1: Collect the estimated costs: <ul style="list-style-type: none">➤ Material Cost➤ Transportation Cost➤ Labour Cost➤ Overhead Charges➤ Set the profit margin P2: Calculate the accumulative cost
G6. Liaise with client /customer on repair cost	The trainee will be able to: P1: Inform the client/customer about total cost P2: Negotiate with the client/customer about total cost P3: Finalize the total cost P4: Make agreement with the client/customer
G7. Arrange the required Materials / Parts	The trainee will be able to: P1: Collect list of the estimated material/parts for repair P2: Check availability of the required parts/material in the store P3: Place purchase order for the deficient parts/materials P4: Collect the required parts/materials from the store

Critical Evidence(s)

The candidate needs to produce any or all of the following documents/evidences:

1. Portfolio
2. Assignment(s)/Project(s)
3. Relevant Certification(s)
4. Relevant Job/Experience Letter

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:



- Estimate quantity of materials/faulty parts of machine
- Estimate cost of the required material/parts
- Estimate transportation charges
- Estimate working hours cost / labour cost
- Calculate the accumulative cost

0713001135 Repair / Replace allied parts of Machine (Motor)

Overview: This competency standard covers the knowledge & skills required to Repair / replace allied parts of machine (Motor) through Prepare for work, Replace Bearing , Replace Bush , Replace Carbon Brushes , Repair/Replace Commutator , Check Rotor Shaft , Repair/Replace Centrifugal Switch of Motor, Replace Capacitor of Motor , Repair/Replace Terminal plate of Motor ,



Competency Units	Performance Criteria
H1.Prepare for work to repair / replace allied parts of machine (Motor)	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none"> ➤ Clear Passage ➤ Cleanliness ➤ Adequate light ➤ Ventilation
H2.Replace Bearing	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Remove the faulty bearing P4: Collect the relevant number bearing from store P5: Replace the bearing P6: Update record
H3. Replace Bush	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Remove the faulty bush P4: Collect the relevant size of bush from store P5: Replace the bush P6: Update record



H4. Replace Carbon Brushes	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Remove the faulty carbon brush P4: Collect the relevant size and material of carbon brush from store P5: Replace the carbon brush P6: Update record
H5. Repair/Replace Commutator/Slip rings	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Check smoothness of the surface of the commutator/slip rings P4: Perform required surfacing of commutator/slip rings P5: Perform undercutting of mica between segments of commutator with hacksaw blade P6: Perform cleaning of commutator/slip rings P7: Remove short circuited commutator/slip rings from the motor shaft P8: Collect the relevant size of commutator/slip ring from store P9: Replace the commutator/slip rings P10: Update record
H6. Check Rotor ant its Shaft	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Check smoothness of the surface of the rotor shaft P4: Check size of shaft according to inner diameter of bearing P5: Perform welding of shaft for sizing if required P6: Perform surfacing of rotor shaft to acquire correct bearing size P7: Check balance of rotor shaft P8: Perform balancing of rotor shaft if required P9: Perform cleaning of rotor shaft P10: Update record



<p>H7. Repair/Replace Centrifugal Switch (Clutch) of Motor</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Check working of centrifugal switch P4: Set working of centrifugal switch P5: Check contact points of centrifugal switch P6: Perform surfacing of contact points of centrifugal switch P7: Perform cleaning of contact points of centrifugal switch P8: Update record</p>
<p>H8. Replace Capacitor of Motor</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Check the capacitor P4: Replace the faulty capacitor P8: Update record</p>
<p>H9. Repair/Replace terminals of Motor</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform physical Checking of the terminal plate and terminals of motor P4: Perform cleaning of terminals and terminal plate to remove carbon dust P5: Check fixing of terminal plate P6: Check the terminal linking strips P7: Repair/Replace the faulty part P8: Update record</p>



Critical Evidence(s)

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Replace the faulty bearing
- Replace the faulty bush
- Replace the faulty carbon brush
- Replace short circuited commutator/sliprings from the motor shaft
- Replace the faulty capacitor
- Perform cleaning of terminals and terminal plate to remove carbon dust
- Replace faulty terminal plate



0713001136 Repair / replace allied parts of machine (Transformer)

Overview: This competency standard covers the knowledge & skills required to Repair / replace allied parts of machine (Transformer through Prepare for work , Collect the required materials/parts , Perform filtration of Transformer Oil , Replace Transformer Oil , Perform De- Hydration of Silica Gel , Repair / Replace Transformer Bushing , Repair/ Replace Tap Changer , Check main Tank body of Transformer for leakage , Check Buchholz Relay ,

Competency Units	Performance Criteria
I1. Prepare for work to repair / replace allied parts of machine (Transformer)	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation
I2. Collect the required materials/parts	The trainee will be able to: P1: Collect list of the estimated material/parts for repair P2: Check availability of the required parts/material in the store P3: Place purchase order for the deficient parts/materials P4: Collect the required parts/materials from the store



I3. Perform filtration & de-hydration of Transformer oil	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect oil sample P4: Check the dielectric strength of the oil P5: Drain out oil from transformer tank P6: Perform filtration of transformer oil P7: Update record
I4. Replace Transformer Oil	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Drain out old transformer oil from tank P4: Arrange new transformer oil P5: Refill in new transformer oil in tank P6: Update record
I5. Perform De-Hydration of Silica Gel	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Open breather of transformer P4: Remove silica gel from breather of transformer P5: Spread removed silica gel under sun light over a sheet for de-hydration P6: Heat removed silica gel in oven up to 120C° for complete de-hydration P7: Perform de-hydration of silica gel P8: Update record
I6. Repair / Replace Transformer Bushings	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform physical Checking of transformer bushing P4: Perform cleaning of transformer bushing to remove carbon dust P5: Check fixing of transformer bushing P6: Replace the damaged transformer bushing P7: Update record



<p>17. Repair/ Replace Tap Changer</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform physical Checking of the tap changer P4: Perform cleaning of contact terminals of tap changer to remove carbon dust P5: Check fixing of tap changer P6: Check the connections of linking cables P7: Replace the faulty tap changer P8: Update record</p>
<p>18. Check main Tank body of Transformer for leakage</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform physical Checking of the tank P4:Locate leakage point in main tank of transformer P5:Drain out oil from main tank P6: Refer for welding of the leakage point P7: Re-fill oil in main tank P8: Perform physical Checking of the tank P9: Update record</p>
<p>19. Repair/Replace Buchholz Relay</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Check Buchholz relay P4: Remove Buchholz Relay from transformer P5:Repair/Replace Buchholz relay P6: Update record</p>



Critical Evidence(s)

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Take sample of transformer oil
- Check dielectric strength / flash over voltage test of the oil
- Perform filtration of transformer oil
- Perform de-hydration of transformer oil
- Perform de-hydration of silica gel
- Replace the damaged transformer bushing
- Perform cleaning of contact terminals of tap changer to remove carbon dust
- Replace the faulty tap changer
- Check Buchholz relay
- Repair/Replace Buchholz Relay from transformer



0713001132 Perform Motor Rewinding

Overview: This competency standard covers the knowledge & skills required to Perform Motor Rewinding through **Prepare for work**, Shift Faulty part of Motor to work Bench , Remove the Winding Coils , Collect the required Materials for Rewinding , Prepare Core for Rewinding , Interpret Wiring Diagram , Make a Former for Coil Winding , Prepare Coil Winding Machine for Rewinding , Set the Coils in the Core slots , Interlink Coils as per number of Poles , Perform Winding Tests , Perform Binding of Coils , Conduct Baking of Winding , Verify Winding Tests ,

Competency Units	Performance Criteria
J1. Prepare for work to perform motor rewinding	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation
J2. Shift Faulty part of Motor to work Bench	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Locate faulty parts of motor P4: Perform shifting of faulty parts of motor to work bench



<p>J3. Remove the Winding Coils</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform marking at motor body for correct re-fitting at both ends P4: Dis-assemble motor P5:Store rotor and stator after appropriate tagging P6:Cut fastening threads P7: Record the connection details of stator coils P8:Locate faulty winding coils P9: Cut faulty winding coils from both ends of stator core P10: Remove faulty coils from stator core P11: Count / measure and record: ➤ Number of turns of each coil ➤ Pole pitch ➤ Coil span ➤ Weight of each coil ➤ Size of winding wire of each coil</p>
<p>J4. Collect the required Materials for Rewinding</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Estimate total weight of wire required for rewinding P4: Verify size of winding wire P5: Estimate length of required lathered paper P6: Prepare list of material required for rewinding P7: Collect the required material for rewinding P8: Update record</p>



J5. Prepare Core for Rewinding	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Clean laminations of the core P4: Set laminations of the core P5: Perform marking on lathered paper according to size of core slots P6: Perform cutting of lathered paper according to marking P7: Insert lathered paper into core slots
J6. Interpret Winding Diagram	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect winding data P4: Interpret winding diagram
J7. Make a Former for Coil Winding	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect winding data P4: Collect the former of appropriate size P5: Make / adjust former according to coil span P6: Verify adjustment of former according to coil span P7: Fix and adjust former according to coil span
J8. Prepare Coil Winding Machine for Rewinding	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect the already adjusted former P4: Collect relevant size winding wire P5: Prepare required number of coil sets P6: Calculate the total weight of winding coils P7: Update record



