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CABINET MAKER

Competency Standards

National Vocational
Certificate Level 1-4

Version 1 - January 2020



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1. Introduction

Cabinet Making refers to movable objects intended to support various human activities such as seating (e.g., chairs, stools, and sofas), eating (tables), and sleeping (e.g., beds). Cabinet Making is also used to hold objects at a convenient height for work (as horizontal surfaces above the ground, such as tables and desks), or to store things (e.g., cupboards and shelves). Cabinet Making can be a product of design and is considered a form of decorative art. In addition to furniture's functional role, it can serve a symbolic or religious purpose as well.

In order to build the capacity of technical and vocational training Institutes in Pakistan through provision of demand driven competencies based trainings in Carpentry Sector the NAVTTC, KP-TEVTA and GIZ have joined hands together to develop qualifications for Carpentry Sector . These qualifications will not only build the capacity of existing workers of this sector but also support the youth to acquire skills best fit for this sector. The benefits and impact of development of these qualifications will be on both demand and supply side. Under this the demand arises from All Pakistan Furniture Industries.

Based upon this demand of industry these competency-based qualifications for Cabinet Maker are developed under National Vocational Qualification Framework (Level 1-4). The qualifications mainly cover competencies along with related knowledge and professional attitude which is essential for getting a job or self-employed.

The qualifications are also in line with the vision of Pakistan's National Skills Strategy (NSS), National TVET Policy and National Vocational Qualification Framework (NVQF). This provides policy directions, support and an enabling environment to the public and private sectors to impart training for skills development to enhance social and economic profile. The National Vocational & Technical Training Commission (NAVTTC) has approved the Qualification Development Committee (QDC).The QDC consists experts from the relevant industries from different geographical locations across Pakistan and academicians who were consulted during the development process to ensure input and ownership of all the stakeholders. The National Competency Standards could be used as a referral document for the development of curricula to be used by training Institutions.

Under CBT the traditional role of a trainer changes and shifts towards the facilitation of training. A trainer encourages and assists trainees to learn for themselves. Trainees are likely to work in groups (pairs) and all doing something different. Some are doing practical tasks in the workshop, some writing, some not even in the classroom or workshop but in another part of the building using specialist equipment, working on computers doing research on the Internet or the

library. As trainees learn at different place they might well be at different stages in their learning, thus learning must be tailored to suit individual needs. The following facilitation methods (teaching strategies) are generally employed:

- **Direct Instruction Method:** This might be effective when introducing a new topic to a larger group of trainees in a relative short span of time. In most of the cases this method relies on one-way communication, hence there are limited opportunities to get feedback on the trainee's understanding.
- **Discussion Method:** This allows trainees to actively participate in sharing knowledge and ideas. It will help the trainer to determine whether trainees understand the content of the topic. On the other hand, there is a possibility of straying off topic under discussion and some trainees dominating others on their views.
- **Small Group Method:** Pairing trainees to help and learn from each other often results in faster knowledge/skill transfer than with the whole class. The physical arrangement of the classroom/workshop and individual assessment may be challenging. Analogy method should be in corporate.
- **Problem Solving Method:** This is a very popular teaching strategy for the training. Trainees are challenged and are usually highly motivated when they gain new knowledge and skills by solving problems (Contingency skills). Trainees develop critical thinking skills and the ability to adapt to new learning situations (Transfer skills). It might be time consuming and because trainees sometimes work individually, they may not learn all the things that they are expected to learn.
- **Research Method:** This is used for workshops and laboratory tasks, field experiments, and case studies. It encourages trainees to investigate and find answers for themselves and to critically evaluate information. It however requires a lot of time and careful planning of research projects for the trainee.

2. Detail of National Vocational Certificate Levels

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

- **National Vocational Certificate level-1, in (Carpentry Sector) “Cabinet Maker”**
 - Maintain Workplace Safety
 - Maintain Tools & Equipment.
 - Prepare Workplace / Housekeeping

- Develop Basic Literacy and Numeracy Skills
- **National Vocational Certificate level-2, in (Carpentry Sector) “Cabinet Maker”**
 - Develop basic computer operating skills
 - Interpret Basic Drawing & Design
 - Develop basic communication Skills.
 - Identify Machines & Its Attachments
- **National Vocational Certificate level-3, in (Carpentry Sector) “Cabinet Maker”**
 - Prepare Joints Manually
 - Perform Wood Cutting
 - Perform Wood Planning by Machine
 - Prepare Job
 - Assemble the Job
- **National Vocational Certificate level-4, in (Carpentry Sector) “Cabinet Maker”**
 - Perform Polishing
 - Maintain Machines
 - Perform CAD/CAM Operations
 - Develop Professionalism
 - Develop Entrepreneurial Skills

3. Purpose of the Qualification

The purpose of the training is to provide skilled manpower to improve the existing Carpentry Sector. This training will provide the basic skills to the trainees in the field of Carpentry handling, cutting, planning, job preparation, job assembling and then value addition to it in the shape of polishing. It will enable the participants to meet the challenges in the field of furniture industry. Further, to improve the skill level of the workers and prepare them for the furniture industry to meet the market competition.

