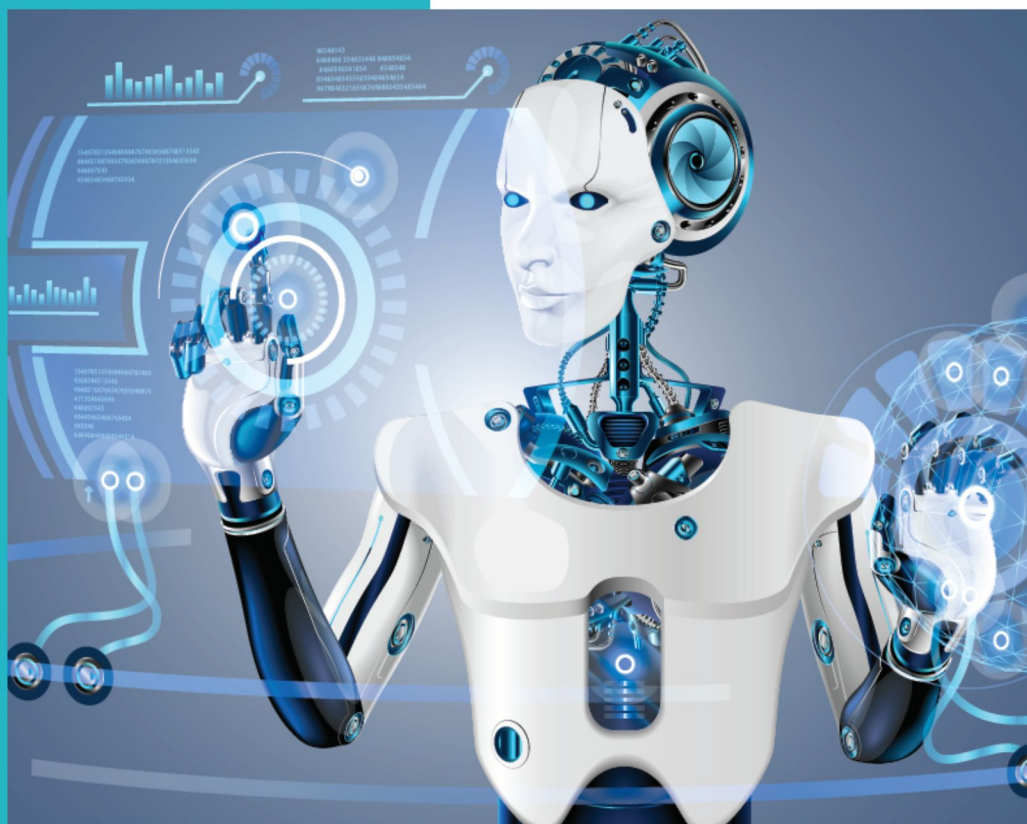


ROBOTICS TECHNICIAN



COMPETENCY STANDARDS

National Vocational Certificate Level 1-4

Version 1 - October, 2019

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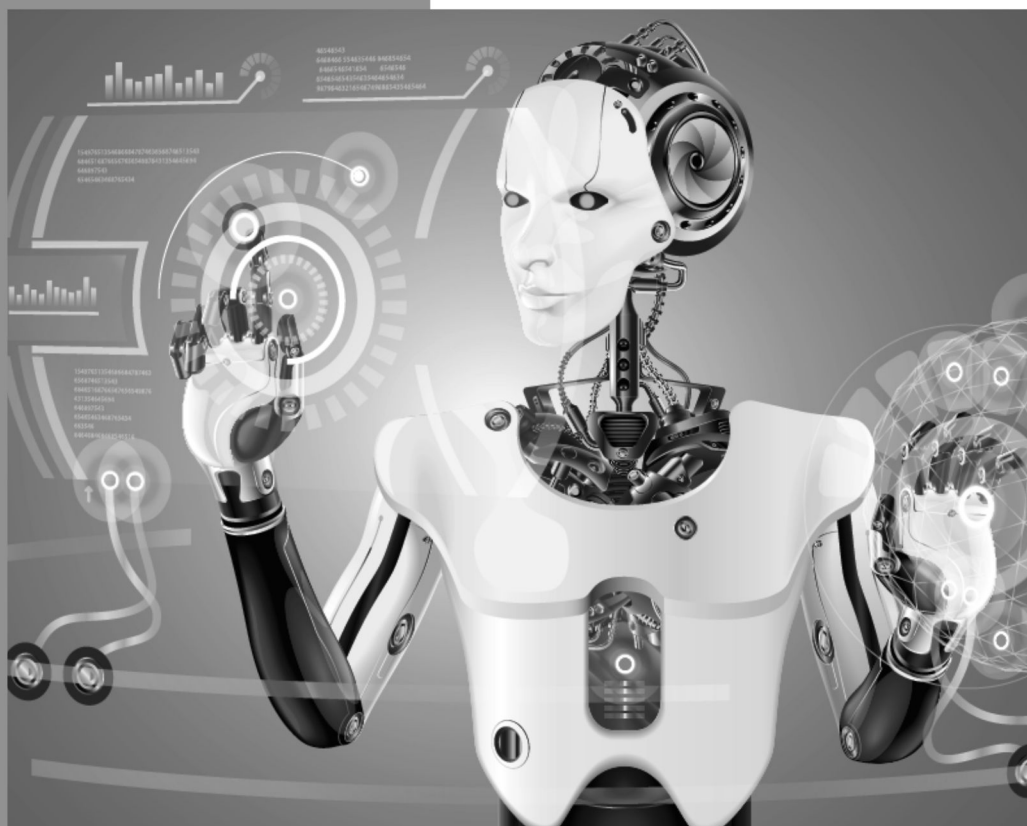
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Introduction

This course is meant for individuals striving to enter the field of “Robotics Technician”. This course builds the basic qualification that is essential for any robotics technician to effectively carry out their duties.

The course will provide students with the necessary knowledge and skills to operate robots and robotic systems in an industrial setting as well as to monitor their operation. The students will have sufficient understanding to deploy, commission, test and maintain robots and robotics systems.

Trainees will also learn how to perform assembly of robots and robotics systems along necessary configuration and up-gradation. Trainees will develop essential understanding which will enable them to troubleshoot robots and robotics systems whenever the need arises.

This course will also cover essential soft skills such as project management, quality assurance, health and safety etc. enabling the individual to become an asset for their organization.

Objectives

The specific objectives of developing these qualifications is as under:

- Develop basic knowledge and understanding which enables trainees to operate robots and robotic systems effectively
- Have the necessary understanding to effectively monitor and coordinate robots and robotic systems
- Enable trainees to properly maintain and troubleshoot robots
- Perform initial deployment and commissioning of robotic systems
- Acquire necessary skills to assemble and test robots and robotics systems
- Have sufficient knowledge to carry out configuration of robots and robotic systems as well as up-gradation of said system

Purpose of the qualification

The competency based NVQ has been developed to train the unskilled youth of Pakistan on the technical and administrative skills to be employed and sustain impact on their livelihood through income generation.

The purpose of these qualifications is to set professional standards for Robotics Technicians, who will serve as key agents to enhance quality of Pakistan’s robotics, technology, and manufacturing industries. The specific objectives of developing these qualifications are as under:

- Develop knowledge, skills and understanding related with basic and operational robotics functionalities that lead to and demonstrate conceptual and technical accomplishment
- Provide sound introduction about robotics technician technical, functional and generic skills
- Introduce the concepts of industrial robots and explains how they can be

- used in a plant or manufacturing system
- Support to acquire specialist knowledge and practical experience required for robotics technician
- Encourage trainees to test and explore different software and associated technical resources for knowledge, understanding and implementation
- Offers the wide range of interactive learning elements to provide trainees with a rich learning experience

Date of Validation

Date of validation by the industry	These national qualifications have been validated by the Qualifications Validation Committee (QVC) on 2 nd August 2019 and will remain currency until 1 st August 2021.
Date of review / Re-validation	29 th August, 2019

PACKAGING OF QUALIFICATIONS

The national vocational qualifications are packaged as per following:

0714 E&A 20 National Vocational Certificate Level-1 Robotics Technician (Helper)	<ul style="list-style-type: none">• Perform basic machining operations• Operate the electronic measuring instruments• Use measuring instruments for mechanics• Obey the workplace policies and procedures• Follow basic communication skills (general)• Operate computer functions (general)• Comply with Work Health and Safety Policies
0714 E&A 21 National Vocational Certificate Level-2 Robotics Technician (Junior Technician)	<ul style="list-style-type: none">• Manage routine tasks at workplace• Maintain inventory at workplace• Identify security arrangements for robotics equipment• Operate robots at workplace• Distinguish equipment / components for assembling purpose• Do component testing for robotics• Un-deploy robot at workplace• De-commission robot at workplace• Follow Professional & technical knowledge about robotics• Communicate the workplace policy and procedure• Perform basic computer application (specific)• Comply with personal health and safety guidelines• Perform basic communication (specific)
0714 E&A 22 National Vocational Certificate Level-3 Robotics Technician (Technician)	<ul style="list-style-type: none">• Perform functional testing of robotics• Commission robot at workplace• Deploy robot at workplace• Monitor operations of robot at workplace• Perform assembling of equipment/components• Manage logistics at workplace• Maintain product quality• Apply professional & technical knowledge about robotics• Identify and implement workplace policy and procedures• Apply work health and safety practices (WHS)• Manage personal finances• Communicate at workplace• Perform computer application skills

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National Vocational
Certificate Level-4
Robotics Technician

(Junior Supervisor)

- Supervise juniors for transfer of knowledge
- Assure team productivity
- Perform maintenance of robotics
- Perform trouble shooting
- Revise the configuration of robotics
- Execute up-gradation of robotics system
- Develop 3D simulations
- Assist engineers in design, configuration and application processes
- Ensure product quality
- Upgrade professional and technical knowledge about robotics
- Analysis workplace policy and procedures
- Contribute to work related health and safety (WHS) initiatives
- Perform advanced communication
- Develop advance computer application skills
- Manage human resource services
- Develop entrepreneurial skills

Members of the Qualifications Validation Committee

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11	Mr. Gouhar Pirzada	STEP, Lahore
12	Mr. Ayub Nasir	GFA, Islamabad

The following members reviewed and validated the CS

Members of the Qualification Development Committee

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9	Mr. Abdul Rehman	Research Assistant	PBTE, Lahore
10	Mr. Ayub Nasir	Regional Coordinator	GFA, Islamabad

Entry Requirements

- Minimum Middle for level 1
- Minimum Middle for level 2
- Minimum 9th/Level-2 in Robotics Technician for level 3
- Minimum 9th/Level-3 in Robotics Technician for level 4

Regulations for the qualification and schedule of units

Not Applicable.