<p>J9. Set the Coils in the Core slots</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect core and the sets of coils to be inserted in core P4: Insert coils one by one in the core slots according to winding diagram P5: Set the coils in core slots P6: Verify the sequence of coil insertion P7: Insert lathered paper or bamboo wedge to prevent coils from slipping out from the core slots</p>
<p>J10. Interlink Coils as per number of Poles</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect Core having coils inserted in it P4: Insert appropriate size sleeves on one side of coils ends P5: Remove varnish insulation from ends of coils P6: Interlink coils end as per number of poles and winding diagram P7: Connect supply leads according winding diagram with coils P8: Check that the coils have sound: ➤ Continuity ➤ Insulation between overlapping coils ➤ Insulation between coils and core P9: Verify the connections P10: Solder the joints P11: Slide sleeves over the joints to insulate the joint P12: Press the winding coils to ward outer edge of core</p>



<p>J11. Perform Winding Tests</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect newly wound core P4: Perform winding test to verify</p> <ul style="list-style-type: none">➤ Continuity➤ Insulation between overlapping coils➤ Insulation between coil and core➤ Megger Test
<p>J12. Perform Binding of Coils</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Put latheroid paper between two coils to strengthen insulation on both sides of core ends P4: Perform binding of coil with binding thread or cotton tape on both sides of core ends P5: Press the coil ends toward outer side of core P6: Verify that the coils have sound:</p> <ul style="list-style-type: none">➤ Continuity➤ Insulation between each other➤ Insulation between coil and core



J13. Conduct Baking of Winding	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Varnish the winding P4: Verify that the coils have sound: <ul style="list-style-type: none">➤ Continuity➤ Insulation between each other➤ Insulation between coil and core P5: Perform baking of winding
J14. Verify Winding Tests	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform winding tests to verify that the coils have: <ul style="list-style-type: none">➤ Continuity➤ Insulation between each other➤ Insulation between coil and core

Critical Evidence(s)

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Locate faulty parts of motor



- Dis-assemble rotor and stator of Motor
- Locate faulty winding coils
 - Cut faulty winding coils from both ends of stator core Remove faulty coils from stator core
 - Count / measure and record (Number of turns of each coil, Pole pitch, Coil span, Weight of each coil, Size of winding wire of each coil)
 - Perform marking on latheroid paper according to size of core slots
 - Interpret winding diagram
 - Make / adjust former according to coil span
 - Fix and adjust former according to coil span
 - Prepare required number of coil sets
 - Insert coils one by one in the core slots according to winding diagram
 - Set the coils in core slots
 - Insert latheroid paper or bamboo wedge to prevent coils from slipping out from the core slots
 - Remove varnish insulation from ends of coils
 - Interlink coils end as per number of poles and winding diagram
 - Connect supply leads according winding diagram with coils
 - Check that the coils have sound (Continuity, Insulation between overlapping coils, Insulation between coil and core)
 - Solder the joints
 - Perform winding test to verify (Continuity, Insulation between overlapping coils, Insulation between coil and core, Megger Test)
 - Put latheroid paper between two coils to strengthen insulation on both sides of core ends
 - Perform binding of coil with binding thread or cotton tape on both sides of core ends
 - Varnish the winding
 - Perform baking of winding
 - Perform winding tests to verify that the coils have (Continuity, Insulation between each other, Insulation between coil and core)



0713001133 Perform Transformer Rewinding

Overview: This competency standard covers the knowledge & skills required to Perform Transformer Rewinding through Prepare for work , Collect Faulty Coil of Transformer , Compile data of Faulty Transformer , Collect the Materials required for Winding , Prepare a Former for Coil Winding , Prepare Coil on Winding Machine , Re- Assemble the Coil on Core , Make Connections as per rating plate of Transformer , Calculate Total Turn Ratio of Transformer , Conduct Baking of live part of Transformer ,

Competency Units	Performance Criteria
K1.Prepare for work to perform transformer rewinding	The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6: Ensure safe working conditions <ul style="list-style-type: none">➤ Clear Passage➤ Cleanliness➤ Adequate light➤ Ventilation



<p>K2. Collect Faulty Coil of Transformer</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3:Remove cover of transformer P4: Identify faulty coil P5:Disconnect connections of faulty coil P6:Disassemble the channel of core P7: Remove the required part of core P8: Remove the faulty coil / coils from the limb of core P9: Ensure proper placing of removed coils P10: Update record</p>
<p>K3. Compile data of Faulty Transformer Coil / Coils</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3:Collect the faulty coil P4:Measure / calculate: ➤ Dimensions (Height, inner & outer diameter) of coil / coils ➤ Size of winding wire ➤ No of turns of coil P5:Collect data from name plate of transformer P6: Compile data of faulty coil / coils of transformer P7: Update record</p>
<p>K4.Collect the required Materials for Re-winding</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3:Prepare estimate of the required material for rewinding P4: Collect material required for rewinding P5: Update record</p>



K5. Prepare Former for Coil Winding	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect winding data P4: Collect/Prepare former as per required dimensions(Volume) P5: Verify the size of former according to the coil
K6. Prepare Coil on Winding Machine	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect former P4: Fix former on winding machine P5: Collect required winding material P6: Wrap two, three layers of latheroid paper on the former P7: Fasten one end of winding wire with former P8: Put small pieces of cotton tape on former for coil binding P9: Wind quarter length of coil P10: Pull the cotton tape to bind the wound turns P11: Complete winding of first layer of coil P12: Wrap latheroid paper over first layer of coil P13: Complete winding of all coil layers according to number of turns P14: Bind the coil with cotton tape P15: Apply varnish on last / end layer of coil P16: Remove the former from winding machine P17: Remove the former from the coil P18: Update record



K7. Re- Assemble the Coil on Core	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Insert the wound coil over the limb of core P4: Assemble the opened layer of the core P5: Fit the channel on core P6: Fix the channel on core P7: Update record
K8. Make Connections as per rating plate of Transformer	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Make connection as per data / rating plate of transformer P4: Perform joints soldering of coils connections P5: Update record
K9. Calculate Turn Ratio of Transformer	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect specifications from data / rating plate of transformer P4: Calculate turn ratio of transformer P5: Update record
K10. Conduct Baking of live part/Coil Assembly of Transformer	The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Place the transformer's coil assembly / live part in baking oven P4: Set specific temperature of the baking oven P5: Perform baking of coil assembly / live part P6: Update record



Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Disconnect connections of faulty coil
- Disassemble the channel of core
- Remove the required part of core
- Remove the faulty coil / coils from the limb of core
- Measure / calculate Dimensions (Height, inner & outer diameter of coil / coils, Size of winding wire, No of turns of coil)
- Collect data from name plate of transformer
- Prepare estimate of the required material for rewinding
- Collect/Prepare former as per required dimensions (Volume)
- Fix former on winding machine
- Wrap two, three layers of latheroid paper on the former
- Complete winding of first layer of coil
- Wrap latheroid paper over first layer of coil
- Bind the coil with cotton tape
- Assemble the opened layer of the core
- Fit the channel on core
- Fix the channel on core
- Make connection as per data / rating plate of transformer
- Perform joints soldering of coils connections
- Calculate turn ratio of transformer
- Set specific temperature of the baking oven
- Perform baking of coil assembly / live part



07130034 Carry out Re- Assembly of Machine

Overview: This competency standard covers the knowledge & skills required to Carry out Re- Assembly of Machine through **Prepare for work** , Arrange parts of the Machine , Re- Assemble the Machine , Ensure Quality of Repair Work , Ensure safe storing/placing of Machine , Tag the Machine ready for delivery ,

Competency Units	Performance Criteria
<p>L1: Prepare for work to carryout re- assembly of machine</p>	<p>The trainee will be able to: P1: Identify the required PPE's P2: Collect the required PPE's P3: Identify the required tools and equipment P4: Collect the required tools and equipment P5: Ensure functional condition of PPE's/Tools and equipment P6:Ensure safe working conditions</p> <ul style="list-style-type: none"> ➤ Clear Passage ➤ Cleanliness ➤ Adequate light ➤ Ventilation
<p>L2:Arrange parts of the Machine</p>	<p>P1:identify the required parts of machine P2:Collect the required parts P3:Count total number of parts for deficiency P4:Arrange parts of the machine in sequential order</p>
<p>L3:Re-assemble the Machine</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Collect parts of machine in sequential order P4: Perform Re-assembling of machine as per numbering of parts: P5: Adjust/Align parts of machine as per marking P6: Verify tightening of nut bolts with torque Wrench</p>



