

National Vocational Certificate Level 1 in Plumbing cum Solar Water Heating Technology

Competency Standards



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Competency Standards: Plumber (Helper) - Level 1

Competency Standard A: Maintain safety, health and cleanliness

Overview: This competency standard is intended to maintain health, safety and cleanliness in a variety of contexts. People holding credit for this competency standard are able to: Identify risks in the workplace; follow cleanliness procedures to control risks; apply safe work procedures; and follow emergency procedures.

Competency Unit	Performance Criteria	Knowledge and Understanding
A1: Identify risks in the workplace	P1- Identify and report health and safety hazards, and hygiene risks P2- Take action to reduce risk P3- Training on First Day	K1- Types of hazards and risks in different workplace context K2- Risk control and assessment
A2: Follow cleanliness procedures to control risks	P1- Apply workplace cleanliness procedures P2- Handle and store items and materials P3- Account of material	K1- Personal and workplace hygiene K2- General handling and storing procedures
A3: Apply safe work procedures	P1- Identify, use and store personal protective equipment P2- Interpret safety signs and symbols P3- Check & balance	K1- Common personal protective equipment K2- Common safety signs and symbols
A4: Follow emergency procedures	P1- Identify and report to appropriate personnel P2- Carry out evacuation procedures	K1- Emergency and evacuation procedures K2- Types of fire

Competency Standard B: Communicate in different work contexts

Overview: This competency standard is intended to apply basic communication skills in a variety of work contexts. People holding credit for this competency standard are able to: Gather, convey, and receive information; apply routine face-to-face communication; apply visual communication; and complete relevant work related documents.

Competency Unit	Performance Criteria	Knowledge and Understanding
B1: Gather, convey and receive information	P1- Gather, receive and respond verbal and P2- Convey instructions P3- Clarify understanding by asking questions	K1- Types of verbal and non-verbal messages K2- Purpose and function of communication devices K3- Question techniques
B2: Apply routine face-to-face communication	P1- Receive and follow routine instructions P2- Carry out procedures according to requirements P3- Access and interpret information from a range of sources P4- Complete verbal and/or written reporting	K1- Purpose of instructions K2- Purpose of set requirements K3- Different types of sources K4- Purpose of reporting; Types of reports
B3: Apply visual communication	P1- Obtain and acknowledge attention of communicating parties P2- Clarify and confirm the intention of visual communication	K1- Methods of official correspondence K2- Visual communication skills

Competency Standard C: Apply a problem solving method

Overview: This competency standard is intended to apply a problem solving method in a variety of contexts. People holding credit for this competency standard are able to: Define a problem; choose a method for solving an identified problem; and apply the problem solving method.

Competency Unit	Performance Criteria	Knowledge and Understanding
<p>C1: Define a problem</p>	<p>P1- Define problem in terms its nature, parties involved, and the effects it may have</p> <p>P2- Describe the problem in terms of ownership, responsibility, its sphere of influence and authority</p> <p>P3- Identification of problems</p>	<p>K1- Problem solving methods:</p> <ul style="list-style-type: none"> • Brainstorming • Pros and cons • IDEAL • Research
<p>C2: Choose a method for solving an identified problem</p>	<p>P1- Describe problem solving method in terms of processes to be undertaken</p> <p>P2- Select and describe problem solving method in terms of its suitability</p>	<p>K1- Problem solving methods:</p> <ul style="list-style-type: none"> • Brainstorming • Pros and cons • IDEAL • Research
<p>C3: Apply the problem solving method</p>	<p>P1- Apply chosen method</p> <p>P2- Describe the outcome of the problem</p> <p>P3- Implement a conclusion to the problem</p> <p>P4- Reports & documents for future</p>	<p>K1- Problem solving methods:</p> <ul style="list-style-type: none"> • Brainstorming • Pros and cons • IDEAL • Research

Competency Standard D: Apply basic reading, writing and speaking skills in English in different life contexts

Overview: This competency standard is intended to assist people in applying basic reading, writing and speaking skills in English in different life contexts. People holding credit for this competency standard are able to: read texts used in different contexts; write texts for different contexts; and apply speaking and listening skills.

Competency Unit	Performance Criteria	Knowledge and Understanding
D3: Apply speaking and listening skills	P1- Identify and interpret key points P2- Convey information in a clear and concise manner P3- Use speaking and listening skills effectively	K1- Speaking and listening skills K2- Speaking and listening skills K3- Speaking and listening skills K4- Use visual Aids

Competency Standard E: Apply basic numeracy skills in different life contexts

Overview: This competency standard is intended to assist people in applying basic numeracy skills in different life contexts. People holding credit for this competency standard are able to: Apply knowledge and conventions of common shapes to represent real life objects; Measure materials or objects; perform basic calculations associated with money, and time; use and create tables and graphs to represent and interpret public information; and apply simple formulae to solve arithmetic problems in real life contexts.