Summary of competency standards

(Use NVQF descriptors to assign level and suggest time in credit hrs for each competency standard as per definitions given in the NVQF document)

Sr#	Competency Standard	Level	Credit Hrs	Category
1	Perform basic machining operations	1	05	Technical
2	Operate the electronic measuring instruments	1	05	Technical
3	Use measuring instruments for mechanics	1	05	Technical
4	Obey the workplace policies and procedures	1	02	Generic
5	Follow basic communication skills (general)	1	05	Generic
6	Operate computer functions (general)	1	05	Generic
7	Comply with work health and safety policies	1	03	Generic
8	Manage routine tasks at workplace	2	03	Functional
9	Maintain inventory at workplace	2	02	Functional
10	Identify security arrangements for robotics equipment	2	04	Technical
11	Operate robots at workplace	2	05	Technical
12	Distinguish equipment / components for assembling purpose	2	04	Technical
13	Do component testing for robotics	2	04	Technical
14	Un-deploy robot at workplace	2	04	Technical
15	De-commission robot at workplace	2	04	Technical
16	Follow professional & technical knowledge about robotics	2	02	Functional
17	Communicate the workplace policy and procedure	2	02	Generic
18	Perform basic computer application (specific)	2	04	Generic
19	Comply with personal health and safety guidelines	2	03	Generic
20	Perform basic communication (specific)	2	03	Generic
21	Perform functional testing of robotics	3	06	Technical
22	Commission robot at workplace	3	06	Technical
23	Deploy robot at workplace	3	06	Technical
24	Monitor operations of robot at workplace	3	04	Functional
25	Perform assembling of equipment / components	3	04	Technical
26	Manage logistics at workplace	3	04	Functional
27	Maintain product quality	3	02	Functional
28	Apply professional & technical knowledge about robotics	3	04	Functional
29	Identify and implement workplace policy and procedures	3	02	Generic
30	Apply work health and safety practices (WHS)	3	03	Generic
31	Manage personal finances	3	03	Generic
32	Communicate at workplace	3	03	Generic
33	Perform computer application skills	3	04	Generic
34	Supervise juniors for transfer of knowledge	4	03	Functional
35	Assure team productivity	4	03	Functional
36	Perform maintenance of robotics	4	05	Technical
37	Perform trouble shooting	4	06	Technical
38	Revise the configuration of robotics	4	05	Technical
39	Execute up-gradation of robotics	4	04	Technical
40	Develop 3D simulations	4	04	Technical
41	Assist engineers in design, configuration and application	4	04	Technical

	processes			
42	Ensure product quality	4	03	Functional
43	Upgrade professional and technical knowledge about robotics	4	03	Functional
44	Analysis workplace policy and procedures	4	03	Generic
45	Contribute to work related health and safety (WHS) initiatives	4	03	Generic
46	Perform advanced communication	4	03	Generic
47	Develop advance computer application skills	4	04	Generic
48	Manage human resource services	4	02	Generic
49	Develop entrepreneurial skills	4	03	Generic

ROBOTICS TECHNICIAN

Level 1

0714001050 Perform basic machining operations

Overview: This competency standard is designed to gain basic knowledge and skills required to read and interpret assembly drawings, perform bench work operations using different tools and equipment, perform lathe machine operations and prepare materials for a welding job in accordance with the organization's approved guidelines and procedures.

Competency Units	Performance Criteria
CU1. Interpret Assembly Drawings	P1. Recognize basics of lines used in engineering drawings P2. Understand different types of lines in engineering drawings P3. Understand types of drawing views P4. Identify assembly requirements according to drawings P5. Understand job layout according to assembly requirement
CU2. Perform Bench Work on Metallic Surfaces	P1. Carry-Out Sawing P2. File the Work-Piece P3. Carry out Drilling Process P4. Produce Threads on Work-Piece P5. Perform Hand Reaming
CU3. Prepare Lathe Machine for Different Operations	P1. Prepare Materials for Lathe Operations P2. Select Tools and Equipment P3. Set Lathe Machine for Operations
CU4. Prepare Materials for Welding	P1. Select and Mark Material/s as per Drawing/Job Requirement P2. Cut and Prepare Edge/s of Base Materials P3. Knowledge of welding equipment P4. Fit-up Base Materials P5. Knowledge of materials

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:** Basic elements of engineering drawing
- K2:** Drawing symbols
- K3:** Dimensioning techniques
- K4:** Tolerances
- K5:** General tolerance
- K6:** Angular tolerance

K7:	Geometric tolerance
K8:	Drawing techniques
K9:	Perspective
K10:	Exploded view
K11:	Hidden view technique
K12:	Projections
K13:	First angle projections
K14:	Third angle projections
K15:	Mechanical Properties and strength of materials
K16:	Usage of bench-work tools and equipment
K17:	Measurement systems
K18:	Use of measuring and marking tools
K19:	Usage of bench working tools
K20:	Procedure of safe clamping the work-piece
K21:	Personal Protective Equipment (PPEs) and workplace safety
K22:	Basic Mechanical Properties of materials
K23:	Personal Protective Equipment and workplace safety
K24:	Interpret basic drawings
K25:	Knowledge of Lathe machines and its types
K26:	Knowledge of holding devices and lathe attachments
K27:	Knowledge of lathe tools
K28:	True running of job(s) and center alignment of tool tip
K29:	Setting of feed and speed according to the work-piece and tool materials
K30:	Procedure of safe clamping the work-piece
K31:	Importance and usage of coolants
K32:	Selection of appropriate method of edge preparation
K33:	Selection of appropriate cutting equipment, accessories and supplies
K34:	Operation of cutting equipment such as mechanical, gas and plasma
K35:	Operation of grinding equipment
K36:	Safety procedures for machining
K37:	Knowledge of welding types

Critical evidence(s) required for Competency Standards

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.

- Interpret technical drawings and sketches based on provided specifications
- Utilize equipment tools (measuring, marking & cutting) and their working method
- Prepare a work piece containing the following operations marking, sawing & filing

- Prepare a work piece containing operations with marking, drilling, threading & reaming
- Perform edge preparation in accordance with WPS and safety procedures

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description
1.	Sample drawing sheets or Sketches
2.	Layout tools
3.	Measuring devices (screw gauge, Vernier caliper)
4.	Handheld calculator
5.	Hacksaw
6.	Drill set
7.	Drill machine
8.	Grinder
9.	Hacksaw
10.	Drill set
11.	Drill machine
12.	Grinder
13.	Engine lathe machine
14.	Turret lathe machine
15.	Tool grinder
16.	Lathe cutting tools
17.	Multi- process welding equipment
18.	Base metals
19.	Welding machine
20.	Personal safety kits
21.	Hardware complete tool kit
22.	Special robot tool kit
23.	P.P.E

0714001051 Operate the Electronic Measuring Instruments

Overview: The purpose of this competency standard is to become familiar with different types of electrical and electronic measuring instruments. After completion of this competency standard the candidate will be skilled in taking measurement from different types of electrical and electronic measuring instruments.

Competency Units	Performance Criteria
CU1. Evaluate the measuring instrument	The trainee must be able to: P1. Classify the instrument type (analog/digital). P2. Check the type of power source needed. P3. Evaluate and assemble the device and probes with proper procedure (as per manual). P4. Perform zero error test as described in the procedure. P5. Identify the measuring units/parameters of the device as per SOP. P6. Set the readability of the instrument with respect to range. P7. Record the findings and develop the report.
CU2. Operate Electrical Analog measuring instruments	The trainee must be able to: P1. Determine the type of electrical/electronics parameter to be measures. P2. Select the relevant measuring instrument as per parameter to be measured. P3. Test point identification for measurement. P4. Connect the instrument according to the prescribed method. P5. Follow the procedure for reading value on the display
CU3. Operate digital measuring instruments	The trainee must be able to: P1. Identify the type of quantity to be measures. P2. Select the relevant measuring instrument as per parameter to be measured. P3. Test point identification for measurement. P4. Connect the instrument according to the prescribed method. P5. Follow the procedure for reading value on the display
CU4. Familiarize with basics of oscilloscope and function generator	The trainee must be able to: P1. Identify components and control knobs of oscilloscope. P2. Familiarize with operating panel and display control. P3. Adjust screen resolution and calibrate screen with

	probes. P4. Measure the AC/DC signal on oscilloscope using function generator.
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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.** Explain different categories of measuring instruments with respect to working principle.
- K2.** Define absolute and secondary instruments.
- K3.** Describe operating principle of analog and digital instruments.
- K4.** Explain indicating and recording instruments.
- K5.** Explain Electrical/ electronic symbols.
- K6.** Explain the various parts and components of the instrument.
- K7.** Explain techniques for connection testing
- K8.** Describe test and measuring techniques of various meters like ohm meter, ampere meter, lux meter, energy meter, power meter, power factor meter, frequency meter, energy meter etc.
- K9.** Explain the principle of time and amplitude measurement of oscilloscope

Critical evidence(s) required for Competency Standards

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.

- Demonstrate correct measurement of different parameters using various measuring instruments

Tools and Equipment

Sr#	Description
1.	Electrical test bench
2.	Multi-meter
3.	Test probes
4.	Hand glove
5.	Analog meter
6.	DMM

7.	Thermometer
8.	2-channel AC/DC
9.	Powersupply 5V, 12V, 24V
10.	Oscilloscope
11.	Electrical test bench
12.	Breadboard trainer
13.	Power source (AC/DC)
14.	Digital multimeter
15.	Lux meter
16.	Power meter
17.	Power factor meter,
18.	Frequency meter
19.	Energy meter etc.
20.	Electrical test bench
21.	Digital Multi-meter
22.	Digital Power source (AC/DC)
23.	Manual tools
24.	Screw drivers
25.	Twizer
26.	Wire Cutter
27.	Nose plyier
28.	Soldering iron
29.	Sucker
30.	Electrical test bench
31.	Power source (AC/DC)
32.	Oscilloscope
33.	Function generator
34.	IC/components

0714001052 Use measuring instruments for mechanics

Overview: This competency standard covers the skills and knowledge required to take measurements with Steel rule, Hook rule, Folding rule, Trammels, combination set, micrometre, Vernier calliper, various gauges and different measurement instruments.