<p>L4: Ensure Quality of Repair Work</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Perform physical inspection of the Re-Assembled Machine P4: Perform Megger test of machine P5:Energize/Power Up the machine P6: Perform test run of machine</p> <ul style="list-style-type: none"> ➤ Observe vibration ➤ Observe sound ➤ Measure Input current ➤ Observe Heat ➤ Check output
<p>L5. Ensure safe storing/placing of Machine</p>	<p>The trainee will be able to: P1: Wear the required PPE's P2: Pick the required tools and equipment P3: Prepare site for safe storage of machine P4: Collect machine from workbench P5: Shift machine to the safe storing site P6: Ensure safe storing/placing of machine</p>
<p>L6. Tag the Machine ready for delivery</p>	<p>The trainee will be able to: P1: Prepare delivery tags P2: Identify the machine to be tagged P3: Tag the machine P4: Update record P5: Prepare final bill of repair P6: Communicate client/customer regarding readiness of machine</p>



Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Perform Re-assembling of machine as per numbering of parts:
- Adjust/Align parts of machine as per marking
- Perform test run of machine (Observe vibration, Observe sound, Measure Input current, Observe Heat, Check output)
- Prepare final bill of repair
- Communicate client/customer regarding readiness of machine



0713001125 Maintain Tools/ Equipment and Machinery

Overview: This competency standard covers the knowledge & skills required to Maintain Tools/ Equipment and Machinery through Prepare for work , Maintain Tools and equipment , Ensure Insulation of Tools and Equipment , Calibrate measuring instruments , Perform Lubrication of tools and equipment , Maintain Machines , Manage Inventory of tools/equipment and Machinery

Competency Units	Performance Criteria
M1. Prepare for work to maintain tools / equipment and machinery	The trainee will be able to: P1: Prepare list of the PPE'S required for maintainiong tools/equipment and machinery P2: Identify the required PPE'S P3: Collect the required PPE'S P4: Ensure working / functional condition of PPE'S P5: Prepare list of the tools / equipment required for winding technician P6: Identify the tools/equipment required for winding technician P7: Collect the tools/equipment required for winding technician
M2. Maintain Tools and equipment	The trainee will be able to: P1: Display list of the tools / equipment required for winding technician P2: Match the available tools / equipment with the displayed list P3: Prepare list of missing tools and equipment P4: Arrange the missing tools and equipment
M3. Perform Preventive maintenance of tools and equipment	The trainee will be able to: P1: Check physical condition of tools and equipment P2: Perform cleaning of tools and equipment P3: Perform lubrication of tools and equipment P4: Ensure proper storage of tools and equipment



<p>M4. Perform Corrective maintenance of tools and equipment</p>	<p>The trainee will be able to: P1: Check working/functional condition of tools and equipment P2: Perform Corrective maintenance of tools and equipment regarding:</p> <ul style="list-style-type: none"> ➤ Sharpening ➤ Adjustment ➤ Balancing ➤ Tightness ➤ Jamming ➤ Breakage ➤ Calibration
<p>M5. Ensure Electrical/Thermal Insulation of tools and equipment</p>	<p>The trainee will be able to: P1: Check Electrical Insulation of tools and equipment P2: Maintain electrical insulation of tools and equipment P3: Check Thermal Insulation of tools and equipment P4: Maintain Thermal insulation of tools and equipment P5: Ensure proper storage of tools and equipment</p>
<p>M6. Calibrate measuring instruments</p>	<p>The trainee will be able to: P1: Check calibration of measuring instruments P2: Set calibration of measuring instruments P3: Compare calibration with the standard/Pre-calibrated instrument</p>
<p>M7. Maintain Winding Machines</p>	<p>The trainee will be able to: P1: Check physical condition of winding machines P2: Perform cleaning of winding machines P3: Perform lubrication of winding machines P4: Check calibration of turns counter of winding machines P5: Set calibration of turns counter of winding machines P6: Replace turns counter of winding machines P7: Ensure safe covering/storing of winding machines</p>
<p>M8. . Manage Inventory of tools/equipment and Machinery</p>	<p>The trainee will be able to: P1: Collect relevant inventory forms/stock register P2: Record receiving of tools, equipment and machinery in inventory forms/stock register P3: Maintain record of tools and equipment in stock register</p>



Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**
4. **Relevant Job/Experience Letter**

Furthermore, the candidate must execute **demonstration(s)**, which may include but are not limited to, the following:

- Prepare list of the PPE'S required for winding technician
- Identify the required PPE'S
- Prepare list of the tools / equipment required for winding technician
- Identify the tools/equipment required for winding technician
- Check working/functional condition of tools and equipment
- Perform Preventive maintenance of tools and equipment
- Perform Corrective maintenance of tools and equipment regarding (Sharpening, Adjustment, Balancing, Tightness, Jamming, Breakage, Calibration)
- Maintain electrical insulation of tools and equipment
- Maintain thermal insulation of tools and equipment
- Maintain record of tools and equipment in stock register



PART-II GENERICCOMPETENCE

101200826 Comply Work Health and Safety Policies

Overview: This unit describes the performance outcomes, skills and knowledge required to apply general work health and safety requirements in the workplace. Communicate work and health safety assess at work place. It describes generic work health and safety responsibilities applicable to employees without managerial or supervisory responsibilities.

Competency Units	Performance Criteria
CU1. Work safely at work place	P1. Identify relevant organizational safety policies and procedures P2. Categorize tools and equipment as per requirements P3. Maintain tools and equipment P4. Follow established safety procedures during work activities P5. Identify existing or potential safety issues to designated persons P6. Report work-related incidents and accidents to supervisor P7. Take necessary measures to minimizing risks
CU2. Communicate work health and safety (WHS) assess at work place	P1. Raise work health and safety issues with supervisor. P2. Contribute to workplace meetings and other consultative processes for work health and safety management at the workplace P3. Make suggestions for improving work health and safety practices
CU3. Minimize risks to personal safety at work place	P1. Identify situations that may endanger the personal safety P2. Document the incident regarding personal safety at work place P3. Eliminate workplace hazards regarding personal safety



	<p>P4. Identify damaged items and equipment for personal safety</p> <p>P5. Notify supervisor regarding damaged items and equipment for personal safety</p>
<p>CU4. Minimize risks to public safety</p>	<p>P1. Identify situations that may endanger the public safety</p> <p>P2. Document the incident at work sites</p> <p>P3. Eliminate workplace hazards at work sites</p> <p>P4. Identify damaged items and equipment related to public safety</p> <p>P5. Notify Situation that may endanger situation forsafety measures.</p>

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Identify the commonly used tools and equipment used at workplace.
- K2:** Rights and responsibilities of employers and employees
- K3:** Consultative processes to manage and monitor health and safety issues to enable active participation in maintaining a safe workplace
- K4:** State potential hazards in the workplace
- K5:** State commonly used hazard signs and safety symbols

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

Identify health and safety policies to maintain and avoid any unwanted incident.



101200827 Obey the Workplace Policies and Procedures

Overview: This unit describes the skills and knowledge required to develop and 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.

Competency Units	Performance Criteria
CU1. Obey the workplace personal appearance and hygiene	P1. Wear suitable clothes for the workplace and respect local and cultural contexts P2. Meet specific company dress code requirements
CU2. Follow work ethics	P1. Follow company value/ ethics code/ conduct policies and guidelines P2. Use company resources in accordance with company ethical standards P3. Conduct personal behavior and relationships in accord with company policy & procedures P4. Demonstrate ethical behavior with co-workers P5. Report work incident situations or resolve accordingly



CU3. Demonstrate the Work place behaviors	P1. Practice the positive behavior P2. Avoid arguing P3. Adopt flexibility in behavior to accept the resistance
CU4. Communicate workplace policy & procedures	P1. Listen directions carefully P2. Ask relevant questions politely P3. Avoid to use abusive language/ expression P4. Respect co-workers and others
CU5. Review the implementation of workplace policy & procedures	P1. Ensure proper implementation of policies P2. Enlist the gaps for improvement P3. Follow the feedback, if any

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Rules, regulations and SOPs applicable to the organization
- K2:** Turnaround time to achieve target/goal.
- K3:** Operational hierarchal levels in an organization.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:



Follow work place policy personal appearances adopting company values/ ethics/ codes and broader policies for ensuring work place SOP's



101200828 Follow Basic Communication Skills(General)

Overview: After successful completion of this module you will be able to listen attentively, develop non-verbal communication, and identify communication barriers, interview preparation for job and different communication platforms in the workplace and throughout your career.