Competency Unit	Performance Criteria	Knowledge and Understanding
E1: Apply knowledge and conventions of common shapes to represent real life objects	P1- Identify and name common two and three-dimensional shapes P2- Represent two and three-dimensional shapes and objects in diagrammatic form P3- Assemble simple three-dimensional objects	K1- Types and terminology of common shapes K2- Differentiation between two and three dimensional shapes / objects K3- Differentiation between two and three dimensional shapes / objects
	P3- Problems & Implementation	

Competency Standard F: Demonstrate positive workplace attitude and behaviours

Overview: This competency standard is intended to assist people in developing a positive attitude and behaviour in a work environment. People holding credit for this competency standard are able to: Apply knowledge of positive workplace attitude and behaviours; interact with people in the context of a work environment; and assess own professional behaviour in a work environment setting.

Competency Unit	Performance Criteria	Knowledge and Understanding
F1: Apply knowledge of positive workplace	P1- Describe proper dress code in a work environment P2- Demonstrate positive listening skills	K1- Acceptable and unacceptable dress code K2- Positive listening strategies

attitude and behaviours	P3- Explain the concept of work ethic	K3- Responsibility and accountability of the individual
F2: Interact with people in the context of a work environment	<p>P1- Describe the importance of first impression</p> <p>P2- Demonstrate interaction with people in a work environment setting</p> <p>P3- Explain good customer service practice</p> <p>P4- Demonstrate ways of behaving professionally when provoked</p> <p>P5- Explain the importance of confidentiality</p>	<p>K1- Grooming, Attire</p> <p>K2- Ways of greeting, introducing and interacting with people</p> <p>K3- Define customer service</p> <p>K4- Patience and tolerance</p> <p>K5- Confidentiality of:</p> <ul style="list-style-type: none"> • Information • Material • Documents
F3: Assess own professional behaviour in a work environment setting	<p>P1- Analyse personal behaviour in three different situations in a work environment</p> <p>P2- Measure personal behaviour against personal or company standards</p>	<p>K1- Influencing factors in personal behaviour, e.g.</p> <ul style="list-style-type: none"> • Anger • Stress • Depression <p>K2- General code of conduct</p>

Competency Standard G: Carry out maintenance procedures as Plumber (Helper)

Overview: This competency standard is intended to carry out maintenance procedures. People holding credit for this competency standard are able to: Demonstrate knowledge of preventive maintenance; carry out a preventive maintenance programme; and demonstrate safe working procedures.

Competency Unit	Performance Criteria	Knowledge and Understanding
G1: Demonstrate knowledge of preventive maintenance	P1- Define 'preventive maintenance' P2- Explain the importance of maintenance	K1- Preventive and corrective maintenance K2- Safety; Efficiency; Time- and cost saving
G2: Carry out a preventive maintenance programme	P1- Explain preventive maintenance programmes P2- Follow preventive maintenance programme	K1- Scheduled maintenance K2- Maintenance of: <ul style="list-style-type: none"> • Tools • Equipment • Fittings (e.g. Taps, valves, cocks) • Machinery • Facilities
G3: Demonstrate safe working procedures	P1- Wear personal protective equipment P2- Adhere to documented maintenance procedures	K1- Types of personal protective equipment K2- Types of documents

Competency Standard H: Produce a plan for career options related to a Plumber

Overview: This competency standard is intended to assist people in planning for their career by developing an own plan for future directions. People holding credit for this competency standard are able to: Gather information for a personal profile; and produce a plan for achieving future directions.

Competency Unit	Performance Criteria	Knowledge and Understanding
<p>H1: Gather information for a personal profile</p>	<p>P1- Gather information relevant to own future directions decision-making</p> <p>P2- Identify options compatible with personal profile</p> <p>P3- Investigate sources of current career information in terms of planning for future directions</p> <p>P4- Select information sufficient and relevant to the identified options in terms of producing a plan for future directions</p> <p>P5- Prioritise and justify options on the basis of gathered information</p>	<p>K1- Analysis of own knowledge, skills, and abilities</p> <p>K2- Description of personal profile and compatible options</p> <p>K3- Methods of research work</p> <p>K4- Recognition of best available options</p> <p>K5- Methods of prioritising the options</p>
<p>H2: Produce a plan for achieving future direction</p>	<p>P1- Produce a plan using identified information sources</p>	<p>K1- Career guidance plan</p>

Documents, policies, guidelines:

- International Labour Organisation (ILO) Standards on Occupational Health and Safety
- Pakistan Electricity Act, 1910 and subsequent amendments
- Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA)
- Industry code of practice

Tools and Equipment:

No.	Description	Quantity
1	Safety signage	Multiple
2	Personal protective equipment	15 sets
3	Hand tools (basic electrical toolbox)	15 sets
4	Measuring instruments (Rulers, watches/clocks, scales, thermometer, AVO meter, gravity meter)	5
5	Two- and three dimensional shapes / objects	Multiple
6	Text books	15
7	Reference books (Manufacturer's specification, Installation guides, Workplace documents)	5
8	Visual aids, demonstration models	Multiple

Consumables:

No.	Description	Quantity
1	Fire extinguisher	3
2	Fire blanket	3
3	Fire bucket	3
4	Computer	8
5	Printer	1
6	Scanner	1
7	Multimedia Projector	1
8	Flip chart with stand	3
9	Internet connection	1



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