Competency Units	Performance Criteria
CU1. Take measurements with graduated tools	The trainee must be able to: P1. Take measurements using a Steel rule P2. Take measurements using a Hook rule P3. Take measurements using a Folding rule P4. Take measurements with Trammels
CU2. Take measurements with combination set	The trainee must be able to: P1. Take Measurement with Square head P2. Perform leveling with square head as spirit level P3. Measure depth with square head as depth gauge P4. Measure height with square head as height gauge
CU3. Take measurements through various gauges	The trainee must be able to: P1. Take measurement with fixed gauge and plug gauge. P2. Take measurement with adjustable gauge P3. Take measurement with small hole gauge P4. Take measurement with telescope gauge
CU4. Perform measurements through Micrometer	The trainee must be able to: P1. Take measurement with outside micro-meter P2. Take measurement with inside micrometer P3. Take measurement with depth micrometer P4. Measure threads with micrometer P5. Take measurement with Vernier micrometer
CU5. Measure dimensions with Vernier tools	The trainee must be able to: P1. Take measurement with Vernier caliper P2. Take measurement with height gauge P3. Take measurement with Vernier depth gauge
CU6. Perform different measurements	The trainee must be able to: P1. Take measurement with dial calliper

	P2. Take measurement with dial thickness gauge P3. Take measurement with dial Indicator P4. Exercise on gauge blocks P5. Exercise on tool makers microscope P6. Practice on Profile Projector P7. Practice Of Digital Instruments P8. Measure tolerance and allowances
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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:** Describe Decimal and fraction of an inch
- K2:** Define Measurement techniques
- K3:** Describe Calculation of area, volume of geometric shapes.
- K4:** Define Arc and circle
- K5:** Define Measurement techniques
- K6:** Define dimensioning of drawings and layouts
- K7:** Define dimensioning and measurement techniques
- K8:** Define dedifferentiate the gauges
- K9:** Measurement techniques
- K10:** Knowledge of dimensioning of drawings and layouts
- K11:** Differentiate Vernier callipers, height gauge and Vernier depth gauge
- K12:** Define different type of Measurement techniques
- K13:** Define Dimensioning
- K14:** Measurement techniques
- K15:** Digital measuring instruments
- K16:** Measurement techniques
- K17:** Knowledge of dimensioning and layouts
- K18:** ISO standards of fits and tolerance
- K19:** Measurement techniques
- K20:** ISO systems of fits and limits

K21: Knowledge of components e.g. shafts, holes etc

Critical evidence(s) required for Competency Standards

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.

- Perform to take dimensions and record multiple readings on each work piece
- Perform to draw a circle or arc by fixing one point in the dot and rotate
- Perform to draw a layout of a component with the help of combination square.
- Perform marking center of the round bar (diameter)
- Perform leveling /measure angle of surfaces with protractor Head
- Perform measurement with radius gauge.
- Perform measurement with angle gauge.
- Perform measurement with ring and plug gauge
- Perform measurement with outside micrometer.
- Perform measurement with inside micrometer
- Perform measurement with depth micrometer.
- Define dimensions
- Define how to operate Vernier caliper
- Define different type of measuring techniques
- Perform to operate dial indicator
- Define how to operate Vernier caliper
- Define how to adjust the gauge block as per desired size

Tools and Equipment

Sr#	Description
1.	Steel rule
2.	Work piece
3.	Surface plate
4.	Steps and collars
5.	Hook rule
6.	Folding rule
7.	Trammel

8.	Combination set
9.	Surface plate
10.	Scriber
11.	Tri square
12.	Divider
13.	Round stock
14.	Fix gauge
15.	Surface plate
16.	Surface gauge
17.	Dial indicator
18.	Radius gauge
19.	Ring Gauge
20.	Plug Gauge
21.	Angle gauge
22.	Adjustable gauge
23.	Telescope
24.	Outside Micrometer
25.	Inside Micrometer
26.	Depth Micrometer
27.	Screw thread Micrometer
28.	Vernier Caliper
29.	Height Gauge
30.	Vernier caliper
31.	Dial thickness gauge
32.	Dial indicator
33.	Gauge blocks
34.	Tool makers microscope
35.	Coordinate measuring machines
36.	ISO tables of fits and tolerance
37.	Measurement tools

041700838 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 hierarchical 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

001100850 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
CU1. 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
CU2. 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
CU3. 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
CU4. 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
CU5. 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

	<ul style="list-style-type: none"> • Long differences • Conflicting information • Differing status, position /self-expression <p>P2. Use strategies to overcome these barriers in the client-counsellor relationship</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:** 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 P4. Switch off any unused peripheral devices P5. Ensure computer safety

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

102200843 Comply with 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	<p>P1. Identify relevant organizational safety policies and procedures</p> <p>P2. Categorize tools and equipment as per requirements</p> <p>P3. Maintain tools and equipment</p> <p>P4. Follow established safety procedures during work activities</p> <p>P5. Identify existing or potential safety issues to designated persons</p> <p>P6. Report work-related incidents and accidents to supervisor</p> <p>P7. Take necessary measures to minimizing risks</p>
CU2. Communicate work health and safety (WHS) assess at work place	<p>P1. Raise work health and safety issues with supervisor.</p> <p>P2. Contribute to workplace meetings and other consultative processes for work health and safety management at the workplace</p> <p>P3. Make suggestions for improving work health and safety practices</p>
CU3. Minimize risks to personal safety at work place	<p>P1. Identify situations that may endanger the personal safety</p> <p>P2. Document the incident regarding personal safety at work place</p> <p>P3. Eliminate workplace hazards regarding personal safety</p> <p>P4. Identify damaged items and equipment for personal safety</p> <p>P5. Notify supervisor regarding damaged items and equipment for personal safety</p>

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

ROBOTICS TECHNICIAN

Level 2

0714001053 Manage Routine Tasks at workplace

Overview: This competency is regarding routine tasks including workspace cleaning, arranging tools, identifying damaged or used consumables and examining the workspace for health and safety hazards. The learner will be able to identify basic routine tasks, report the potential barriers and maintain work logs.

Competency Unit	Performance Criteria
CU1. Identify Routine Tasks	P1. List routine tasks P2. Classify routine tasks P3. Schedule routine tasks
CU2. Prioritize Routine Task	P1. Schedule routine tasks according to priority P2. Maintain work log
CU3. Identify Potential Barriers	P1. Identify unavailability of resources P2. List potential barriers P3. Report potential barriers
CU4. Prepare Assessment Report of Performed Tasks	P1. Prepare Checklist of routine tasks P2. Summarize routine tasks P3. List performed tasks

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Understand time management
- K2: Know about potential barriers
- K3: Understand report writing
- K4: Know how to prepare work logs
- K5: Know about basic knowledge of routine tasks

Critical evidences 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 the following:

- List basic routine tasks at workplace
- Prepare document of performed tasks
- Prepare document on task and time management

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Computer	25
2.	Desk and chair	25
3.	Basic stationary	25

0714001054 Maintain Inventory at workplace

Overview: Efficient Inventory control allows to have the right amount of stock in the right place at the right time. It protects the production, if problems arise with the supply chain. The aim to maintain inventory control at work place is to show how much stock you have at any time, and how you keep track of it.

Competency Unit	Performance Criteria
CU1. Identify Components of Inventory	The trainee must be able to: P1. Knowledge about different articles P2. Describe the equipment demand P3. List available equipment P4. Verify equipment from stock register P5. Verify quantity of equipment
CU2. Classify components of inventory	The trainee must be able to: P1. Identify functionality of components P2. Arrange list of components P3. Label available components
CU3. Organize components of Inventory	The trainee must be able to: P1. Check space availability P2. Label shelves with barcode tags P3. Arrange racks for the equipment P4. Place components based on functionality P5. Maintain shelves and bin tracking
CU4. Maintain Inventory Records	The trainee must be able to: P1. Create stock register P2. Create record sheet in Microsoft Excel / Word P3. Use asset tracking software P4. Update the stock register P5. Verify stock register daily P6. Generate inventory alerts
CU5. Audit Inventory Record	The trainee must be able to: P1. Ensure record are updated P2. Compare records with previous year P3. Perform physical verification of stock P4. Use Accounting tools P5. Generate audit report P6. Ensure use of indent / requisition form

CU6. Check out items for Inventory	<p>The trainee must be able to:</p> <p>P1. Know about equipment availability as per job order</p> <p>P2. Ensure components using barcode reader</p> <p>P3. Verify quantity of components</p> <p>P4. Update stock entries.</p> <p>P5. Ensure authorization of equipment</p> <p>P6. Track product movement</p>
CU7. Check in Items for inventory	<p>The trainee must be able to:</p> <p>P1. Ensure components using barcode reader</p> <p>P2. Verify quantity of components</p> <p>P3. Check functionality of equipment</p> <p>P4. Update stock entries</p>

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1 Understand what products they are managing
- K2 Understand the essential difference between the types of inventory stock
- K3 Understand different between check in and check out stock
- K4 Use of barcode reader for electronic tagging
- K5 Use Microsoft excel/ word for inventory records
- K6 Understand asset tracking and scheduling software
- K7 Understand basics of audit procedures

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 the following:

- Show difference between the types of inventory stock
- Show the basic use of a computer and relevant applications
- Apply of barcode reader to tag components
- Prepare Microsoft excel/ word sheets for inventory records
- Explain the use of asset tracking and scheduling software
- Create report for single component using asset tracking and scheduling software

- Explain basics of audit procedures

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Log books	25
2.	Stock Register	50
3.	Stationary items	n
4.	PC's	25
5.	Microsoft Excel/ Word/ dedicated software	25
6.	Racks for Tools, equipment & finished products	25
7.	Asset Tracking and scheduling software	25
8.	Audit Book	25
9.	Barcode reader	25
10.	Printer	1
11.	Indent form / base	25

0714001055 Identify Security Arrangements for Robotics Equipment

Overview: The objective of this standard is to ensure identification of security arrangements, assessment of gaps in the current security protocols and report security solutions for robotic equipment. After achieving this standard, the learner will be able to ensure security arrangements for operation of robotic equipment.