This unit of competency is designed to manage the workers and other personnel that can help in improving work quality and quantity through basic communication skills

Competency Units	Performance Criteria
1. Adopt Effective listening to Skills	P1. Listen attentively to others to improve communication skills P2. Avoid interrupting while listening others P3. Ask questions to ensure understanding P4. Receive and follow instructions as given by supervisor P5. Give the speaker regular feedback to communicate appropriately
2. Develop Non verbal communication with peers	P1. Maintain eye contact to improve communication P2. Use facial expressions and gestures P3. Use Body language to communicate appropriately P4. Participate within Peers



3. Prepare for Interview to get a job	P1. Prepare yourself for interview to employer P2. Follow schedule according to the sequence of interview P3. Use communication techniques used while appearing in interview P4. Provide basic evidence of related skill P5. Respond appropriately to strong client emotional reactions
4. Use communication platform at workplace	P1. Convey message using different communication plate forms <ul style="list-style-type: none">• Face to face• Video chat• Phone calls/messages• Social Media
5. Identify communication barriers to improve interpersonal skills	P1. Identify communication barriers to improve communication skills with each other .i.e. <ul style="list-style-type: none">• Attitudinal barrier• Physical Barrier• Long differences• Conflicting information• Differing status, position /self-expression P2. Use strategies to overcome these barriers in the client-counsellor relationship



Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** Minimizing communication barriers
- K2:** Listening, and responding with an open mind in a more effective way.
- K3:** appropriate communication methods.
- K4:** verbal and non-verbal messages appropriately.
- K5:** Confidence building
- K6:** Body language
- K7:** Appropriate Voice tone
- K8:** Interpersonal skills
- K9:** listening Skills

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Find a job through social media resources
 1. Prepare yourself to appear in interview by following points:
 - Effective listening skills
 - Body language



- Work in groups of 3-5 members.
 1. Think of a situation when you tried to communicate with another person. Or when somebody tried to communicate with you, and it failed.
 2. Think about the problems or barriers that interfered with the communication.
 - List the reasons for failure identified by your group.
 - Non-verbal communication
- Have activity cards:
- Worried
 - Happy
 - Disappointed
 - Laughing
 - Annoying

Participants to draw one of the activity cards. Without speaking, communicate the feeling or emotion on the card to the rest of the group. Have one participant at time get up in front of the group.



061100855 Operate Computer Functions(General)

Overview: The competency Standard describe skills and knowledge required to setup a computer system, organize files in folders, and shutdown a computer system.

Competency Units	Performance Criteria
CU1. Set up the computer for use	P1. Identify physical components of computer P2. Identify peripheral devices of the computer P3. Connect all components of computer P4. Follow procedures to turn on the computer system
CU2. Organize files in folder	P1. Create folders/subfolders with suitable names P2. Save files in relevant folders. P3. Rename and move folders in different drives.. P4. Move folders and files using drag and drop techniques P5. Save folders and files on different media P6. Search for folders/subfolders and files using appropriate tool bars P7. Delete Folder files P8. Restore deleted folder files
CU3. Shut down computer system	P1. Save any work to be retained P2. Close open application programs correctly P3. Shut down computer



	<p>P4. Switch off any unused peripheral devices</p> <p>P5. Ensure computer safety</p>
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Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** Basic parts of a computer
- K2:** Definition of computer
- K3:** Definition of Drives
- K4:** enlist computer component

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Switch on the computer
- Attach Computer component
- Switch on Peripheral devices
- Make a folder in any partition(drive) in hard disk
- Give name to the folder



- Save file in the folder
- delete the folder/File
- Shut down computer

The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments

102200844 Comply with Perform Personal Health and Safety Guidelines

Overview: This Competency Standard identifies the competencies required to protect/apply occupational Safety, health and Environment at workplace according to the industry’s approved guidelines, procedures and interpret environmental rules/regulations. Trainee will be expected to identify and use Personal Protective Equipment (PPE) according to the work place requirements. The underpinning knowledge regarding Observe Occupational Safety and Health (OSH) will be sufficient to provide the basis for the job at workplace.

Competency Units	Performance Criteria
CU1. Identify Personal Hazards at Workplace	P1: Identify risk to personal health P2: Identify hygiene and safety at work place P3: Identify processes P4: Identify tools, equipment and consumable materials that have the potential to cause harm P5: Report, identified risk to Health, hygiene and safety to concerned
CU2. Apply Personal Protective and	P1: List the Personal Protective equipment P2: Select personal protective equipment in terms of type and quantity according to work orders.



<p>Safety Equipment (PPE)</p>	<p>P3: Wear personal protective equipment according to job requirements. P4: Clean personal protective equipment P5: Stored Personal Protective equipments in proper place after use.</p>
<p>CU3. Comply Occupational Safety and Health (OSH)</p>	<p>P1: Maintain cleanliness and hygiene as per organizational policy P2: Comply with Health, hygiene and safety precautions before starting work P3: Comply organizational Health, hygiene and safety guidelines during work P4: Deal with resolvable problems according to prescribed procedures P5: Report un resolvable problems to concerned P6: Place the tools equipment etc at their prescribed place after completion of work</p>
<p>CU4. Dispose of hazardous Waste/materials from the designated area.</p>	<p>P1: Identify hazardous waste materials which needs to be disposed off P2: Segregate hazardous or non-hazardous waste carefully from the designated area as per approved procedure P3: Use proper disposal hazardous containers for dispose-off hazardous waste as per procedure P4: Take necessary precautions like putting masks and gloves while disposing hazardous waste/ materials as per standard operating procedure</p>

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Explain safety rules and regulations of organization
- K2:** List Personal protection and safety Equipment



- K3:** Describe meaning of Safety signs and symbols
- K4:** Demonstrate understanding of safety related Standard Operating Procedure/guidelines
- K5:** Describe waste disposal SOPs
- K6:** Explain best practices relating to clean and safe work environment

Critical Evidence(s) Required

The candidate needs to produce following critical evidence (s) to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of maintaining personal health and hygiene practices. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.



041700839 Communicate the Workplace Policy and Procedure

Overview: This unit describes the performance outcomes, skills and knowledge required to develop communication skills in the workplace. It covers gathering, conveying and receiving information, along with completing assigned written information under direct supervision.

Competency Units	Performance Criteria
CU1. Identify workplace communication procedures	P1. Identify organizational communication requirements and workplace procedures with assistance from relevant authority P2. Identify appropriate lines of communication with supervisors and colleagues. P3. Seek advice on the communication method/equipment most appropriate for the task
CU2. Communicate at workplace	P1. Use effective questioning, and active listening and speaking skills to gather and convey information P2. Use appropriate non-verbal behavior at all times P3. Encourage, acknowledge and act upon constructive feedback
CU3. Draft Written Information	P1. Identify and comply with required range of written materials in accordance with organizational policy and procedures P2. Draft and present assigned written information for approval, ensuring it is written clearly, concisely and within designated timeframes. P3. Ensure written information meets required standards of style, format and detail. P4. Seek assistance and/or feedback to aid communication skills development



CU4. Review Documents	<p>P1. Check draft for suitability of tone for audience, purpose, format and communication style</p> <p>P2. Check draft for readability, grammar, spelling, sentence and paragraph construction and correct any inaccuracies or gaps in content.</p> <p>P3. Check draft for sequencing and structure</p> <p>P4. Check draft to ensure it meets organizational requirements</p> <p>P5. Ensure draft is proofread, where appropriate, by supervisor or colleague</p>
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Knowledge and Understanding

- K1:** Key provisions of relevant regulations that may affect aspects of business operations, such as privacy laws
- K2:** Organizational policies, plans and procedures.
- K3:** Barriers to communication
- K4:** Communication model
- K5:** Verbal and written communication techniques

Critical Evidence(s) Required

A person who demonstrates competency in this unit must be able to provide evidence of the ability to develop communication skills in the workplace. It covers gathering, conveying and receiving information, along with completing assigned written information under direct supervision. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.



001100851 Perform Basic Communication(Specific)

Overview: This unit describes the skills and knowledge required to assist in the development of communication competence by providing information regarding different forms of communication and their appropriate use.

By the end of this program, learners will be able, to communicate more effectively and efficiently by: working in a team, follow supervisor’s instructions and develop generic communication work skills at workplace

Competency Units	Performance Criteria
CU1. Communicate in a team to achieve intended outcomes	P1. Treat team members with respect P2. Maintain positive relationships to achieve common organizational goals P3. Get work related information from team P4. Identify interrelated work activities to avoid confusion P5. Adopt communication skills, which are designed in a team. P6. Identify problems in communication with a team P7. Resolve Communication barrier through discussion and mutual agreement
CU2. Follow Supervisor’s instructions as per organizational SOPs	P1. Receive the instructions from Supervisor P2. Carry out the instructions of the supervisor P3. Report to the supervisor as per organizational SOPs



CU3. Develop Generic communication skills at workplace	P1. Develop basic reading skills P2. Develop Basic writing Skills P3. Develop basic listening skills
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Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** Basic Learn and understand Types of communication
- K2:** Basic Reading Skills
- K3:** Basic Writing skills
- K4:** Basic Verbal communication skills
- K5:** Basic Problem solving skills
- K6:** Basic Self-Management Skills
- K7:** Basic Technology Skills
- K8:** Basic Interview Skills
- K9:** Basic Workplace dress code
- K10:** Basic The role of team members and functionality of the teams



Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Make a list of appropriate communication skills with colleagues and supervisors



061100856 Perform Basic Computer Application(Specific)

Overview: This unit describes the skills and knowledge required to use spreadsheet to prepare a page of document, develops familiarity with Word, Excel, Access, PowerPoint, email, and computer graphics basics.

It applies to individuals who perform a range of routine tasks in the workplace using a fundamental knowledge of spreadsheets, Microsoft office and computer graphics in under direct supervision or with limited responsibility.