The core purpose of this qualification is to produce employable Cabinet Maker who could perform wood cutting, planning and surface finishing according to national standards. In addition, this qualification will prepare unemployable youth to employee in Carpentry Sector or as an entrepreneur.

4. Main Objectives of the Qualification

The **Cabinet Maker** qualifications level 1-4 consists of theoretical and practical details required make **wood cabinet** and its polishing techniques. The main objectives of the qualification are as follows:

1. Maintain Workplace Safety
2. Maintain Tools & Equipment.

3. Prepare Workplace / Housekeeping
4. Develop Basic Literacy and Numeracy Skills
5. Develop basic computer operating skills
6. Interpret Basic Drawing & Design
7. Develop basic communication Skills.
8. Identify Machines & Its Attachments
9. Prepare Joints Manually
10. Perform Wood Cutting
11. Perform Wood Planning by Machine
12. Prepare Job
13. Assemble the Job
14. Perform Polishing
15. Maintain Machines
16. Perform CAD/CAM Operations
17. Develop Professionalism
18. Develop Entrepreneurial Skills

5. Date of Validation

The level 1-4 of national vocational qualification on Cabinet Maker has been validated by the Qualifications Development Committee (QDC) members on September 24-28, 2018 and will remain in currency until June 2021

6. Codes of Qualifications

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

ISCED Classification for level 1-4 “Cabinet Maker”	
Code	Description
0722CCM00	National Vocational Certificate level 1, in (Carpentry sector) “Cabinet Maker”
0722CCM01	National Vocational Certificate level 2, in (Carpentry sector) “Cabinet Maker”
0722CCM02	National Vocational Certificate level 3, in (Carpentry sector) “Cabinet Maker”
0722CCM03	National Vocational Certificate level 4, in (Carpentry sector) “Cabinet Maker”

7. Members of Qualifications Development Committee

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

S#	Name	Designation	Organization
1	Mr. Arshad Ali	NVQF Expert	KP-TEVTA
2	Syed Yousaf Ali Shah	Academia Expert Wood Technologist	GCT, Kohat, KP- TEVTA
3	Mr. Arshad Baig	Trade Expert Wood Technologist	DESCON Technical Institute, Lahore
4	Mr. Asif Shabbir	Trade Expert Wood Technologist	Woodworking Service Centre, Gujrat
5	Mr. Didar Ali	Trade Expert	CIQAM Woodwork Centre, Hunza
6	Muhammad Tahir	Academia Expert Wood Technology	KP-TEVTA
7	Mr. Abbas Khan	Academia Expert Wood Technology	KP-TEVTA
8	Mr. Muhammad Zeb	Sr. Instructor	GTVC DIR (Lower)
9	Mr. Muzaffar Ali	Assistant Director	NAVTTTC, HQ, Islamabad
10	Mr. Sohaib Fida KhanTanoli	Technical Advisor GIZ	KP-TEVTA
11	Muhammad Asif	Industry Expert	Sailaj Furniture, Risalpur
12	Engr. Abdul Maqsood	DACUM Facilitator	KP-TEVTA

8. Entry Requirements

The entry for National Vocational Certificate level 1-4, in (wood working) “Cabinet maker” are given below:

Title	Entry requirements
National Vocational Certificate level-1, in (Cabinet making)	Entry for assessment for this qualification is open. However, entry into formal training institutes, based on this qualification may require skills and knowledge equivalent to middle (Grade 8) with some working knowledge of this field.
National Vocational Certificate level-2, in (Cabinet making)	Entry for assessment for this qualification is open. However entry into formal training institute for this qualification is person holding National Vocational Certificate level-1, in

	(Cabinet making)
National Vocational Certificate level-3, in (Cabinet making)	Entry for assessment for this qualification is open. However entry into formal training institute for this qualification is person holding National Vocational Certificate level-2, in (Cabinet making)
National Vocational Certificate level-4, in (Cabinet making)	Entry for assessment for this qualification is open. However entry into formal training institute for this qualification is person holding National Vocational Certificate level-3, in (Cabinet making)

9. Important Links

- Prime Minister's Office www.pmo.gov.pk
- <https://www.cabinetmakers.org/>
- Small & Medium Enterprises Development Authority
- National Bank of Pakistan (NBP) www.nbp.com.pk
- First Women Bank Limited (FWBL) www.fwbl.com.pk
- Government of Pakistan www.pakistan.gov.pk
- Ministry of Industries & Production www.moip.gov.pk
- Government of Punjab www.punjab.gov.pk
- Government of Sindh www.sindh.gov.pk
- Government of Khyber Pakhtunkhwa www.khyberpakhtunkhwa.gov.pk
- Government of Balochistan www.balochistan.gov.pk
- Government of Gilgit Baltistan www.gilgitbaltistan.gov.pk
- Government of Azad Jamu Kashmir www.ajk.gov.pk
- Trade Development Authority of Pakistan (TDAP) www.tdap.gov.pk
- Security Commission of Pakistan (SECP) www.secp.gov.pk
- Federation of Pakistan Chambers of Commerce and Industry (FPCCI) www.fpcci.com.pk
- State Bank of Pakistan (SBP) www.sbp.org.pk