Competency Unit	Performance Criteria
CU1. Maintain Security logs	P1. Keep performance records timely and relevant. P2. Acknowledge both positives and negatives of the recorded activities. P3. Keep the logs factual and detailed. P4. Create a sense of continuity and consistency while maintaining logs.
CU2. Follow Relevant Security Protocols	P1. Identify relevant security protocols as per standard operating procedures. P2. Follow instructions as per standard operating procedures.
CU3. Audit Security Protocols	P1. Check whether security logs are followed as per standard operating procedures P2. Assess current security performance P3. Identify gaps in current security protocols P4. Formulate and report security solutions to supervisor

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1. Know about security protocols manuals
- K2. Understand security instructions
- K3. Interpret security instructions as given in guide book
- K4. Understand process of auditing security protocols
- K5. Understand types of security logs
- K6. Understand an audit report

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 the following:

- Present daily reporting procedures of security protocols.
- Assess security protocols and report.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Personal Computers	25
2.	Printer	2
3.	Stationary items	25
4.	Any Robotic Equipment with security protocol manual	1
5.	Log books	10
6.	Desk	25
7.	Chairs	25

0714001056 Operate Robots at workplace

Overview: This Competency Standard relates with basic operation of robots in industry and identifies competencies required for operation of robot at workplace as per standard operating procedures provided in the user manual. Trainee will be able to perform basic operation of a robot.

Competency Unit	Performance Criteria
CU1. Perform basic/initial test before operation	P1. Knowledge about basic working of given component P2. Ensure proper connectivity of all components according to instructions P3. Check initial power indicators P4. Perform basic calibration of robot P5. Perform test run
CU2. Ensure Suitability of workplace for operation	P1. Identify suitable work environment for the robot. P2. Identify obstacles that effects robot operations P3. Prepare suitable work environment for the robot. P4. Ensure safety for the robotic equipment.
CU3. Follow standard procedures for operating the robot	P1. Know about operation manuals of robot P2. Identify the standard operating procedure for the robot. P3. Follow instruction as given in standard operating procedure while operating the robot P4. Ensure proper functioning of the robot.
CU4. Perform post operation test	P1. Recognize appropriate post operation test for the particular robot P2. Follow standard operating procedure to perform post operation test P3. Generate post operation test report

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1 Understand the user and operation manuals.
- K2 Know workplace hazards and their counter measures.
- K3 Comprehend pre and post operation test as per standard operating procedure
- K4 Know about suitable workplace environment

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 the following:

- Demonstrate pre and post operation tests
- Present the steps involved in operating the robot

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Robotic Platform	5
2.	Basic electronic Tool Kit	5

0714001057 Distinguish equipment/components for assembling purpose

Overview: Robot parts include a wide variety of components related to: Manipulator, End-effector, Locomotion Device, Controller, Sensors. This competency aims at distinguishing different tools and components involved in assembly of a robot at workplace and also involves prior preparation.

Competency Unit	Performance Criteria
CU1. Identify different components for assembly	The trainee must be able to: P1. List all assembly components P2. Distinguish between different types of components based on various traits. P3. Label components
CU2. Arrange components in order for assembly	P1. Know about components from user manual P2. Identify order of assembly P3. Recognize required components P4. Arrange components according to identified order
CU3. Identify tools/ equipment for assembly	The trainee must be able to: P1. List different types of tools P2. Select appropriate tools for assembly
CU4. Arrange tools/equipment for assembly	P1. Arrange tools according to identified order
CU5. Prepare workspace /environment for assembly	The trainee must be able to: P1. Check space availability P2. Arrange racks for the equipment P3. Place components based on functionality P4. Ensure safety measures P5. Ensure availability of consumables P6. Ensure backup power source

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1 understand assembly procedures
- K2 comprehend product manuals
- K3 knowledge and understanding of mechanical components for robots
- K4 knowledge and understanding of Electrical/electronic components for robots

K5 understand the usage of Mechanical or electrical tools

K6 Knowledge of safety measures

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 the following:

- Show difference between mechanical components for robots
- Show difference between Electrical/ electronic components for robots
- Explain the usage of Mechanical or electrical tools
- Explain assembly procedures
- Explain safety measures

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Mechanical tools: Hammer, Screwdrivers & Wrenches, Saw, Square, measuring tape, Vernier calipers, Files, Centre Punch, Drill Press, Hobby Tool, Soldering station, wires stripper, Sharp utility knives, Hot glue guns, Arc Welder, Electric Heat Gun, Safety Goggles.	5 set
2.	Robot components kit related to: Manipulator, Actuator, Endeffector, Locomotion Device, Controller, Sensors	5 set
3	Electronic tool kit	5 set

0714001058 Do component testing for robotics

Overview: This competency standard deals with preparation of testing work bench, execute component testing for robotics and checking calibration status of the work bench. The learner will be able to perform component testing using the work bench and prepare a calibration report of test work bench after completing this competency level.

Competency Unit	Performance Criteria
CU1. Prepare testing work bench	P1. Identify work bench components P2. Identify testing criteria according to given standard P3. Follow instructions to prepare test bench
CU2. Identify SOPs for component testing	P1. Identify components that requires testing P2. Identify relevant testing procedures P3. List SOPs according to testing criteria
CU3. Execute component test	P1. Follow SOPs to perform component tests P2. Identify and log different performance parameters P3. Ensure safety parameters while component testing P4. Collect and compile test results P5. Validate test results
CU4. Report testing results	P1. Identify relevant templates for report writing P2. Prepare report on performance parameters P3. Prepare report on component faults P4. Report recommended solutions
CU5. Verify Calibration status of testing equipment	P1. Identify absolute instrument for calibration P2. Identify Calibration parameters P3. Perform calibration test according to instructions P4. Compare calibration status with the instructions manual P5. Report calibration status of the testing equipment

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

- K1 Understand work bench components
- K2 Know about the testing procedures
- K3 Understand testing parameters
- K4 Know how to make a report about component testing
- K5 Describe calibration status of testing equipment
- K6 Know about absolute and secondary instruments

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 the following:

- List work bench components and prepare work bench for testing
- List testing procedures and parameters
- Perform component test using work bench
- Prepare evaluation report of tested component
- List and report calibration status/procedures

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Testing Work Bench	5
2.	Testing Components of robot	10
3.	Electrical tool kit	5
4.	Mechanical tool kit	5
5.	Computers	5
6.	Stationary	25

0714001059 Un-deploy robot at workplace

Overview: This Competency Standard is developed to train how to halt operation and uninstall robot at workplace for undeployment. After completing this standard, the trainee will be able to halt the operation, uninstall and undeploy the robot at workplace and efficiently transport it to the proper storage place.

Competency Unit	Performance Criteria
CU1. Halt operation of robot	P1. Identify procedure for shutting down of robot. P2. Follow steps provided in standard operating manual. P3. Ensure safety standards during the procedure.
CU2. Prepare environment for undeployment	P1. Identify tools and equipment required for undeployment P2. Arrange tools and equipment required P3. Ensure suitability of workplace for undeployment
CU3. Uninstall robot	P1. Identify uninstallation procedure for robot from installation manual. P2. Follow standard procedure to uninstall the robot P3. Ensure safety of robotic components while uninstalling
CU4. Prepare components for transportation and storage (packing)	P1. Identify packaging requirement of components P2. Ensure proper packaging of components P3. Arrange components for transportation and storage.
CU5. Transport and store components	P1. Identify mode of transportation. P2. Ensure safe loading /unloading of the robotic components P3. Ensure appropriate storage environment for components

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

- K1 Understanding disassembling using operation manual
- K2 Know different packaging techniques
- K3 Know different transportation means
- K4 Know proper loading/unloading techniques
- K5 Know proper storage environment for equipment

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 the following:

- Demonstrate complete uninstallation procedures
- Present loading/unloading, storage and transportation techniques

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Electronic tool kit	5
2.	Mechanical tool kit	5
3.	Robotic Platform	5
4.	Transportation means	5

0714001060 De-commission robot at workplace

Overview: This Competency Standard identifies the competencies, for decommissioning and/or removal of equipment, is to ensure all equipment decommissioning/ removal and support systems decommissioning/removal are executed in a manner consistent with applicable codes, regulations and sound engineering practices. After passing this competency student will be able to ensure that equipment and support systems are decommissioned and removed in a manner that will allow lowest possible risk to employees, the facility, operations or maintenance activities.

Competency Unit	Performance Criteria
CU1. Prepare environment for disassembling	P1. Identify disassembling requirements P2. Perform pre-decommissioning checks such as Environment, health and safety (EHS). P3. Select appropriate tools for disassembling of robot.
CU2. Disassemble undeployed robot	P1. Identify order of disassembling P2. Detach connections effectively P3. Follow the standard operating procedure for disassembling of robot
CU3. Classify reusable and repairable components	P1. Identify reusable and repairable components. P2. Sort reusable and repairable components. P3. Label reusable and repairable components.
CU4. Dispose discarded components	P1. Ensure that the component is not usable or repairable. P2. Identify EHS procedure for dispose of discarded components P3. Ensure proper disposal of discarded components

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1 Know environmental hazardous for decommissioning of robot.
- K2 Understand how to identify disposable, repairable and reusable components.
- K3 Understand standard operating procedure for decommissioning of robot.
- K4 Understand proper procedure for disposal of components.

Critical evidence(s) required for Competency Standards

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 the following:

- Document list of disposable, repairable and reusable components
- Enlist steps for decommissioning of robot
- Demonstrate procedure of disposal of components

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Sample of disposable, repairable and reusable components	10
2.	Mechanical Tool kit	5
3.	Basic electronics kit	5

0714001061 Follow Professional & technical knowledge about robotics

Overview: Robot technicians should be well-versed in theoretical approaches to robotics, as well as laboratory methodologies and standards. Robot technicians should understand the anatomy of an industrial robot and be familiar with its manufacturing process in order to determine the best solutions to technical issues and enhancement needs. Solid interpersonal skills and creativity are also invaluable.

Competency Unit	Performance Criteria
CU1. Participate in On job training	The trainee must be able to: P1. List all available opportunities for on job training P2. Identify areas in which training is required P3. Select relevant opportunities for on job training P4. Participate in relevant on job training
CU2. Seek Mentorship	The trainee must be able to: P1. Identify areas in which mentor ship is required P2. Communicate with mentor to seek mentor ship P3. Update mentor regarding progress
CU3. Participate in skills assessment	The trainee must be able to: P1. List all available skills assessments P2. Identify skills assessments which are relevant P3. Recall qualification requirements relevant to the skills assessment. P4. Perform skills assessment

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1:** Explain the importance of training.
- K2:** Know learning strategies.
- K3:** Know assessment technique.