Competency Units	Performance Criteria
CU1. Create Word Documents	<p>P1. Open word processing application</p> <p>P2. Create a word document</p> <p>P3. Customize page layout with relevant name setting</p> <p>P4. Set up page in a word document</p> <p>P5. Edit word document as required</p> <p>P6. Use simple formatting tools when creating the document</p> <p>P7. Save word document to directory</p> <p>P8. Insert table in a word document</p> <p>P9. Insert appropriate images into document as necessary</p> <p>P10. Insert header/footer in a word document</p> <p>P11. Insert section break in a word document</p> <p>P12. Set style in word document</p> <p>P13. Select basic Print settings</p>



	P14. Print the document
CU2. Use internet for Browsing	P1. Use search engines to open website P2. Search data on different topics P3. Refine search to increase relevance of information or content P4. Navigate a website to access the information or content required

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** Describing formatting styles and their effect on formatting, readability and appearance of documents
- K2:** Outline purpose, use and function of word-processing software.
- K3:** Editing in MS Word
- K4:** Formatting in MS word
- K5:** Use of different search engines
- K6:** Use of different web pages

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identify the components of computer



- Follow organizational ergonomic work health and safety (WHS) requirements and practices
- Create, open and retrieve documents using customized basic settings
- Format documents by creating tables and adding text, objects and images
- Save and prints documents.
- Download data through web browser

102200846 Apply Work Health and Safety Practices (WHS)

Overview: This unit describes the skills to work with safety and participate in hazard assessment activities, follow emergency procedures and participate OHS practices in process.

Competency Units	Performance Criteria
CU1. Implement safe work practices at work place	P1. Implement relevant rules and procedures of WHS at work place. P2. Comply with duty of care requirements P3. Use personal protective equipment according to safe work practices P4. Contribute to WHS consultative activities P5. Raise WHS issues with relevant personnel



CU2. Participate in hazard assessment activities a work place	P1. Identify hazards or WHS issues in the workplace to relevant personnel P2. Assess and control risks according to own level of responsibility, in line with workplace procedures P3. Report hazards or WHS issues in the workplace to relevant personnel P4. Document risk control actions as required
CU3. Follow emergency procedures at workplace	P1. Report emergencies or incidents promptly to relevant personnel P2. Deal with emergencies in line with own level of responsibility P3. Implement evacuation procedures as required
CU4. Participate in OHS consultative processes	P1. Contribute to workplace meetings, inspections or other consultative activities P2. Raise OHS (Occupational Health and Safety) issues with designated persons in accordance with organizational procedures P3. Take actions to eliminate workplace hazards or to reduce risks

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

K1: Outline the WHS rights and responsibilities that apply to own role

K2: Explain the term duty of care



- K3:** Describe typical health and safety roles in the workplace
- K4:** List and describe common safety signs and symbols
- K5:** Explain procedures for reporting hazards, risks, incidents and accidents
- K6:** Identify and describe common hazards and major causes of accidents relevant to the workplace
- K7:** Explain what the term risk control means
- K8:** List and describe potential emergency situations and how to respond to them

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

Demonstrate evidences of the Health and safety Processes to avoid any incident.



041700840 Identify and Implement Workplace Policy and Procedures

Overview: This unit describes the skills and knowledge required to develop and 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.

Competency Units	Performance Criteria
CU1. Identify workplace policy & procedures	P1. Identify the workplace policy & procedures P2. Apply appropriate strategies that can be used to measure whether your workplace health and safety obligations are being met. P3. Assure the policies are realistic, resources and personnel to implement P4. Implement the policy & procedures that reflects the organizations commitments P5. Ensure the appropriate methods of implementation, outcomes and performance indicators
CU2. Implement workplace policy & procedures	P1. Apply and assign responsibility for recording systems to track continuous improvements in policy & procedures P2. Implement strategies for continuous improvement in effective and efficient information
CU3. Communicate workplace policy& procedures	P1. Communicate procedures to help implement workplace policy P2. Inform those involved in implementing the policy about expected outcomes, activities to be undertaken and assigned responsibilities



CU4. Review the implementation of workplace policy & procedures	P1. Identify the trends that may require remedial actions P2. Record the trends that may require remedial actions. P3. Ensure policy and procedures as required are made for continuous improvement of performance
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Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Legislation, regulations and codes of practice applicable to the organization
- K2:** internal and external sources of information and organizational policy & procedures
- K3:** Typical barriers to implementing policies and procedures in an organization.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:
Identify evidences of the ability to implement work place policy and procedures. briefly identify work place procedures to avoid incident.



001100852 Communicate at Workplace

Overview: This unit describes the performance outcomes, skills and knowledge required to develop communication skills in the workplace. It covers gathering, conveying and receiving information, along with completing assigned written information under direct supervision.

Competency Units	Performance Criteria
1. Communicate within the organization	<p>P1. Communicate within a department</p> <p>P2. Communicate with other departments.</p> <p>P3. Use various media to communicate effectively</p> <p>P4. Communicate orally and written</p>
2. Communicate outside the organization	<p>P1. Deal with vendors</p> <p>P2. Deal with clients/customers</p> <p>P3. Interact with other organisations</p> <p>P4. Use various media to communicate effectively</p> <p>P5. Work with people of different cultures / backgrounds</p>
3. Communicate effectively in workgroup	<p>P1. Assess the issues to provide relevant suggestion to group members</p> <p>P2. Resolve the issues/ problems /conflicts within the group</p> <p>P3. Arrange group working sessions to increase the level of participation in the group processes</p> <p>P4. Communicate messages to group members clearly to ensure interpretation is valid</p> <p>P5. Communicate style /manner to reflect professional standards/ awareness of appropriate cultural practices</p>



	P6. Act upon constructive feedback
4. Communicate in writing	P1. Identify relevant procedures for written information P2. Use strategies to ensure correct communication in writing .i.e. <ul style="list-style-type: none">• correct composition• clarity• comprehensiveness• accuracy• appropriateness P3. Draft assigned written information for approval, ensuring it is written within designated timeframes P4. Ensure written information meets required standards of style, format and detail P5. Seek assistance / feedback to aid communication skills development

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:



- K1:** Importance of intra and inter organizational communication
- K2:** Basics of business communication
- K3:** Defining Modes of communication
- K4:** Effective communication in workgroup
- K5:** Communicating through writing
- K6:** The importance of teamwork

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

In your current position, what types of written communication do you use most often? (List them all).



061100858 Perform Computer Application Skills

Overview: This unit describes the skills and knowledge required to use spreadsheet applications, prepare in page documents, develops familiarity with Word, Excel, Access, PowerPoint, email, and computer graphics basics.

It applies to individuals who perform a range of routine tasks in the workplace using a fundamental knowledge of spreadsheets, Microsoft office and computer graphics in under direct supervision or with limited responsibility.

Competency Units	Performance Criteria
CU1. Prepare In-page documents as per required information	P1. Set keyboard preferences according to information requirements P2. Layout Page according to information requirements P3. Toggle between Languages P4. Identify the usage of tool bar P5. Insert Columns as per requirement P6. Print the document
CU2. Prepare Spreadsheets as per required information	P1. Create workbook according to information requirements P2. Insert sheet according to information requirements P3. Enter basic formulae / functions using cell referencing when required P4. Correct formulas when error messages occur P5. Use a range of common tools during spreadsheet development P6. Edit columns and rows within the spreadsheet Filter data



	<p>P7. Save the spreadsheet to a folder on a storage device</p> <p>P8. Format spreadsheet using formatting features as required</p> <p>P9. Incorporate object and chart in spreadsheet</p> <p>P10. Print spreadsheet</p>
CU3. Use MS Office as per required information	<p>P1. Use Microsoft Word for documentation</p> <p>P2. Use Microsoft Excel for documentation</p> <p>P3. Use Microsoft PowerPoint for presentation</p> <p>P4. Perform OneNote</p> <p>P5. Perform Outlook for emails</p> <p>P6. Perform Publisher applications</p>
CU4. Perform computer graphics in basic applications	<p>P1. Perform graphic fundamentals in basic applications</p> <p>P2. Draw Points and lines to make images</p> <p>P3. Draw Dots in space to make images</p> <p>P4. Draw lightening blot Shapes to make images</p> <p>P5. Enlarge circles and rectangles to block in forms</p>
CU5. Create Email account for communications	<p>P1. Make email account for communications</p> <p>P2. . Compose text of an email message according to organizational guidelines as required</p> <p>P3. Create an automatic signature for the user</p> <p>P4. Attach files to email message where required</p> <p>P5. Send email message</p> <p>P6. Reply to / forward a received message using available features</p>



	<p>P7. Save an attachment to the relevant folder</p> <p>P8. Save email message using available settings</p> <p>P9. Adjust email accounts to restrict and quarantine possible email security problems</p> <ul style="list-style-type: none">• Print email message as per requirements
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Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** List basic technical terminology related to reading help files and prompts
- K2:** Explain the effect of formatting and appearance on the readability and usability of spreadsheets
- K3:** Outline log-in procedures relating to accessing a personal computer (PC)
- K4:** Describe the purpose, use and function of spreadsheet applications.
- K5:** Understand **MS Word** to create documents, flyers, publications
- K6:** Understand **MS PowerPoint** to create presentations
- K7:** Understand **MS Excel** to store, organize, and manipulate data
- K8:** Understand **OneNote** to organize data you collect including handwritten notes, drawings, screen captures, audio clips, and more
- K9:** Understand of **Publisher** to create extensive publications, posters, flyers, menus
- K10:** Understand **Outlook** to manage email and calendars, to do lists, and contacts



Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Create spreadsheets
- Customize basic settings
- Format spreadsheets
- Apply basic formulas
- Insert objects and charts in spreadsheets
- Save and print spreadsheets.