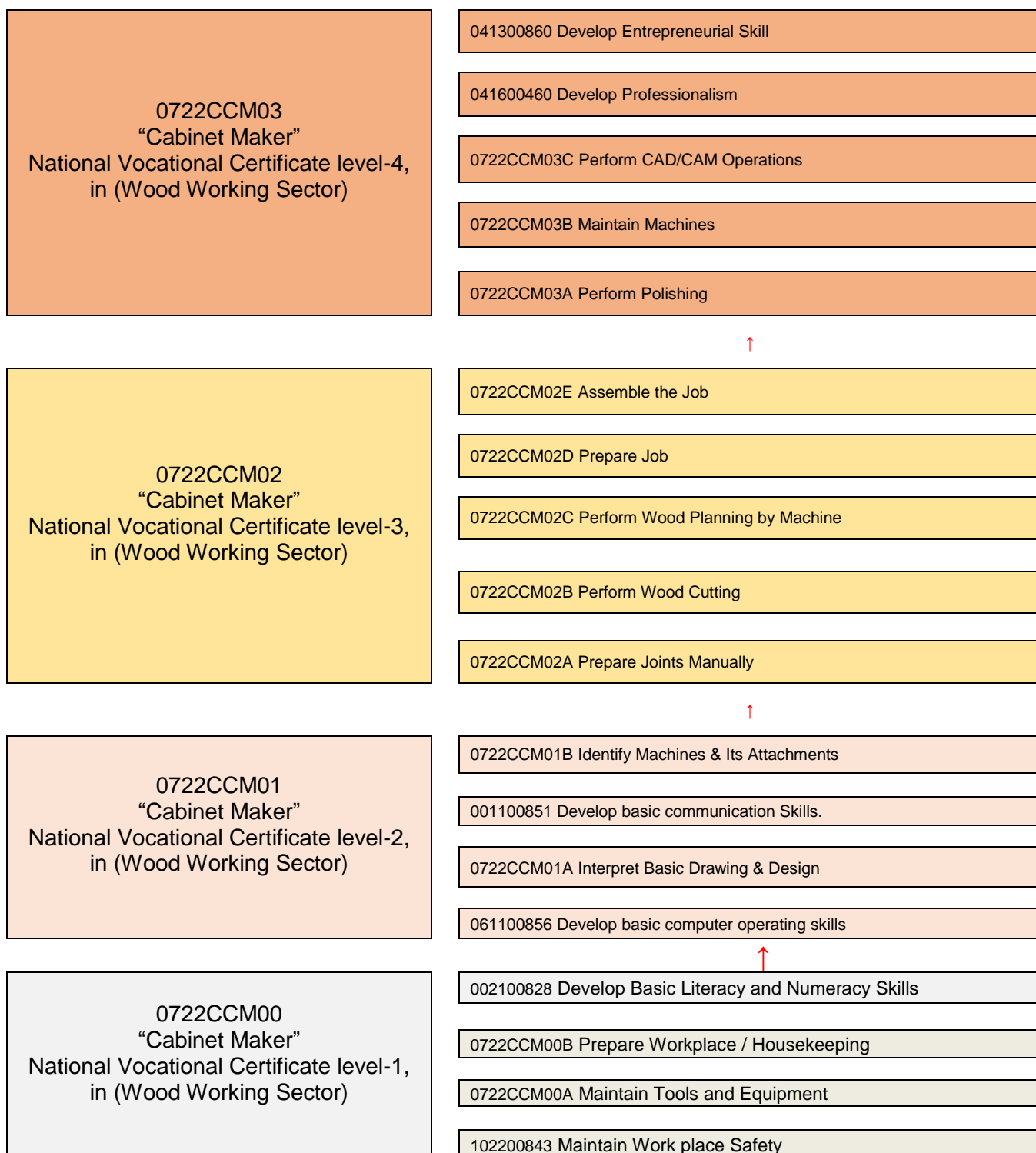
10. Categorization and Levelling of the Competency Standards

NVQF Level	Code	Name of Competency	Category	Level	Credit
Level-1	102200843	Maintain Workplace Safety	Functional	2	10
	0722CCM00A	Maintain Tools & Equipment.	Technical	2	5
	0722CCM00B	Prepare Workplace / Housekeeping	Technical	2	5