Critical evidence(s) required for Competency Standards

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 the following:

- Post-training reports
- Certificate of participation in mentorship program
- Assessment results

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Consumables	

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	<p>P1. Identify organizational communication requirements and workplace procedures with assistance from relevant authority</p> <p>P2. Identify appropriate lines of communication with supervisors and colleagues.</p> <p>P3. Seek advice on the communication method/equipment most appropriate for the task</p>
CU2. Communicate at workplace	<p>P1. Use effective questioning, and active listening and speaking skills to gather and convey information</p> <p>P2. Use appropriate non-verbal behavior at all times</p> <p>P3. Encourage, acknowledge and act upon constructive feedback</p>
CU3. Draft the Written Information	<p>P1. Identify and comply with required range of written materials in accordance with organizational policy and procedures</p> <p>P2. Draft and present assigned written information for approval, ensuring it is written clearly, concisely and within designated timeframes.</p> <p>P3. Ensure written information meets required standards of style, format and detail.</p> <p>P4. Seek assistance and/or feedback to aid communication skills development</p>
CU4. Review the 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>

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.

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

102200844 Comply with Personal Health and Safety Guidelines

Overview: This Competency Standard identifies the competencies required to apply occupational Safety, health and Environmental protection 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 Observing the 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	<p>P1: Identify risk to personal health</p> <p>P2: Identify hygiene and safety at work place</p> <p>P3: Identify processes</p> <p>P4: Identify tools, equipment and consumable materials that have the potential to cause harm</p> <p>P5: Report, identified risk to Health, hygiene and safety to concerned</p>
CU2. Apply Personal Protective and Safety Equipment (PPE)	<p>P1: List the Personal Protective equipment</p> <p>P2: Select personal protective equipment in terms of type and quantity according to work orders.</p> <p>P3: Wear personal protective equipment according to job requirements.</p> <p>P4: Clean personal protective equipment</p> <p>P5: Stored Personal Protective equipments in proper place after use.</p>
CU3. Comply with Occupational Safety and Health (OSH)	<p>P1: Maintain cleanliness and hygiene as per organizational policy</p> <p>P2: Comply with Health, hygiene and safety precautions before starting work</p> <p>P3: Comply organizational Health, hygiene and safety guidelines during work</p> <p>P4: Deal with resolvable problems according to prescribed procedures</p> <p>P5: Report un resolvable problems to concerned</p> <p>P6: Place the tools equipment etc at their prescribed place after completion of work</p>

CU4. Dispose the hazardous Waste materials from the designated area.	<p>P1: Identify hazardous waste materials which needs to be disposed off</p> <p>P2: Segregate hazardous or non-hazardous waste carefully from the designated area as per approved procedure</p> <p>P3: Use proper disposal hazardous containers for dispose-off hazardous waste as per procedure</p> <p>P4: Take necessary precautions like putting masks and gloves while disposing hazardous waste/ materials as per standard operating procedure</p>
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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:** 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 environment.

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

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

Overview: This module aims to provide the required knowledge and skill to perform functional testing of robotics unit. This includes the ability to identify and execute testing procedures, as well as to examine interfaces and equipment. Upon completion of this module the learner will be able to generate comprehensive test reports.

Competency Unit	Performance Criteria
CU1. Identify desired functionality for testing	P1. List all functions of robotic unit P2. Isolate functions that require testing P3. Prioritize functions for testing P4. Organize related functions into groups P5. Identify and create testing procedures required to test functionality
CU2. Execute relevant testing procedure	P1. Prepare robotic unit for testing P2. Identify testing procedure to be executed P3. Select testing equipment to be used during tests P4. Indicate required results to be achieved P5. Execute testing steps in order P6. Compile results of all tests
CU3. Examine detailed functionality of interfaces	P1. List all interfaces P2. Identify interfaces which can be examined P3. Organize interface in order of examination P4. Identify acceptable functionality of interface P5. Utilize the specific interface P6. Examine functioning of the specific interface P7. Analyze examination results P8. Compile examination results
CU4. Examine detailed functionality of equipment	P1. List all equipment who's functionality requires examination P2. List functionality of equipment's to be examined P3. Identify tools required for examination P4. Arrange tools required for examination P5. Identify acceptable functionality of equipment P6. Examine equipment using specific tools P7. Analyze examination results P8. Compile examination results

CU5. Generate test report	<p>P1. List all tests for which report is required</p> <p>P2. Identify result outcomes that are required to be reported</p> <p>P3. Prepare optimal template for test report</p> <p>P4. Compose test report based on template</p> <p>P5. Assure quality of test report</p> <p>P6. Identify distribution of report</p>
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Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1:** Knowledge of robotic unit interface
- K2:** Knowledge of robotic unit functionality
- K3:** Knowledge of robotic unit testing procedures
- K4:** Knowledge of robotic unit tools and equipment
- K5:** Knowledge of reporting standards
- K6:** Knowledge of testing standards
- K7:** Knowledge of report writing

Critical evidence(s) required for Competency Standards

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

- 1. Portfolio**
- 2. Assignment(s)/Project(s)**
- 3. Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Develop testing manual
- Compile comprehensive test report

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Multi-meter	5
2.	Oscilloscope	5
3.	Computer systems	25
4.	Professional Electronic toolkit	5
5.	Professional Mechanical toolkit	5
6.	RPM meter	5
7.	Temperature meter	5

8.	Torque meter	5
9.	Barometer	5
10.	Robotic system	2
11.	Controller	2

0714001063 Commission robot at workplace

Overview: This competency level deals with preparing environment, unboxing, commissioning and initial testing of the robotic system. The learner will be able to commission a robotic system under supervision after completing this competency level.

Competency Unit	Performance Criteria
CU1. Prepare environment for commissioning of robot	P1. Specify environmental conditions for commissioning of robot. P2. Prepare suitable environment for commissioning of robot. P3. Arrange tools and equipment required for the commissioning of robot.
CU2. Unbox robotic system	P1. Identify instructions manual for unboxing of robotic system. P2. Arrange tools and equipment required for unboxing robotic system P3. Follow instructions provided in manual for unboxing of robotic system
CU3. Comprehend commissioning and operational instructions	P1. Identify commissioning and operational manuals. P2. Follow commissioning and operational instructions from manual P3. Assist supervisor in commissioning steps provided in manual.
CU4. Perform basic assembly	P1. Identify required basic assembly P2. Prioritize basic assembly based on requirements P3. Follow instruction manual to perform basic assembly
CU5. Perform initial testing of commissioned robot	P1. Perform initial tests of commissioned robot. P2. Follow steps for initial testing of robot. P3. Prepare initial testing report

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

K1: Understand environmental conditions required for commissioning of robot.

K2: Know how to comprehend the unboxing manual.

K3: Know how to comprehend the commissioning and operation manuals.

K4: Know how to perform basic assembly during commissioning.

K5: Know how to perform initial testing of commissioned robot.

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Prepare a report on environmental conditions required for commissioning of robot
- Present commissioning procedures
- Demonstrate initial testing of the commissioned robot

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Robotic system	5
2.	Electronic tool kit	5
3.	Mechanical tool kit	5
4.	Computers	25
5.	Printers	2

0714001064 Deploy robot at workplace

Overview: This competency level is about preparing the deployment site along with transportation, installation and initial testing of the robotic system. The learner will be able to transport and deploy the robotic system at suitable site.

Competency Unit	Performance Criteria
CU1. Prepare environment for deployment of robot	P1. Specify environmental parameters for deployment of robot. P2. Identify suitable environment for deployment of robot. P3. Prepare suitable environment for deployment of robot.
CU2. Transport robot and relevant system to deployment site	P1. Identify transportation means for the robotic system. P2. Arrange transportation of the robot to the deployment site. P3. Ensure safe transportation of the robotic system.
CU3. Install robot at site	P1. Identify installation manuals. P2. Arrange tools and equipment required for the deployment of robot. P3. Follow instructions provided in manuals to install the robot at site.
CU4. Execute initial testing of deployed robot	P1. Comprehend initial tests of deployed robot. P2. Follow steps for initial testing of deployed robot. P3. Prepare initial testing report.

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Understand the environmental requirements to deploy the robotic system
- K2: Understand installation manuals for deployment of robotic system.
- K3: Know how to select the suitable transportation means for moving the robotic system at the deployment site.
- K3: Know how to perform initial testing of the deployed robot

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Prepare a report on suitable transportation means.
- Perform installation procedure of a robotic system.
- Perform initial testing of a deployed robot.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Robotic system	5
2.	Electronic tool kit	5
3.	Mechanical tool kit	5
4.	Computers	25
5.	Printers	2
6.	Transportation means	5

0714001065 Monitor Operations of robot at workplace

Overview: This Competency Standard covers the competencies required to monitor operation of robot at workplace. The trainee will be able to identify desired outcome of robot operation, identify errors, perform corrective measure, prepare operation report and maintain historic log.

Competency Unit	Performance Criteria
CU1. Identify desired outcomes of robot operations	P1. List all robot operation P2. Select robot operation for which outcomes have to be identified P3. List all possible outcomes of specified robot operation P4. Recognize important parameters to assess outcomes of robot operation. P5. Identify desired outcomes
CU2. Examine outcomes against established thresh hold	P1. List established thresh holds for outcome P2. Assess outcomes of the robotic operation P3. Compare outcome against established thresh holds
CU3. Identify short comings in outcomes	P1. Examine errors in outcomes P2. Apply corrective measure to eliminate errors P3. Prepare operation report
CU4. Maintain historical log	P1. Identify log parameter P2. Prepare routine log P3. Create sense of continuity and consistency while maintaining logs P4. Keep the log factual and detailed

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

- K1: Know how to identify desired outcomes of robot operation
- K2: Know how to interpret established threshold of outcome
- K3: Know how to prepare operation report
- K4: Understand how to maintain historical log

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**

3. Relevant Certification(s)

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Document desired outcome of robotic operation
- Document the process of identifying shortcomings in outcome
- Demonstrate how to prepare operation report and maintain log

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Robotic system	5
2.	Log book	25
3.	Personal computers	25
4.	Mechanical tool kit	5
5.	Electronic tool kit	5

0714001066 Perform assembling of equipment / components

Overview: The objective of this exercise is to make a functional robot by performing assembly of equipment/ components. The trainee will be able to understand the robot architecture and will be able to assemble various types of robots.