041300867 Manage Personal Finances

Overview: This unit of competency describes the outcomes required to manage develop, implement and monitor a personal budget in order to plan regular savings and manage debt effectively.

Competency Units	Performance Criteria
CU1. Develop a personal budget	<p>P1. Calculate current living expenses using available information to prepare a personal budget.</p> <p>P2. Keep a record of all income and expenses for a short period of time to help estimate ongoing expenses.</p> <p>P3. Subtract total expenses from total income to determine a surplus or deficit budget for the specified period.</p> <p>P4. Find reasons for a deficit budget and ways to reduce expenditure identified.</p> <p>P5. Identify ways to increase income</p>
CU2. Develop long term personal budget	<p>P1. Analyze income and expenditure and set long term personal financial goals.</p> <p>P2. Develop a long-term budget based on the outcomes of short-term budgeting.</p> <p>P3. Identify obstacles that might affect the business</p> <p>P4. Formulate a regular savings plan based on budget</p>
CU3. Identify ways to maximize future finances	<p>P1. Determine sources to maximize personal income,</p> <p>P2. Get further education or training to maintain or improve future income.</p> <p>P3. Identify the need for debt to finance living and other expenses,</p> <p>P4. Determine the appropriate levels of debt and repayment.</p> <p>P5. Consolidate existing debt, where possible, to minimize interest costs and fees.</p> <p>P6. Seek professional money management services.</p>



Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Explain the abilities to plan and organize to keep records and monitor a personal budget
- K2:** Describe abilities to set and review goals
- K3:** Explain basic financial management and record keeping to enable development and management of a personal budget
- K4:** Describe benefits of financial goal setting and personal budgeting to enable effective management of personal finances
- K5:** Outline numeracy skills to compare income and expenditure

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

Demonstrates competency to provide evidence of the ability to manage personal finances. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.



102200848 Contribute to Work Related Health and Safety (WHS) Initiatives

Overview: 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).

Competency Units	Performance Criteria
CU1. Contribute to initiate work-related health and safety measures	<p>P1. compile database on work-related health and safety</p> <p>P2. Identify measures that address legal obligations.</p> <p>P3. Consult with individuals/ parties to formulate measures and initiatives</p> <p>P4. Consult with individuals/parties to identify factors impacting on work-related health and safety</p> <p>P5. Participate in consultative meetings.</p>
CU2. Contribute to establish work-related health and safety measures	<p>P1. Assist in planning of work-related health and safety measures</p> <p>P2. Contribute to the development of work-related health and safety measures</p> <p>P3. Identify to implement work-related health and safety measures i.e.</p> <ul style="list-style-type: none">• resourcing requirements,• timelines• responsibilities <p>P4. Assist to implement work-related health and safety measures and initiatives i.e.</p> <ul style="list-style-type: none">• scheduling• liaison• administering resources



	<ul style="list-style-type: none"> • communication
CU3. Contribute to ensure legal requirements of WHS measures	<p>P1. Identify WHS legal requirements</p> <p>P2. Apply knowledge of all aspects of WHS measures to</p> <ul style="list-style-type: none"> • Consultation • workplace policies • participation processes <p>P3. Ensure, WHS measures are in accordance with legal requirements</p>
CU4. Contribute to review WHS measures	<p>P1. Develop effective practices to review work-related health and safety measures</p> <p>P2. Assist individuals and parties related to WHS measures in following activities</p> <ul style="list-style-type: none"> • preparing reports • communicating review • evaluating outcomes
CU5. Evaluate the organization’s WHS system	<p>P1. Assess ongoing compliance with OHS (Occupational Health and safety)</p> <p>P2. Take feedback from concerned persons regarding WHS measures.</p> <p>P3. Assess the overall effectiveness of WHS management practices</p> <p>P4. Assist the development process of WHS measures in following ways</p> <ul style="list-style-type: none"> • Suggest amendments • Document amendments • Implement amendments <p>P5. Take feedback from concerned persons regarding WHS measures.</p> <p>P6. Communicate improvements in WHS Measures</p>



Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Explain the application of relevant mandatory health monitoring, including biological monitoring, to help secure work health and safety
- K2:** Explain the difference between work-related health and safety measures and initiatives designed to meet specific legislative requirements and obligations, and those designed to support non-statutory health promotion programs, and give examples of each
- K3:** List factors that impact on work-related health and safety and their potential effects
- K4:** Identify internal and external sources of WHS information and data, and how to access them
- K5:** Outline organizational WHS and other relevant policies, procedures, processes and systems, including human resources
- K6:** Summarize relevant WHS legislation, other legislation (such as privacy and workers compensation) and common law rights and duties specific to work-related health and safety measures and initiatives
- K7:** Describe work-related health and safety measures and initiatives that either address specific legislative requirements and obligations, or support non-statutory health prevention programs, including:
 - The factors impacting on worker health and safety that they address
 - Effectiveness
 - Costs and benefits
 - Criteria for decisions regarding their implementation in a specific workplace
 - How they should be implemented.



Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to contribute work-related health and safety measures and initiatives. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

041700841 Analyse Workplace Policy and Procedures

Overview: 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.

Competency Units	Performance Criteria
CU1. Manage work timeframes	P1. Complete work tasks within deadlines in according to order of priority P2. Supervisors are informed of any delays in work times or projects
CU2. Manage to convene meeting	P1. Develop agenda in line with meeting purpose P2. Select participants and notify them accordingly



	<p>P3. Carryout meeting arrangements according to the time</p> <p>P4. Record the minutes of the meeting</p>
CU3. Decision making at workplace	<p>P1.</p>
CU4. Set and meet own work priorities at instent	<p>P1. Take initiative to prioritize and facilitate competing demands to achieve organizational goals and objectives</p> <p>P2. Use technology efficiently and effectively to manage work priorities and commitments</p> <p>P3. Maintain appropriate work-life balance</p>
CU5. Develop and maintain professional competence	<p>P1. Assess personal knowledge and skills against competency</p> <p>P2. Participate in networks to enhance personal knowledge, skills and work relationships</p> <p>P3. Seek feedback from employees, clients and colleagues to develop and improve competence</p>
CU6. Follow and implement work safety requirements	<p>P1. Identify and report emergency incidents</p> <p>P2. Practice organizational policy and procedures for responding to emergency incidents</p> <p>P3. Identify and implement workplace procedures and work instructions for controlling risks</p>



Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Healthy work life balance
- K2:** Meeting terminologies, structures and arrangements
- K3:** Relevant organizational procedures and policies regarding meetings, chairing and minutes.
- K4:** Barriers to implement policies and procedures in an organization and possible strategies to address them.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to understand workplace policy and procedures. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments



001100853 Perform Advanced Communication

Overview: 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.

Competency Units	Performance Criteria
1. Demonstrate professional skills	<p>P1. Use different modes of communication to communicate</p> <ul style="list-style-type: none">• Speaking• Reading• Writing• Listening• Presentation• visual representation etc <p>P2. Develop CV Skills according requirements</p> <p>P3. Upgrade professional skills by attending trainings, webinars, conferences etc.</p> <p>P4. Perform Continuous professional development as required at workplace</p> <p>P5. Develop interview skills</p>
2. Plan and Organize work	<p>P1. Identify task requirements.</p> <p>P2. Plan steps to complete tasks.</p> <p>P3. Review planning and organizing process.</p> <p>P4. Organize work.</p>



3. Provide trainings at workplace	P1. Assess the need for training P2. Prepare trainees for the learning experience P3. Present training session P4. Support trainees in managing their own learning P5. Facilitate group learning P6. Provide opportunity for practice P7. Provide feedback on progress on trainees P8. Review delivery experience
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Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** Explaining the training skills
- K2:** Identification of the professional skills
- K3:** Describing the advanced language skills
- K4:** Understanding of the assessment and trainees feedback methods
- K5:** Direct and indirect communication methods
- K6:** Explaining the need of the training type at the work place



Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Job sheet
- Office emails and coordination reports
- Feedback proforma



061100853 Develop Advance Computer Application Skills

Overview: 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

Competency Units	Performance Criteria
CU1. Manage Information System to complete a task	<p>P1. Perform Data Entry in MS office</p> <p>P2. Manage File/folder in MS office</p> <p>P3. Perform Scanning of document</p> <p>P4. Maintain Office Record in drives</p> <p>P5. Perform Printing of document</p> <p>P6. Search required Files/Folders</p> <p>P7. Convert Files in required format.</p> <p>P8. Manage sizes of Files/Folders</p> <ul style="list-style-type: none">• Compress• Zip /unzip