	002100828	Develop Basic Literacy and Numeracy Skills	Generic	3	10
Level-2	061100856	Develop basic computer operating skills	Generic	3	10
	0722CCM01A	Interpret Basic Drawing & Design	Technical	3	10
	001100851	Develop basic communication Skills.	Generic	2	10
	0722CCM01B	Identify Machines & Its Attachments	Technical	2	10
Level-3	0722CCM02A	Prepare Joints Manually	Technical	3	10
	0722CCM02B	Perform Wood Cutting	Technical	3	10
	0722CCM02C	Perform Wood Planning by Machine	Technical	4	10
	0722CCM02D	Prepare Job	Technical	3	10
	0722CCM02E	Assemble the Job	Technical	4	5
Level-4	0722CCM03A	Perform Polishing	Technical	4	10
	0722CCM03B	Maintain Machines	Technical	4	10
	0722CCM03C	Perform CAD/CAM Operations	Technical	4	10
	041600460	Develop Professionalism	Generic	4	05
	041300860	Develop Entrepreneurial Skills	Generic	4	10
Total					160

11. Packaging of Qualifications

The National Vocational Qualifications have been packaged as detailed below:



12. Detail of Competency Standards

A: Maintain Workplace Safety

Overview: This competency standard covers the skills and knowledge required to protect from all security threats by ensuring personal safety, workplace safety Machines/tools and equipment safety, interpret environmental regulation preparation and safety of all tools and equipment.

Competency Units	Performance Criteria
CU1. Ensure Personal safety	<p>Trainee will be able to:</p> <p>P1. Arrange personal protective equipment (PPE) as per requirements</p> <p>P2. Wear proper PPE as per nature of job</p> <p>P3. Store PPEs at appropriate place after use</p>
CU2. Ensure workplace safety.	<p>Trainee will be able to:</p> <p>P1. Clean the workplace as per SOP</p> <p>P2. Apply electrical hazardous safety precautions as per standard.</p> <p>P3. Apply chemical hazardous safety precautions as per standard.</p> <p>P4. Operate Fire extinguishers</p>
CU3. Ensure safety of tools and equipment	<p>Trainee will be able to:</p> <p>P1. Ensure insulation of tools and equipment</p> <p>P2. Ensure safe storing of tools and equipment</p> <p>P3. Perform Cleaning of tools and equipment on regular basis.</p> <p>P4. Ensure use of specific tool as per requirement of job</p>
CU4. Maintain First aid Box	<p>Trainee will be able to:</p> <p>P1. Ensure availability of first aid box</p> <p>P2. Check first aid box for Emergency Medicines.</p> <p>P3. Check Expiry date of the Medicines</p> <p>P4. Perform first aid treatment/bandages against minor injury.</p> <p>P5. Ensure availability of emergency/Rescue numbers</p>
CU5. Ensure Machines Safety	<p>Trainee will be able to:</p> <p>P1. Check belts of Machine</p> <p>P2. Check cutters of machines</p>

	<p>P3. Check Machine for short circuit</p> <p>P4. Perform test operation on Machine</p> <p>P5. Ensure smooth functioning</p>
CU6. Interpret Environmental Regulation	<p><i>Trainee will be able to:</i></p> <p>P1. Ensure work friendly environment.</p> <p>P2. Adopt environmental regulation</p>

Knowledge & Understanding

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

- K1. Types of physical hazards
- K2. Types of chemical hazards
- K3. Types of electrical hazards
- K4. Differentiate between physical, chemical and electrical hazards
- K5. Treatments of various hazards
- K6. Types and use of PPEs
- K7. Types of Risks
- K8. Risk Management
- K9. Risk assessment
- K10. Monitor and risk control measures
- K11. Understanding of First Aid Treatment
- K12. Use of safety equipment
- K13. Importance of/machines/ tools safety
- K14. Reporting risks and hazards

Critical Evidence(s) Required

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

- Prepare a list of PPEs
- Demonstrate the use of at least one of the PPEs in front of assessor as per assessors directions
- Perform first aid treatment against electric shock/minor injury.
- Explain safety procedure at workplace

- Differentiate between safe and unsafe tools

Important points

- Focus on personal tasks
- Personal Safety first
- Ensure safety of co-workers
- Health of PPEs must be ensured



Physical Hazards				
Flammable	Compressed Gas	Oxidizing	Corrosive	Explosive
Health Hazards				
Health Hazard	Corrosive	Skin Irritant	Toxic	

B: Maintain Tools & Equipment.