Competency Unit	Performance Criteria
CU1. Comprehend assembly manual	P1. Acquire list of assembly manuals P2. Select relevant assembly/ installation manuals P3. Read instruction manual thoroughly P4. Mark relevant steps for assembly
CU2. Prepare assembly plan	P1. List the operation procedure for assembly P2. Organize the assembly plan P3. Make list of required items P4. Identify necessary tools required for assembly P5. Devise an alternate plan if necessary
CU3. Perform assembly as per SOP	P1. Ensure safety standards P2. Prepare a working environment for assembly P3. List all steps as per SOP. P4. Prioritize the assembly steps P5. Follow the assembly steps.
CU4. Verify assembly as per standards	P1. List all assemblies performed P2. Select assemblies that require verification P3. Identify verification procedure for selected assembly P4. Match the assembly with the drawing P5. Inspect joint/links coupling of the robot P6. Verify the wire connections P7. Compare assembly with the manual P8. Generate verification report

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Understand safety standards
- K2: Understand assembly manual
- K3: Understand assembly drawing

K4: Knowledge of correct tool selection

K5: Knowledge of electrical and mechanical tools

K6: Knowledge of basic industrial standards

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Develop assembly manual
- Assemble components
- Create verification report

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Mechanical tools kit	5
2.	Electrical tool kit	5
3.	Robotic tool kit	5

0714001067 Manage logistics at workplace

Overview: This Competency Standard identifies the required skills and knowledge of logistics management at workplace. Trainee will be able to schedule production process, ensure proper package, manage resource allocation, maintain logistic log and coordinate transportation.

Competency Unit	Performance Criteria
CU1. Follow production schedule	P1. Prioritize production schedule P2. Ensure production schedule as per standard procedure
CU2. Ensure packaging as per SOP	P1. Enlist packaging components P2. Identify standard packaging procedure P3. Review packaging to make sure it is appropriate
CU3. Allocate sufficient resources	P1. Identify resources required P2. Identify quantity of each required resource P3. Ensure timely allocation of resources
CU4. Maintain logs for logistics	P1. Identify parameter of log for maintenance P2. Prepare log for logistics P3. Keep the logs factual and detailed. P4. Create a sense of continuity and consistency while maintain logs.
CU5. Coordinate transportation	P1. Identify modes of transportation required P2. Identify appropriate person for transportation P3. Allocate duties to appropriate staff P4. Identify loading equipment required

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

K1: Understand the production scheduling process

K2: Understand resource management and allocation of resources

K3: Know modes of transportation

K4: Know loading equipment required

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Document resource allocation procedure
- Prepare log for logistics
- Document proper package procedures

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Logistic Maintenance Notebook	25

0714001068 Maintain Product Quality

Overview: The objective of this exercise is to have the knowledge and understanding to maintain product quality. This includes providing support in continuous improvements, product testing, auditing samples and communicating the results.

Competency Unit	Performance Criteria
CU1. Support in continuous improvement	P1. Outline possible improvements based on current standards P2. List processes which affect the product quality P3. Identify processes which can be improved P4. Suggest improvements in specific processes P5. Report possible improvement plan
CU2. Perform product testing	P1. List product quality standards P2. Select specific product quality standards P3. Recall the relevant testing procedure P4. Perform QA testing as per SOP P5. Compile testing results
CU3. Audit samples regularly	P1. Prepare a plan for auditing samples P2. Prepare a plan for sample selection P3. Audit the selected samples P4. Determine deficiencies as per audit SOP
CU4. Communicate testing / audit results	P1. Fill out appropriate audit form(s) P2. Summarize audit/testing results in the form of a report P3. Propose/suggest quality improvement

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Understand quality standards
- K2: Know about the auditing standards and procedures
- K3: Know different types of testing procedures
- K4: Know about reporting standards

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Prepare Audit reports
- Prepare QA reports
- Prepare testing reports

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Mechanical tools	5
2.	Electrical toolkit	5
3.	QA/Auditing manuals	25

0714001069 Apply professional & technical knowledge about robotics

Overview: This competency level aims to provide knowledge and skills to identify and improve the skill set. It also helps the learner to understand the skill assessment procedures and mentor his co-workers. The learner will be able to apply professional and technical knowledge in improving the skill sets and assessments.

Competency Unit	Performance Criteria
CU1. Identify areas for further improvement	P1. Specify areas for further improvements. P2. Evaluate the robotic system for possible improvements. P3. Compile the results of case study. P4. Report specified areas for further improvement.
CU2. Improve the selected skills set	P1. List the Professional skill sets used in the robotics. P2. List the technical skill sets used in the robotics. P3. Specify the skill sets for improvement. P4. Follow recommendations to improve the specified skill set.
CU3. Provide mentorship for co-workers	P1. Identify areas for improvement among co-workers P2. Guide co-workers to improve their skill set. P3. Prepare instruction manuals for improvements in specified skill set.
CU4. Participate in skill assessment	P1. Identify areas to assess in a specified skill set. P2. Develop procedure for skill assessment. P3. Prepare environment for skill assessment. P4. Follow procedure for skill assessment. P5. Compile results of the skill assessment. P6. Report results of the skill assessment.

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Understand areas to improve Robotic system.
- K2: Know how to select the most suitable area for improvement.
- K3: Know how to apply knowledge to improve specified skill set.
- K4: Understand how to transfer knowledge to the co-workers.
- K5: Know how to perform assessments.

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Prepare a comprehensive report on improvement areas.
- Present recommendation to improve the selected skill set in co-workers.
- Prepare a comprehensive skill assessment report.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Computer	25
2.	Multimedia	1
3.	Printer	1

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	<p>P1. Identify the workplace policy & procedures</p> <p>P2. Apply appropriate strategies that can be used to measure whether your workplace health and safety obligations are being met.</p> <p>P3. Assure the policies are realistic, resources and personnel to implement</p> <p>P4. Implement the policy & procedures that reflects the organizations commitments</p> <p>P5. Ensure the appropriate methods of implementation, outcomes and performance indicators</p>
CU2. Implement workplace policy & procedures	<p>P1. Apply and assign responsibility for recording systems to track continuous improvements in policy & procedures</p> <p>P2. Implement strategies for continuous improvement in effective and efficient information</p>
CU3. Communicate workplace policy & procedures	<p>P1. Communicate procedures to help implement workplace policy</p> <p>P2. Inform those involved in implementing the policy about expected outcomes, activities to be undertaken and assigned responsibilities</p>
CU4. Review the implementation of workplace policy & procedures	<p>P1. Identify the trends that may require remedial actions</p> <p>P2. Record the trends that may require remedial actions.</p> <p>P3. Ensure policy and procedures as required are made for continuous improvement of performance</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:** 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.

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	<p>P1. Implement relevant rules and procedures of WHS at work place.</p> <p>P2. Comply with duty of care requirements</p> <p>P3. Use personal protective equipment according to safe work practices</p> <p>P4. Contribute to WHS consultative activities</p> <p>P5. Raise WHS issues with relevant personnel</p>
CU2. Participate in hazard assessment activities a work place	<p>P1. Identify hazards or WHS issues in the workplace to relevant personnel</p> <p>P2. Assess and control risks according to own level of responsibility, in line with workplace procedures</p> <p>P3. Report hazards or WHS issues in the workplace to relevant personnel</p> <p>P4. Document risk control actions as required</p>
CU3. Follow emergency procedures at workplace	<p>P1. Report emergencies or incidents promptly to relevant personnel</p> <p>P2. Deal with emergencies in line with own level of responsibility</p> <p>P3. Implement evacuation procedures as required</p>
CU4. Participate in OHS consultative processes	<p>P1. Contribute to workplace meetings, inspections or other consultative activities</p> <p>P2. Raise OHS (Occupational Health and Safety) issues with designated persons in accordance with organizational procedures</p> <p>P3. Take actions to eliminate workplace hazards or to reduce 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:** 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.

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.

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. Communicate within the organization	P1. Communicate within a department P2. Communicate with other departments. P3. Use various media to communicate effectively P4. Communicate orally and written
CU2. Communicate outside the organization	P1. Deal with vendors P2. Deal with clients/customers P3. Interact with other organisations P4. Use various media to communicate effectively P5. Work with people of different cultures / backgrounds
CU3. Communicate effectively in workgroup	P1. Assess the issues to provide relevant suggestion to group members P2. Resolve the issues/ problems /conflicts within the group P3. Arrange group working sessions to increase the level of participation in the group processes P4. Communicate messages to group members clearly to ensure interpretation is valid P5. Communicate style /manner to reflect professional standards/ awareness of appropriate cultural practices P6. Act upon constructive feedback
CU4. 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

	<p>it is written within designated timeframes</p> <p>P4. Ensure written information meets required standards of style, format and detail</p> <p>P5. Seek assistance / feedback to aid communication skills development</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:** 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).

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 P7. Save the spreadsheet to a folder on a storage device P8. Format spreadsheet using formatting features as required P9. Incorporate object and chart in spreadsheet P10. Print spreadsheet
CU3. Use MS Office as per required information	P1. Use Microsoft Word for documentation P2. Use Microsoft Excel for documentation P3. Use Microsoft PowerPoint for presentation P4. Perform OneNote

	P5. Perform Outlook for emails P6. Perform Publisher applications
CU4. Perform computer graphics in basic applications	P1. Perform graphic fundamentals in basic applications P2. Draw Points and lines to make images P3. Draw Dots in space to make images P4. Draw lightening blot Shapes to make images P5. Enlarge circles and rectangles to block in forms
CU5. Create Email account for communications	P1. Make email account for communications P2. . Compose text of an email message according to organizational guidelines as required P3. Create an automatic signature for the user P4. Attach files to email message where required P5. Send email message P6. Reply to / forward a received message using available features P7. Save an attachment to the relevant folder P8. Save email message using available settings P9. Adjust email accounts to restrict and quarantine possible email security problems <ul style="list-style-type: none"> • Print email message as per requirements

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.

0714001070 Supervise juniors for transfer of knowledge

Overview: This module aims at providing the necessary knowledge and understanding which allows the learner to supervise their juniors for the purpose of transferring knowledge. This includes organizing training and workshops, engaging junior staff in multi-tasking, involving junior staff in complex activities and creating opportunities to enhance the technical knowledge of juniors.