<p>CU2. Prepare Presentation using computers</p>	<p>P1. Prepare presentation as per requirements, i.e.</p> <ul style="list-style-type: none">• Open blank presentation and add text / graphics• Create a simple design for a presentation• Apply existing styles within a presentation• Use presentation template and slides to create a presentation• Use various tools to improve the look of the presentation• Save presentation to the appropriate storage device and folder with required name <p>P2. Customize basic settings to meet user requirements</p> <p>P3. Format presentation as require</p> <ul style="list-style-type: none">• Develop organizational charts• Add objects and manipulate to meet presentation purposes• Modify slide layout, including text and colours, to meet presentation requirements• Save presentation in another format• Save to storage device and close presentation <p>P4. Add slide show effect into presentation as required to enhance the presentation</p> <ul style="list-style-type: none">• Incorporate pre-set Animation• Apply Multimedia effects• Record Narration• Apply hyperlink• Apply video• Rehearse Timings
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	<ul style="list-style-type: none">• Test presentation for overall effect <p>P5. Print the presentation</p> <ul style="list-style-type: none">• Select appropriate print format for presentation• Select preferred slide orientation• Add notes and slide numbers• Preview slides and run spell check before presentation• Print selected slides and submit presentation to appropriate person for feedback <p>P6. Practice verbal presentation</p> <p>P7. Practice presentation through AV Aids</p>
<p>CU3. Use Microsoft Access to manage database</p>	<p>P1. Collect the data using a standard data base package.</p> <p>P2. Start access to manage database .i.e.</p> <ul style="list-style-type: none">• identify problem statement of Data• Develop a table with fields /attributes according to database usage/ user requirements• Create a primary key and establish an index for each table• Modify table layout and field attributes as required• Create a relationship between the two tables• Add data in a table according to information requirements• Add records as required• delete records as required• Save database to storage area• close down database to storage area



	<ul style="list-style-type: none"> • Apply criteria in the following Query • SQL view of Query • Wildcards of query • Query Criteria <p>P3. Customize basic settings:</p> <ul style="list-style-type: none"> • Adjust page layout to meet user requirements • Open and view different toolbars • Format font as appropriate for the purpose of the database entries • Create reports • Design reports to present data in a logical sequence • Modify reports to include or exclude additional requirements • Distribute reports to appropriate person in a suitable format <p>P4. Create forms</p> <ul style="list-style-type: none"> • Use a wizard to create a simple form • Open existing database and modify records through a simple form • Rearrange objects within the form to accommodate information requirements
<p>CU4. Develop graphics for Design</p>	<p>P1. Develop graphic design concepts based on a thorough understanding of the communication need</p> <p>P2. Use design techniques confidently to produce designs</p> <p>P3. Integrate design tools skillfully to produce designs</p> <p>P4. Evaluate the success of completed designs to meet objectives</p> <p>P5. evaluate feedback from client / peers</p>



Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1:** List basic technical terminology to read help files and prompts
- K2:** Outline the different types of formal and informal presentations
- K3:** Explain Power point presentation
- K4:** Segregation of Data
- K5:** Define the relation among data
- K6:** Define criteria in the query
- K7:** Creates and modify reports and forms.
- K8:** Outline basic database design principles
- K9:** Current graphic design software
- K10:** Discuss features of current and emerging technologies used in graphic design practice and the options they present for effective graphic design solution

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Design and develop a simple database using a standard database package
- Create, format and prepare presentations for distribution and display



- Customize basic settings
- Add slide show effects.
- Generate employment report from given data by using Microsoft Access.

041300869 Manage Human Resource Services

Overview: 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.

Competency Units	Performance Criteria
CU1. Determine strategies for delivery of human resource services	P1. Analyze business strategy and operational plans to determine human resource requirements P2. Review external business environment that likely impact on organization's human resource requirements P3. Consult line and senior managers to identify human resource needs in their areas P4. Review organization's requirements for diversity in the workforce P5. Deliver human resource services that comply with business goals P6. Develop strategic action plan for delivery of human resource services P7. Develop roles and responsibilities of human resource team P8. Develop quality assurance policy
CU2. Manage the delivery of human resource services	P1. Communicate human resource strategies and services to internal and external stakeholders P2. Develop and negotiate service agreements between <ul style="list-style-type: none">• The human resource team,



	<ul style="list-style-type: none"> • Service providers • Client groups <p>P3. Document service specifications, performance standards and timeframes</p> <p>P4. Document /communicate service</p> <ul style="list-style-type: none"> • Specifications, • Performance standards • Timeframes <p>P5. Monitor Quality assurance processes</p> <p>P6. Ensure that services are delivered by appropriate providers, according to service agreements and operational plans</p> <p>P7. Identify underperformance of human resource team or service providers</p>
<p>CU3. Evaluate human resource service delivery</p>	<p>P1. Establish Management information system for human resource services</p> <p>P2. Conduct survey to determine level of satisfaction</p> <p>P3. Analyze feedback of survey</p> <p>P4. Recommend changes to service delivery</p> <p>P5. Support agreed change processes across the organization</p>
<p>CU4. Manage integration of business ethics in human resource practices</p>	<p>P1. Ensure ethics in personal behavior</p> <p>P2. Ensure code of conduct is observed across the organization,</p> <p>P3. Observe confidentiality requirements in dealing with all human resource information</p> <p>P4. Deal promptly with unethical behavior</p>



	P5. Ensure all persons responsible for human resource functions understand requirements regarding their ethical behavior
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Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1:** Identify the key provisions of legal and compliance requirements that apply to managing human resources
- K2:** Summarize the organization’s code of conduct
- K3:** Explain human resource strategies and planning processes and their relationship to business and operational plans
- K4:** Describe performance and contract management
- K5:** Explain how feedback is used to modify the delivery of human resources.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to manage human resource services. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.



Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- Plan and manage human resource delivery within legislative, organizational and business ethics frameworks
- Communicate effectively with a range of senior personnel
- Identify and arrange training support where appropriate
- Calculate human resource return on investment within the organization.



041300860 Develop Entrepreneurial Skills

Overview: 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.

Competency Units	Performance Criteria
CU1. Develop a business plan	<p>P1. Conduct a market survey to collect following information</p> <ul style="list-style-type: none">• Customer /demand• Tools, equipment, machinery and furniture with rates• Raw material• Supplier• Credit / funding sources• Marketing strategy• Market trends• Overall expenses• Profit margin <p>P2. Select the best option in terms of cost, service, quality, sales, profit margin, overall expenses</p> <p>P3. Compile the information collected through the market survey, in the business plan format</p>



CU2. Collect information regarding funding sources	P1. Identify the available funding sources based on their terms and conditions, maximum loan limit, payback time, interest rate P2. Choose the best available option according to investment requirement P3. Prepare documents according to the loan agreement requirement P4. Include the information of funding sources in the business plan
CU3. Develop a marketing plan	P1. Make a marketing plan for the business including product, price, placement, promotion, people, packaging and positioning P2. Include the information of marketing plan in the business plan
CU4. Develop basic business communication skills	P1. Communicate with internal customers e.g.: labor, partners and external customers e.g.: suppliers, customers etc., using effective communication skills P2. Use different modes of communication to communicate internally and externally e.g.: presentation, speaking, writing, listening, visual representation, reading etc. P3. Use specific business terms used in the market

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

K1: Explain the 7ps of marketing including product, price, placement, promotion, people, packaging and positioning



- K2:** Describe 7Cs of business communication
- K3:** Define different modes of communication and their application in the industry
- K4:** Enlist specific business terms used in the industry
- K5:** Enlist the available funding sources
- K6:** Explain how to get loan to start a new business
- K7:** Explain market survey and its tools e.g: questionnaire, interview, observation etc
- K8:** Describe the market trends for specific product offering
- K9:** State the main elements of business plan
- K10:** Explain how to fill the business plan format

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to develop Entrepreneurial Skills.

Performance requirements

- Conduct market survey and formulate business plans in terms of feasibility, investment potential, risk, and completeness.
- Demonstrate the use of both verbal and non-verbal business communication.
- Effectively present business ideas and profile