Overview: This competency standard covers the skills and knowledge required to Maintain tools Cabinet, Arrange tool & Equipment, Calibrate measuring tools, Prepare tools for job, Clean Tools & equipment and Manage Inventory of tools and equipment

Competency Units

Performance Criteria

<p>CU1. Maintain tools Cabinet</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the tools to be stored in the cabinet.</p> <p>P2. Identify partitions for specific tools</p> <p>P3. Place tools and equipment at appropriate place</p>
<p>CU2. Arrange tool & Equipment</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Identify Tools and Equipment</p> <p>P2. Interpret job card</p> <p>P3. Collect tools and equipment from store as per job requirement.</p>
<p>CU3. Calibrate measuring tools</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Calibrate the moisture meter</p> <p>P2. Calibrate the Vernier calipers</p> <p>P3. Record Calibration test results</p>
<p>CU4. Prepare tools for job</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Collect the required tool as per job demand</p> <p>P2. Check physical condition of tools before use.</p> <p>P3. Prepare/design tools for job</p> <p>P4. Sharp hand saw blade with triangular file</p> <p>P5. Sharp planner blade with oil stone</p> <p>P6. Sharp chisel blade with oil stone</p> <p>P7. Sharp drill bits with disc grinder machine</p>
<p>CU5. Clean Tools & equipment</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Check condition of tools after use.</p> <p>P2. Clean tools and equipment after use.</p> <p>P3. Lubricate main screw of bench vice/Clamps.</p>
<p>CU6. Manage Inventory of tools and equipment</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Check number of tools and equipment as per record</p> <p>P2. Report for faulty tools and equipment</p> <p>P3. Generate demand for defective tools and equipment</p> <p>P4. Maintain record of all tools and equipment.</p>

Knowledge & Understanding

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

- K1. Types of different Tools

- K2. Uses of tools and equipment
- K3. Calibration techniques
- K4. Importance of calibration
- K5. Inventory Management
- K6. Cleaning techniques of various tools and equipment.
- K7. Sharpening techniques of cutting tools.

Critical Evidence(s) Required

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

- Identify Tools and Equipment
- Check Physical Condition of Tools & Equipment before use
- Maintain record of all tools and equipment

Important points

- Prepare list of the required tools
- Uses of different Tools
- Storing of tools and equipment at appropriate place
- Interpret job card.
- Cleaning techniques of various tools and equipment

C: Prepare Workplace / Housekeeping

Overview: This competency standard covers the skills and knowledge required to arrange location for dumping logs, Dump Logs, Ensure clear passage, ensure safe Storing of allied materials and Maintain Inventory of.

Competency Units	Performance Criteria
CU1. Maintain Log yard	<p><i>Trainee will be able to:</i></p> <p>P1. Arrange partition for logs (like soft/hard woods)</p> <p>P2. Clear travel path</p> <p>P3. Unload logs safely.</p>
CU2. Dump Logs	<p><i>Trainee will be able to:</i></p> <p>P1. Segregate logs according to:</p> <ul style="list-style-type: none"> • Type (soft/hard) • Grade • Size (Girth) • Shape <p>P2. Dump the Logs in proper partitions</p> <p>P3. Update Inventory</p>
CU3. Ensure clear passage	<p><i>Trainee will be able to:</i></p> <p>P1. Remove waste material from the passage</p> <p>P2. Mark the passage with yellow colour strip.</p> <p>P3. Ensure safe movement of loader/trolley for transfer of logs to log band saw.</p>
CU4. Manage safe Storage of allied materials	<p><i>Trainee will be able to:</i></p> <p>P1. Identify location for storage of allied material.</p> <p>P2. Ensure safe unloading of allied materials.</p> <p>P3. Segregate allied material according to:</p> <ul style="list-style-type: none"> ➤ Type ➤ Color ➤ Size <p>P4. Perform safe storage of allied material.</p> <p>P5. Ensure easy access to allied material.</p>
CU5. Maintain Inventory	<p><i>Trainee will be able to:</i></p> <p>P1. Check Inventory.</p>

P2. Update Inventory.

Knowledge & 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. Dumping techniques of logs
- K2. Cleaning Techniques of workplace
- K3. Types and categories of logs
- K4. Procedure for area calculation
- K5. Procedure for volume calculation
- K6. Harms of saw dust
- K7. Hazards of noise.
- K8. Importance of maintaining clear passage
- K9. Types of allied materials
- K10. Techniques for safe storage of allied materials & hardware
- K11. Procedure of inventory management
- K12. Safe loading/Unloading techniques of Logs/allied material/hardware

Critical Evidence(s) Required

- The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:
 - Identify the various types of logs
 - Identify the defective logs
 - Calculate volume of log.
 - Arrange location for dumping of log
 - Ensure safe loading of logs to trolley
 - Maintain clear passage in the workplace
 - Maintain inventory

Important points

- Mark the defective logs
- Techniques of safe loading/unloading of logs/allied materials/hardware

- Assess the width of travel path
- Ensure disposing off the waste material of log
- Calculate volume of log

D: Develop Basic Literacy and Numeracy Skills

Overview: This competency standard covers the skills and knowledge required to apply basic Literacy & Numeracy skills, Perform measurement, Perform mathematical calculations and Calculate X-Sectional Area and Volume of Logs.