Competency Unit	Performance Criteria
CU1. Organise training workshops	P1. List possible areas which require training or workshops P2. Select priority areas for conducting training and workshops P3. Organize content for trainings and workshop P4. Create execution plan for trainings and workshop P5. Assess the effectiveness of trainings and workshop P6. Improve training/workshop plan based on feedback
CU2. Engage junior staff in multi-tasking	P1. List possible tasks in which juniors can be engaged P2. Identify criteria based on which tasks can be assigned. P3. Assign task to junior staff based on identified criteria. P4. Assess performance of junior staff on various tasks. P5. Provide feedback to junior staff about assigned tasks.
CU3. Involve junior staff in complex activities	P1. Identify all complex activities in which junior staff can be involved. P2. Select activities to be assigned to specific junior staff. P3. Guide junior staff in performing complex activities. P4. Provide feedback to junior staff about their performance.
CU4. Create opportunities to enhance technical knowledge for junior staff	P1. Identify areas in which the knowledge of junior staff can be enhanced. P2. Formulate a plan for knowledge enhancement. P3. Execute the plan for knowledge enhancement. P4. Improve the plan based on staff feedback.

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Organize training events
- K2: Have knowledge of learning techniques
- K3: Manage teams
- K4: Develop and carryout assessments
- K5: Knowledge of tools and techniques for collecting feedback

Critical evidence(s) required for Competency Standards

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 the following:

- Training/Workshop execution plan

0714001071 Assure team productivity

Overview: This module aims to provide the knowledge and understanding which assures team productivity. This includes preparation of assignment schedules, identification of responsibilities, monitoring performances and regular team meetings.

Competency Unit	Performance Criteria
CU1. Prepare test assignment schedule	The trainee must be able to: P1. Identify assignments P2. Assign priority to assignments P3. Ensure time management for assignments P4. Ensure quality of assignment
CU2. Identify responsibilities of team members	The trainee must be able to: P1. List set of responsibilities P2. Identify strengths of team members P3. Match skill set of team members for responsibilities P4. Task responsibilities to team members
CU3. Monitor team performance	The trainee must be able to: P1. Identify performance measures. P2. Formulate plan for assessing performance. P3. Record team performance P4. Analyze team performance P5. Provide feedback to team members
CU4. Arrange regular team meetings	The trainee must be able to: P1. Coordinate with team members P2. Arrange suitable meeting schedule P3. Prepare agenda for meeting P4. Conduct meeting according to agenda P5. Provide update on last meeting agenda P6. Identify future tasks

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Manage their time effectively
- K2: Coordinate with team effectively
- K3: Know the skills of team
- K4: Keep team motivated

K5: Able to design and execute assessments

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Meeting schedule
- Agenda
- Assessment report
- Annual appraisal report

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	MS project management software	25
2.	PCs	25

0714001072 Perform maintenance of robotics

Overview: This Competency Standard identifies the required skills and knowledge to adopt for maintenance of robotic systems. After completing this competency trainee will be able to develop maintenance schedule, perform maintenance, supervise and ensure maintenance as per standard procedures. Trainee will also be able to perform post maintenance test to ensure proper working.

Competency Unit	Performance Criteria
CU1. Develop maintenance schedule	P1. Identify equipment that require maintenance P2. Determine frequency of maintenance required P3. Prioritize required maintenance P4. Create database on equipment to be inspected and maintained P5. Draft maintenance plan
CU2. Perform maintenance as per procedure standards and guidelines	P1. Identify tool and equipment required for maintenance P2. Arrange tool and equipment required to perform maintenance at workplace P3. Read instruction manuals thoroughly to perform maintenance P4. Follow steps provided in standard procedure and guidelines
CU3. Supervise maintenance staff	P1. Formulate list of duties as per staff skill set P2. Assign duties to staff P3. Ensure individual and teamwork. P4. Ensure maintenance carried out as per standard procedure and guidelines.
CU4. Ensure timely maintenance to avoid negative outcomes	P1. Identify critical path in maintenance schedule P2. Ensure timely reminder are issued to the maintenance staff. P3. Ensure timely execution of activity in critical path. P4. Ensure strict adherence to overall maintenance schedule.
CU5. Perform component / functionality test after maintenance	P1. Identify post maintenance test. P2. Follow instruction to perform post maintenance test as per standard operating procedure. P3. Perform corrective measure to make sure smooth operation of system
CU6. Generate maintenance report	P1. Enlist result functionality tests perform after maintenance P2. Formulate maintenance report

	P3. Propose any changes in maintenance plan
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Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

- K1: Know maintenance procedure
- K2: Know about operation of the robot
- K3: Know post operating test
- K4: Understand report writing
- K5: Know about planning and scheduling

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Demonstrate post maintenance test
- Present maintenance procedures
- Document maintenance report

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Electronic Tool Kit	5
2.	Mechanical Tool Kit	5
3.	Robotic Platform	5
4.	Personal Computer	10
5.	Printer	1

0714001073 Perform trouble shooting

Overview: This competency standard deals with identification and rectification of the problem occurred in the robotic system. The learner will be able to identify and resolve the problem according to the troubleshooting manual. It also helps the learner to prepare a comprehensive diagnostic report of the troubleshooting.

Competency Unit	Performance Criteria
CU1. Identify the problem	P1. Examine the robotic system. P2. Enlist the identified problems. P3. Classify the problems.
CU2. Gather more details related to problem	P1. Identify reasons for the specified problem. P2. Observe the parameters and conditions at the time of problem occurred. P3. Prepare a detailed report on the problem.
CU3. Identify possible solutions	P1. Identify the troubleshooting manual. P2. Specify the corrective measures from the troubleshooting manual. P3. Arrange tools and equipment required to attempt fixing the problem.
CU4. Attempt a fix based on findings	P1. Follow instructions from troubleshooting manual to resolve the problem. P2. Gather more information and repeat if the problem is not resolved. P3. Make a detailed report on rectification of the problem.
CU5. Generate diagnostic report	P1. Note the parameters and conditions after fixing the problem. P2. Prepare a comprehensive report on the observations and rectification of the problem. P3. Maintain error logs.

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Know about the technical problems that can occur in a robotic system
- K2: Know how to find the problem occurred in the robotic system.
- K3: Understand the reasons for the problem occurred.
- K4: Know how to consult the troubleshooting manual to rectify the problem.
- K5: Know how to prepare a comprehensive diagnostic report.
- K6: Know about the preventive maintenance procedures

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Prepare a report on observations and findings regarding a specific problem.
- Attempt to fix a problem using troubleshooting manual.
- Prepare a comprehensive diagnostic report.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Tool Kit (Electrical and Mechanical)	5
2.	Robotic Platform	5
3.	Computers	25
4.	Printers	2
5.	Notepads	25

0714001074 Revise the configuration of robotic system

Overview: This Competency Standard covers the required skills and knowledge for revising configuration of the robotic system according to the need of specified task. The trainee will be able to learn how to identify and reconfigure software and hardware modules of the robotic system as per desired task.

Competency Unit	Performance Criteria
CU1. Verify detailed functionality of equipment	P1. Identify functionality tests for checking robot P2. Perform functionality test for robot P3. Ensure proper functionality of the equipment
CU2. Verify detailed functionality of interface	P1. Identify interfacing modules for robot P2. Perform functionality test P3. Ensure proper functionality of the interface modules
CU3. Identify task that require re-configuration of equipment	P1. Specify the task which will require re configuration. P2. List required tool and equipment for reconfiguration. P3. List down robotic components necessary for reconfiguration
CU4. Ensure integration of reconfigured equipment	P1. Arrange robotic components necessary for reconfiguration P2. Identify standard procedure for integration P3. Perform integration of reconfigured equipment
CU5. Upgrade software modules	P1. Identify software modules that require upgradation P2. Backup existing software and configuration. P3. Perform upgradation of software modules according to the SOP.
CU6. Ensure testing and smooth functionality of equipment	P1. Identify standard testing procedures. P2. Perform functionality test of the reconfigured equipment P3. Ensure proper functionality of the reconfigured equipment P4. Maintain log of equipment reconfiguration

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

K1: Know about the basic operation of the equipment.

K2: Know about interfacing of different components of the equipment.

K3: Know how to upgrade the software

K4: Know about basic functionality tests of the equipment

K5: Knowledge of backup procedures

K6: Understand how to maintain upgradation record

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Demonstrate the complete procedure of reconfiguring the robotic system
- Demonstrate functionality test of the equipment
- Document how to maintain reconfiguration log

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Robotic System	5
2.	Mechanical Tool Kit	5
3.	Electronic Tool Kit	5
4.	Laptops	5

0714001075 Execute up-gradation of robotic system

Overview: This Competency Standard covers the required skills and knowledge for execution of up-gradation of robotic equipment. The trainee will be able to learn about identification process of equipment up-gradation, installation of software, hardware components and post operating tests.

Competency Unit	Performance Criteria
CU1. Identify current state of equipment for up-gradation	P1. Identify reason for up-gradation of equipment P2. Identify tasks and related component that need up-gradation P3. Ensure need to upgrade equipment
CU2. Recommend up-gradation of specific equipment	P1. List components of equipment need to be upgraded P2. List the new upgraded equipment P3. Prepare report on recommended equipment
CU3. Install / replace software modules	P1. Identify software module that needs replacement P2. Follow standard procedure for up-gradation of software modules P3. Report software modules upgraded
CU4. Install / replace physical components	P1. Identify physical component that need replacement P2. Follow standard procedure for up-gradation of physical modules P3. Report physical components upgraded P4. Ensure proper packaging and storage of replaced modules
CU5. Perform post up-gradation test	P1. List post up-gradation tests P2. Follow post up-gradation test as per standard operating procedure P3. Evaluate and report post up-gradation tests results
CU6. Ensure expected outcomes	P1. List expected outcome of up-gradation P2. Compare expected and evaluated post up-gradation results P3. Ensure corrective measures to achieve expected outcome

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore, he/she must be able to:

K1: Know about the actual need of up-gradation of equipment

K2: Know how to upgrade an equipment

K3: Know how to install/replace software and hardware modules and components respectively

K4: Know about post up-gradation tests

K5: Understand how to write a report

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Demonstrate up-gradation of physical component
- Demonstrate software up-gradation procedure
- Write report on identification and recommendation on up-gradation of components

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Robotic system	5
2.	Mechanical tool kit	5
3.	Electrical tool Kit	5
4.	Personal Computers / Laptops	5
5.	Notebook	25

0714001076 Develop 3D simulations

Overview: The objective of this exercise is to have the knowledge and understanding of 3D simulations. This includes managing 3D modeling tools, building and simulating 3D models, generating coordinating systems for 3D models, and testing generated G-Codes.