11. Complete List of Tools, Equipment, Machines and Consumables

<p>Worker traits</p> <ul style="list-style-type: none"> • Able-Bodied • Strong • Devoted • Motivated • Hard Working • Honest • Punctual • Knowledgeable • Friendly • Interpersonal Skills • Creative • Team Worker • Collaborative 	<p>Entry Requirements</p> <ul style="list-style-type: none"> • Minimum Primary and Preferably Middle/Matric <p>Trainer</p> <ul style="list-style-type: none"> • Transformer and Motor Winding Technician (Level 4) with 5 Years relevant field Experience • DAE Electrical with 3 Years 	<p>Duration of training required</p> <p>Total contact Hrs 1450</p> <p style="text-align: center;">Or</p> <p>credit hours. 145</p>	<p>Career paths</p> <ul style="list-style-type: none"> • Motor Winding Technician • Transformer Winding Technician • Self-Owned Workshop/Entrepreneur • Trainer • Assessor • Electrical Machine Winding Expert
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<ul style="list-style-type: none">• Confident• Competent• Innovative• Cooperative	<p>relevant field Experience</p> <ul style="list-style-type: none">• BS Tech Electrical with 2 Years relevant field Experience• BSc Engineering Electrical with 1 Year relevant field Experience		<p>Future Trends</p> <p>The paradigm shift of life style from simple to mechanized one is witnessing immense increase in the demand of electrical machines. The subsequent repair/rewinding work of the machines has been creating more opportunities /jobs prospects for the skilled workers in the trade of Electrical Machines Winding Technicians.</p>
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Related Knowledge	Tools
<ul style="list-style-type: none"> • Basic Concept of Electricity and Magnetism • Define Voltage, Current, Resistance, Power & Energy • Define DC and AC (Single Phase, Three Phase) • Define Ohm's Law, calculation using basic ohm's law formula • Knowledge of Basic Electric Circuits (Series, Parallel, Open, Close, Ground, Short) • Define Conductors, Insulators, Semiconductors • Understanding Laws of Resistance • Concept of Voltage Drop • Define frequency, conductance, inductance, capacitance, impedance, power factor • State disadvantages of low power factor and methods of improvement of power factor • Define self and mutual induction • Knowledge of Star Delta Connections and relation between phase and line quantities • Define Electrical measuring Units • Use of Measuring Instruments (Voltmeter, Ammeter, Ohm meter, wattmeter, multi-meter, Insulation Tester (Megger), TTR Meter, Clamp on Meter, Tachometer, Growler, Phase sequence meter) 	<ul style="list-style-type: none"> • Combination Pliers 8" • Long Nose Pliers 6" • Flat Nose Pliers 6" • Round Nose Pliers 6" • Screw Driver Set (Flat & Phillips) Size 4", 6", 8", 10", 12" • Tweezers of different shapes & sizes 4", 6" • Hammer (200, 500, 1000) grams • Mallet / Rubber Hammer (200, 500) grams • Cold Chisel 8", 12" • Gas Welding Plant • Winding Machine <ul style="list-style-type: none"> ➤ Manual (Small and Large size) ➤ Motorized ➤ Automatic • Elenkey Set size 1 – 10 mm • Bench Vice size 4", 6" • Digital Weight Balance up to 500 KG • Oven 0- 300°C, 3 Cubic Ft inner chamber size, 230 V 50 Hz (For Drying purpose of Winding) • Scriber 6" • Center Punch 4", 6" • Vernier Caliper size 8" (Digital / Analog) • Standard Wire Gauge



Related Knowledge	Tools
<p>Energy meter, Power factor meter, LCR meter, Frequency meter etc.)</p> <ul style="list-style-type: none"> • Use of CT and PT in measurements • Know about Tagging , Padlocking and Coupling Techniques • Define motor, Workingprinciple and types • Define starting and running current / torque of motor • Define cork screw rule, Lenz law, Fleming left and right hand rules • Define transformer, Its workingprinciple and types • Define transformer turn ratio (TTR) and nominal transformation voltage ratio • Define vector group of transformer winding • Define different types of motor winding diagrams (Lap, Wave, Chain and set) • Draw different types of motor winding diagrams (Lap, Wave, Chain and set) • Importance of Machine Inventory at workplace • Importance of preventive maintenance of machines • Use of Tri Pod and Chain Block • Adjustment / fasten techniques of tri pod and chain block • Describe Safe transportation techniques of Machines through loader / fork lifter 	<ul style="list-style-type: none"> • Micrometer 0-25 mm , 1" (Digital/Analog) • Steel rule (300mm & 1M) • Steel Measuring Tape 10M • Try Square (8",12") • Bearing Puller (4",6",12") • Grease Gun (12") • Oil Can (6") • Ratchet Type Spanner Set 4mm – 36mm • Adjustable screw wrench (6",8",12") • Pedestal Drill Machine ½" Chuck, 4 Ft • Portable Electric Drill Machine ½" Chuck • Hi Carbon Steel Drill Bit Set (1mm-12mm) • Tap & Die Set (3mm-12mm) • Stators Iron core of motor without winding (24,30,32,36,48 Slots) • Pedestal Fan Motor (Assorted No of Slots) • Ceiling Fan Motor (Assorted No of Slots) • Soldering Iron (60watt,100watt,200watt) • Soldering Gun 100 Watt or above • Blow Lamp • Regulator Core Laminations • Transformer Core (Core Type, Shell Type)1KVA,5KVA • Transformer Single Phase 1KVA • Transformer Three Phase 10KVA



Related Knowledge	Tools
<ul style="list-style-type: none"> • Importance of Numbering for position of machine parts • Importance of marking for adjustment / alignment of Machine Parts • Estimation and Costing of repair / replacement work • Importance of Safe storage of Machines and Materials • Filtration techniques of Transformer oil • Know about quality standards of transformer oil • Testing techniques of Transformer oil • De-hydration of transformer oil • De Hydration of Silica Gel • Importance of Tap Changer of Transformer • State procedure of Removing Faulty Winding Coils • State Procedure of Preparing Winding Coils • Importance and use of latheroid Paper, varnish, Coil binding, Sleeving • Understanding of Jointing, soldering and taping techniques of coils • Importance of coils baking • Importance of Winding Test at different stages • Understanding of Coil fastening, assembling and disassembling Techniques • Use of Winding Machine (Manual and Automatic) 	<ul style="list-style-type: none"> • Single Phase Variable Transformer (Variac 0-250V,2KVA) • Three Phase Variable Transformer (Variac 0-500V,5KVA) • Tri Pod 10 feet with Chain Block1 Ton • Single Phase TTR Meter • Transformer Testing Module • Digital Insulation Tester (Megger), (Multi Range) • Transformer Oil Testing Equipment • Welding Plant (5KVA) • Digital Clamp on Meter • Digital Multi Meter • Pipe Wrench (8",12",18") • Grip Pliers (8") • Pliers for locking / unlocking Spring washer (Inner / Outer) • Air Compressor with Pneumatic Gun • Dust Blower • Coil Former Adjustable (6",8",10",12",18") Equal and Unequal size • Hacksaw 12" • Flat File 12"



Related Knowledge	Tools
<ul style="list-style-type: none">• Understand Preparation and Setting of Coil Former• Know about adjustment techniques for insertion of coils in core slots, core limb• Importance of Wedges• Understand construction features of Motors and Transformer• Importance of Data plate reading of machines• Importance of using PPE'S	<ul style="list-style-type: none">• Half Round File 12"• Round File 8"• Triangular File 8"• Tachometer (0-5000 rpm) Digital / Analog• Temperature laser gun• Pressure Gauge• Power Analyzer• Testing Bench• Growler• Portable Voltmeter 0- 500V AC/DC Digital / Analog• Portable Ammeter 0- 30A AC/DC Digital / Analog• Portable Wattmeter 0- 500W AC/DC Digital / Analog• Portable Frequency meter 0- 100Hz Digital / Analog• Portable Power Factor meter 0.5-0- 0.5 Lead / Lag Digital / Analog• Phase Sequence Meter 500 V• High Voltage Probe• Digital Energy Meter Single and Three Phase• LCR Meter



Related Knowledge	Tools
	<ul style="list-style-type: none">• Electrician Knife Cutter• Thimble Press 1.5mm² to 16mm²• Thimble Press (Hydraulic) 16mm² to 300mm²• Phase Tester• Wire / Cable Cutter 8"• Wire Stripper 6"



List of Consumables

● Sr.#	Description
●	Handbooks
●	Design books
●	Pencils
●	Rubber
●	Sharpeners
●	Paper Cutter
●	Seizers
●	Colours
●	White charts
●	Brown sheets
●	White board markers
●	Permanent markers



●	File cover and files
	<ul style="list-style-type: none">➤ Latheroid Paper Size 7, 10 & 12 No.➤ Milinox Paper Size 7, 10 & 12 No.➤ Nomex Paper Size 7, 10 & 12 No.➤ Sleeve Size 1 to 14 No.➤ Soldering Wire➤ Soldering Flux➤ Soldering Paste➤ Cotton Tape ½” – 2”➤ Glass Tape ½”- 2”➤ Binding Thread➤ Varnish (Non Conductive)➤ Lugs➤ Thimble➤ Cable Paper 0.06mm➤ Press Pan Paper 0.1mm - 0.7mm➤ Press Pan Sheet 1mm – 4mm➤ Grease➤ Kerosene oil➤ Mobil Oil➤ Transformer Oil➤ Silica Gel➤ Glue➤ Wedges➤ Cork Sheet



- **Copper Winding Wire 18 to 34 SWG**
- **Sand Paper 1, 1.5 No.**
- **Electronic Contact Cleaner**
- **W D 40 Spray Tin**
- **Safety Goggles**
- **Electrical Safety Gloves**
- **Heat Resistance Gloves**
- **Washing Gloves**
- **Working Gloves**
- **Cotton Gloves**
- **Safety Shoes (Antistatic)**
- **Working Apron**
- **Dust Mask**
- **Safety Helmet**
- **Safety Ladder**
- **Safety Belt**
- **Safety Rubber Mat 10- 20mm**
- **PVC Flexible Cable 23/0.0076”&40/0.0076”**
- **PVC 3/0.029”Cable**
- **PVC 7/0.029”, to 7/0.064” Cable**