Competency Units	Performance Criteria
CU1. Apply basic Literacy skills	P1. Apply basic reading skills P2. Apply basic writing skills P3. Apply speaking skills
CU2. Apply basic Numeracy skills	P1. Apply basic principles of addition P2. Apply basic principles of subtraction P3. Apply basic principles of multiplication P4. Apply basic principles of division
CU3. Perform Measurement	P1. Collect appropriate measuring tools P2. Identify inch foot and yard P3. Identify millimeter, centimeter and meter
CU4. Perform basic mathematical calculations	P1. Perform addition P2. Perform subtraction P3. Perform multiplication P4. Perform division P5. Perform conversion of measuring units P6. Record of result
CU5. Calculate X-Sectional Area and Volume of Logs	P1. Measure Diameter of Log P2. Calculate surface area of Log P3. Calculate volume of Log

Knowledge & 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:

- Recognize Alphabets
- Prepare words from Alphabets
- Learn Meanings of words
- Prepare sentences from words
- Write simple sentences

- Perform Basic speaking skills
- Learn basic principles of addition, subtraction, multiplication and division
- Describe measuring tools
- Describe Basic measuring units and it's inter conversion.
- Calculate Area and Volume

Critical Evidence(s) Required

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

- Read a text
- Write a text
- Speak
- Perform addition
- Perform subtraction
- Perform multiplication
- Perform division
- Record the results
- Inter convert measuring units.
- Calculate Area and Volume.

E: Develop basic computer operating skills

Overview: This competency standard covers the skills and knowledge required to Operate MS word, Operate MS Excel, Operate MS Power Point, Perform Browsing and Print Document.

Competency Units	Performance Criteria
CU1. Operate MS word	P1. Perform Microsoft basic commands in MS word P2. Open File P3. Format a file <ul style="list-style-type: none"> i. Font (Type/size/bold/Italic) ii. Header Footer iii. Page number iv. Insert pics / table/hyperlink P4. Save a File P5. Save a folder
CU2. Operate MS Excel	P1. Perform basic commands in Microsoft MS Excel P2. Open a worksheet P3. Sum functions P4. If functions P5. Basic calculations P6. Table and graphs P7. Save a worksheet/folder
CU3. Operate MS Power Point	P1. Prepare Microsoft power point presentation with basic commands P2. Make a power point file P3. Insert pics/table/hyperlink P4. Design a theme for slides P5. Save a power point file
CU4. Perform Browsing	P1. Perform browsing on the internet as per needs P2. Perform search online on new trends in the market with the help of internet
CU5. Print Document	P1. Select Printer P2. Select page setup P3. Print relevant pages

Knowledge & 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:

- Define Basic parts of computers
- Describe the Importance and uses of MS Word
- Describe the Importance and uses of MS Excel
- Describe the Importance and uses of MS Power Point
- Describe the importance of Internet.
- Use of various search engines like Google, U-tube etc.
- Describe Printing Procedure.

Critical Evidence(s)

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

- ✓ Operate MS word
- ✓ Operate MS Excel
- ✓ Operate MS Power Point

F: Interpret Basic Drawing & Design

Overview: This competency standard covers the skills and knowledge required to Interpret drawing/design, Perform Interconversion of Scales, Interpret drawing symbols, Take Measurement and interpret Hatching

Competency Units	Performance Criteria
CU1. Interpret drawing/design	<p><i>Trainee will be able to:</i></p> <p>P1. Identify drawing/ design/cutting list/material list</p> <p>P2. Interpret the drawing/design</p> <p>P3. Follow the drawing/ design</p> <p>P4. Identify various drawing views</p> <p>P5. Interpret cutting list</p>
CU2. Perform Interconversion of Scales	<p><i>Trainee will be able to:</i></p> <p>P1. Interpret scales.</p> <p>P2. Follow interpretation of scale</p> <ul style="list-style-type: none"> ○ Full ○ Enlarge ○ Reduce
CU3. Interpret drawing symbols	<p><i>Trainee will be able to:</i></p> <p>P1. Identify various drawing symbols</p> <p>P2. Follow the drawing symbols</p>
CU4. Take Measurement	<p><i>Trainee will be able to:</i></p> <p>P1. Identify measuring tools</p> <p>P2. Perform measurement as per drawing</p> <p>P3. Mark the job as per drawing</p>
CU5. interpret Hatching	<p><i>Trainee will be able to:</i></p> <p>P1. Interpret section drawing</p> <p>P2. Identify hatching symbols</p> <p>P3. select the required materials for hatching as per job requirement</p>

Knowledge & 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. Size/type of drawing paper
- K2. Describe drawing symbols
- K3. Define drawing tools/equipment
- K4. Describe Scales and its interconversion.
- K5. Types of measurement tools
- K6. Understand the hatching symbols/pattern
- K7. Elaborate different views of drawing
- K8. Elaborate cutting list

Critical Evidence(s) Required

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

- Identify measuring tools
- Perform measurement
- Identify the paper sizes/types
- Identify the various drawing symbols
- Identify the drawing tools/equipment
- Interpret drawing & design
- Interpret hatching
- Interpret cutting list

Important points

- Perform measurement
- Describe the various paper sizes/types
- Interpret drawing symbols
- Interpret hatching
- Interpret cutting list

G: Develop basic communication Skills.