Competency Unit	Performance Criteria
CU1. Manage 3D modeling tools	P1. List the available modeling tools P2. Select the required/related modeling tools P3. Keep an up to date documentation of modeling tools with respect to compatibility P4. Upgrading and troubleshooting modeling tools
CU2. Build models in 3D environment	P1. List the available simulation modes. P2. Select the required simulation mode. P3. Interpret the given design specifications P4. Formulate the procedure to design the model P5. Design the model according to specifications P6. Cross-check design specifications with the built model
CU3. Simulate 3D models	P1. Prepare modeling tool for simulation. P2. Run basic simulation according to specifications P3. Generate basic G-codes P4. Prepare feasibility report
CU4. Convert / generate coordinating system for 3D model	P1. Generate system coordinates according to deployment requirements P2. Translate generated coordinates to physical workplace
CU5. Test generated G-Code	P1. Set up working environment for sample testing P2. Acquire sample work piece P3. Perform practical implementation of the generated G-code P4. Prepare performance report

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Understanding of 3D modeling tools
- K2: Understanding of 3D simulation tools
- K3: Understand G-codes
- K4: Knowledge of design specifications
- K5: Knowledge of 3D coordinate systems

Critical evidence(s) required for Competency Standards

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 the following:

- Build 3D models
- Simulate 3D models
- Generate G-codes
- Prepare feasibility report(s)

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	3D modeling tools (e.g. AutoCAD, Google sketches)	25
2.	3D simulation tools (e.g. Proteus and other simulation software of robots)	25
3.	Laptop (for running software)	25

0714001077 Assist engineers in design, configuration and application processes

Overview: This competency standard explains how to assist engineers in executing the design process, managing tools/equipment and perform tests according to given plan. The learner will be able to understand the design process, management of tools and equipment and performing tests according to manuals after completing this competency.

Competency Unit	Performance Criteria
CU1. Execute repetitive/manual design process	P1. Collect the design process instruction from an Engineer. P2. Follow the instructions to execute the design process. P3. Report problems occurred during the design process.
CU2. Manage tools and equipment	P1. Identify tools and equipment to be used. P2. Follow instructions to arrange and calibrate the tools and equipment. P3. Ensure availability of tools and equipment for a specified job. P4. Gather the tools and equipment after completion of the job.
CU3. Execute test plan	P1. Prepare the test environment. P2. Arrange test tools and equipment. P3. Follow instruction to perform test. P4. Report the results of the executed test.

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

K1: Understand the design process.

K2: Understand the domain of the job.

K3: Know how to manage tools and equipment for the job.

K4: Know how to execute the tests according to instructions.

Critical evidence(s) required for Competency Standards

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 the following:

- Perform a design process using instruction manual.
- List tools and equipment used in a specified job.
- Prepare a comprehensive test report according to specific plan.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Tool Kits (electrical and mechanical)	5
2.	Test bench	5
3.	Computers	25
4.	Printers	2
5.	Tools for system calibration	25

0714001078 Ensure product quality

Overview: The objective of this exercise is to have the knowledge and understanding to ensure product quality. This includes supervision of audits, development of product standards, and supervision of product testing, inspection of production cycle, continuous improvement and reporting.

Competency Unit	Performance Criteria
CU1. Supervise audits	P1. Inspect the plan for audit P2. Inspect sample selection plan P3. Ensure fair audit process P4. Check audit procedure
CU2. Develop product criteria	P1. Identify critical aspects of product P2. Classify different aspects according to QA standards P3. Classify QA standards according to product range P4. Develop standards and methods for inspection testing and evaluation
CU3. Supervise product testing	P1. Inspect the selected product quality standards P2. Ensure QA testing as per SOPs P3. Review the testing results
CU4. Inspect throughout production cycle	P1. List the assigned task for each member P2. Ensure performance of the member for assigned task P3. Review machine maintenance log regularly P4. Supervise staff in maintaining the Quality standards P5. Maintain time and production records
CU5. Ensure continuous improvement	P1. Review possible improvements plan P2. Check feasibility of improvement plan P3. Ensure implementation of improvement plan P4. Maintain product improvement logs
CU6. Generate test report	P1. Collect test/improvement data from QA department P2. Compile test data including concerning materials, process quality and reliability P3. Prepare a comprehensive report P4. Follow the SOP of report writing while preparing a report

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

K1: Understand the auditing standards.

K2: Understand the Quality Standards.

K3: Know about the testing procedures and standards.

K4: Know how to prepare a report.

K5: Knowledge of audit process management

K6: Knowledge of quality management

K7: Knowledge of product standards

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Analyze audit report.
- Develop product standards manual.
- Analyze test reports.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	QA/Auditing/Testing/Standards manual	25
2.	Calibration equipment / tools for robots	25

0714001079 Upgrade professional and technical knowledge about robotics

Overview: This competency standard aims to provide knowledge and skills to participate in relevant workshops/conferences and acquire relevant certifications. It also helps in understanding how to develop certain professional skills and expanding professional network. The learner will be able to upgrade his professional and technical knowledge through certification and professional development courses after completing this competency standard.

Competency Unit	Performance Criteria
CU1. Attend relevant workshops / conferences	P1. Identify areas for up-gradation P2. Select workshops/conferences for up gradation of technical and professional skills P3. Ensure attendance in the workshop P4. Prepare a comprehensive subject report on relevant workshop
CU2. Acquire relevant certification	P1. Identify the disciplines for certification P2. Select relevant discipline for certification P3. Specify institutes for relevant certification P4. Attend the specific institute for certification P5. Share the acquired skill set with co-workers
CU3. Take part in professional development courses	P1. Identify different professional development areas P2. Select specific professional development course P3. Participate in the professional development course P4. Prepare comprehensive report on attended professional development courses
CU4. Review professional / technical reports	P1. Gather professional and technical reports P2. Classify professional and technical reports P3. Evaluate the selected reports P4. Provide recommendations and remarks on the reviewed reports
CU5. Expand professional network	P1. Identify Professional workshops, conferences and exhibitions P2. Choose relevant events for professional networking P3. Attend relevant events and communicate with relevant organization P4. Prepare a list of new additions in professional network

Knowledge and Understanding

The candidate must possess underpinning knowledge and understanding required to carry out tasks covered in this competency standard. Therefore he/she must be able to:

- K1: Know how to select the specific workshops and conferences for networking and professional development.
- K2: Know how to upgrade professional knowledge and skills through certifications and professional development courses.
- K3: Communicate effectively in professional networks.

Critical evidence(s) required for Competency Standards

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

1. **Portfolio**
2. **Assignment(s)/Project(s)**
3. **Relevant Certification(s)**

Furthermore, the candidate must execute **demonstration(s)** which may include the following:

- Arrange a workshop/Conference on a specific discipline.
- Present a relevant professional certification.
- Prepare a comprehensive report on any professional development area.
- Prepare a report on assessment procedures for reviewing technical and professional reports.

Tools and Equipment required

The tools and equipment required for this competency standard are given below:

Sr#	Description	Quantity
1.	Computers	25
2.	Internet connection	1
3.	Printers	2

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	<p>P1. Complete work tasks within deadlines in according to order of priority</p> <p>P2. Supervisors are informed of any delays in work times or projects</p>
CU2. Manage to convene meeting	<p>P1. Develop agenda in line with meeting purpose</p> <p>P2. Select participants and notify them accordingly</p> <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. Define the problem, challenge, or opportunity</p> <p>P2. Generate an array of possible solutions or responses</p> <p>P3. Evaluate the costs and benefits, or pros and cons, associated with each option</p> <p>P4. Assess the impact of the decision and modify the course of action as needed</p>
CU4. Set and meet own work priorities at instant	<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	P1. Identify and report emergency incidents P2. Practice organizational policy and procedures for responding to emergency incidents P3. Identify and implement workplace procedures and work instructions for controlling risks
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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:** 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

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 • 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.

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
CU1. 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>
CU2. 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>
CU3. Provide trainings at workplace	<p>P1. Assess the need for training</p> <p>P2. Prepare trainees for the learning experience</p> <p>P3. Present training session</p> <p>P4. Support trainees in managing their own learning</p> <p>P5. Facilitate group learning</p> <p>P6. Provide opportunity for practice</p> <p>P7. Provide feedback on progress on trainees</p> <p>P8. Review delivery experience</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:** 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 Performa

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
CU2. Prepare Presentation using computers	<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

	<ul style="list-style-type: none"> • 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 • 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>
CU3. Use Microsoft Access to manage database	<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 • Apply criteria in the following Query

	<ul style="list-style-type: none"> • 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
CU4. Develop graphics for Design	<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	<p>P1. Analyze business strategy and operational plans to determine human resource requirements</p> <p>P2. Review external business environment that likely impact on organization's human resource requirements</p> <p>P3. Consult line and senior managers to identify human resource needs in their areas</p> <p>P4. Review organization's requirements for diversity in the workforce</p> <p>P5. Deliver human resource services that comply with business goals</p> <p>P6. Develop strategic action plan for delivery of human resource services</p> <p>P7. Develop roles and responsibilities of human resource team</p> <p>P8. Develop quality assurance policy</p>
CU2. Manage the delivery of human resource services	<p>P1. Communicate human resource strategies and services to internal and external stakeholders</p> <p>P2. Develop and negotiate service agreements between</p> <ul style="list-style-type: none"> • The human resource team, • 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>
CU3. Evaluate human resource service delivery	<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>
CU4. Manage integration of business ethics in human resource practices	<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> <p>P5. Ensure all persons responsible for human resource functions understand requirements regarding their ethical behavior</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 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.

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	<p>P1. Identify the available funding sources based on their terms and conditions, maximum loan limit, payback time, interest rate</p> <p>P2. Choose the best available option according to investment requirement</p> <p>P3. Prepare documents according to the loan agreement requirement</p> <p>P4. Include the information of funding sources in the business plan</p>
CU3. Develop a marketing plan	<p>P1. Make a marketing plan for the business including product, price, placement, promotion, people, packaging and positioning</p> <p>P2. Include the information of marketing plan in the business</p>

	plan
CU4. Develop basic business communication skills	<p>P1. Communicate with internal customers e.g.: labor, partners and external customers e.g. suppliers, customers etc., using effective communication skills</p> <p>P2. Use different modes of communication to communicate internally and externally e.g.: presentation, speaking, writing, listening, visual representation, reading etc.</p> <p>P3. Use specific business terms used in the market</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 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