Overview: This competency standard covers the skills and knowledge required to adopt effective Listening, Develop Nonverbal Communication, Develop verbal communication, and Develop Written Communication Skills.

Competency Units	Performance Criteria
CU1. Adopt effective Listening	<p><i>Trainee will be able to:</i></p> <p>P1. Practice active listening.</p> <p>P2. Ask clarifying questions.</p> <p>P3. Adopt sympathize attitude.</p>
CU2. Develop Nonverbal Communication Skill	<p><i>Trainee will be able to:</i></p> <p>P1. Adopt hand gestures if required.</p> <p>P2. Encourage others to speak openly with you.</p> <p>P3. Make eye contact with communicator.</p> <p>P4. Make relaxed, open stance during communication.</p> <p>P5. Perform friendly tone during communication.</p>
CU3. Develop verbal communication Skill	<p><i>Trainee will be able to:</i></p> <p>P1. Adopt face to face conversations</p> <p>P2. Convey your message clearly and directly.</p> <p>P3. Adopt phrases as simple as demonstrate</p> <p>P4. Respect others and their ideas</p>
CU4. Develop Written Communication Skills	<p><i>Trainee will be able to:</i></p> <p>P1. Convey your message in few words.</p> <p>P2. Convey message through live phone calls.</p> <p>P3. Convey message through WhatsApp.</p> <p>P4. Convey message through email.</p> <p>P5. Convey message through writing.</p>

Knowledge & 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:

- Define effective Listening.
- Describe various types of effective listening.

- Define Nonverbal Communication
- Define types of Nonverbal Communication.
- Enlist various communication Medium.

Critical Evidence(s)

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

- Adopt effective Listening
- Develop Nonverbal Communication
- Develop verbal communication
- Develop Written Communication Skills

H: Identify Machines & Its Attachments

Overview: This competency standard covers the skills and knowledge required to Identify Machine and its sizes, Identify components & Attachments, Identify capacities & capabilities of Machine, Identify basic tools and supplies associated with Machines and Maintain Inventory of tools and equipment.

Competency Units	Performance Criteria
CU1. Identify Machine and its sizes.	<p><i>Trainee will be able to:</i></p> <p>P1. Identify Wood working machines</p> <p>P2. Check specifications of Band Saw machine</p> <p>P3. Check specifications of Circular Saw machines</p> <p>P4. Check specifications of Wood Turning Lathe</p> <p>P5. Check specifications of Jointer/ Planner machines</p> <p>P6. Check specifications of Thicknesser machines</p> <p>P7. Check specifications of Sanding machines</p> <p>P8. Check specifications of Boring machines</p>
CU2. Identify components & Attachments	<p><i>Trainee will be able to:</i></p> <p>P1. Identify different components of relevant machine</p> <p>P2. Identify different attachments of relevant machine</p>
CU3. Identify capacities & capabilities of Machine	<p><i>Trainee will be able to:</i></p> <p>P1. Check capacity as per manufacturers specifications</p> <p>P2. Check capability as per manufacturers specifications</p> <p>P3. Interpret proper capacity of machine</p> <p>P4. Interpret proper capability of machine</p>
CU4. Identify basic tools and supplies associated with Machines	<p><i>Trainee will be able to:</i></p> <p>P1. Check standard tools supplied with machines</p> <p>P2. Check spares/consumable materials</p> <p>P3. Follow manufacturers specifications for tools and supplies</p>
CU5. Maintain Inventory of Machines	<p><i>Trainee will be able to:</i></p> <p>P1. Check number of machines as per record</p> <p>P2. Report for faulty machine</p> <p>P3. Generate demand for defective parts of machines</p> <p>P4. Maintain record of all machines.</p>

Knowledge & 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. Describe functions of the following machines.

- Band Saw machine
- Circular Saw machine
- Wood Turning Lathe
- Jointer/ Planner machine
- Thicknesser machine
- Sanding machines
- Boring machines

K2. Describe Wood working machines Attachments, their Purpose and Capabilities.

K3. Describe basic Tools, Supplies & Lubricants associated with Wood working machines

K4. Describe Inventory management procedure of Wood working machines.

Critical Evidence(s) Required

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

- Identify Machines and its related Attachments
- Identify Capacity of machine before use
- Ensure Capability of attachments as per standards

I: Prepare Joints Manually

Overview: This competency standard covers the skills and knowledge required to Perform Ripping, Perform Cross Cutting, Perform Curve Cutting, Perform Surface Planing, Perform Edge Planing, Perform Size Planing and Make Joints Manually.

Competency Units	Performance Criteria
CU1. Perform Ripping	<p><i>Trainee will be able to:</i></p> <p>P1. Identify hand wood cutting tools.</p> <p>P2. Select hand saw as per job requirement.</p> <p>P3. Hold/Fix wood in the wood working vice</p> <p>P4. Cut the wood along the grain</p>
CU2. Perform Cross Cutting	<p><i>Trainee will be able to:</i></p> <p>P1. Select hand saw for cross cutting</p> <p>P2. Hold/Fix work piece in the work bench hook.</p> <p>P3. Cut the wood across the grain</p>
CU3. Perform Curve Cutting	<p><i>Trainee will be able to:</i></p> <p>P1. Identify tools for curve cutting</p> <p>P2. Select hand saw for curve cutting</p> <p>P3. Cut the wood as per design/ line</p>
CU4. Perform Surface Planing	<p><i>Trainee will be able to:</i></p> <p>P1. Identify tools for Surface Planing</p> <p>P2. Select hand planer as per job.</p> <p>P3. Fix the job on work bench for surface Planing</p> <p>P4. Plane the surface</p>
CU5. Perform Edge Planing	<p><i>Trainee will be able to:</i></p> <p>P1. Identify tools for Edge Planing</p> <p>P2. Select planer as per job.</p> <p>P3. Fix the Job on work bench vice</p> <p>P4. Plane the Edge at right angle</p>
CU6. Perform Size Planing	<p><i>Trainee will be able to:</i></p> <p>P1. Identify tools for Size Planing</p> <p>P2. Select planer as per job.</p> <p>P3. Fix the job on work bench for size planing</p> <p>P4. Plain the surface for the desired thickness</p> <p>P5. Plain the edge for the desired width</p>
CU7. Make Joints Manually	<p><i>Trainee will be able to:</i></p>

- P1.** Select Marking/Cutting tools
- P2.** Perform Marking on job
- P3.** Hold the job in the vice of work bench.
- P4.** Cut the job as per joint requirement
- P5.** Perform chiseling as per joint requirement
- P6.** Perform drilling in the job for dowel.
- P7.** Perform grooving as per joint requirement
- P8.** Assemble all pieces to test the accuracy

Knowledge & 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. Kinds of Saws
- K2. Kinds of Plains
- K3. Basics of Measuring & Measuring Tools
- K4. Knowledge of Marking & Layout Tools
- K5. Knowledge of Wooden files & rasps
- K6. Knowledge of boring tools
- K7. Knowledge of Mallets & Hammers
- K8. Types of allied material
- K9. Knowledge of Holding & clamping devices
- K10. Knowledge of chisels
- K11. Kinds of Joints
 - Lap Joints
 - Mortise & Tenon Joints
 - Dovetail Joints
 - Pin Joints
 - Dado joints
 - Tongue & Groove Joints
 - Knock Down Joints
 - Biscuit Joint
 - Dowel Joint
 - Domino Joint
 - Cross Bar Joint.
 - Rabbet Joint

Critical Evidence(s) Required

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

- K1. Different Kinds of Saws
- K2. Different Kinds of Plains
- K3. Perform Measuring as per job
- K4. Mark the job
- K5. Chiseling techniques
- K6. Clamping techniques

Important points

- Importance of holding & clamping.
- Importance of Measuring, Marking & Layout.

J: Perform Wood Cutting

Overview: This competency standard covers the skills and knowledge required to Load log for cutting (by crane/manual), Cut slab with log band saw, Cut planks with log band saw, Stack planks for seasoning, Perform cross cutting of planks with Pendulum saw, Perform Pattern Cutting on Band Saw, Perform ripping of planks and Perform board cutting

Competency Units	Performance Criteria
CU1. Load log for cutting (by crane/manual)	<p>Trainee will be able to:</p> <p>P1. Check metal/stone pieces in log</p> <p>P2. Lift log with lifter vehicle</p> <p>P3. Balance the log on lifter</p> <p>P4. Transport log to machine trolley.</p> <p>P5. Unload log on machine trolley</p> <p>P6. Adjust log on trolley</p> <p>P7. Hold the log on trolley</p>
CU2. Cut slab with log band saw	<p>Trainee will be able to:</p> <p>P1. Adjust machine for slab cut</p> <p>P2. Turn on the machine</p> <p>P3. Drive trolley in appropriate gear</p> <p>P4. Perform slab cutting</p>
CU3. Cut planks with log band saw	<p>Trainee will be able to:</p> <p>P1. Follow the cutting list</p> <p>P2. Adjust machine for desired cutting.</p> <p>P3. Perform test cut for thickness.</p> <p>P4. Perform plank cutting</p> <p>P5. Remove the final slab.</p>
CU4. Stack planks for seasoning	<p>Trainee will be able to:</p> <p>P1. Identify location for planks stacking</p> <p>P2. Collect the planks.</p> <p>P3. Stack the planks for seasoning.</p>
CU5. Perform cross cutting of planks with Pendulum saw	<p>Trainee will be able to:</p> <p>P1. Collect planks for cross cutting.</p> <p>P2. Perform first cut in right angle.</p> <p>P3. Adjust stopper for the desired length.</p> <p>P4. Perform cross cutting.</p>
CU6. Perform Pattern Cutting on Band Saw	<p>Trainee will be able to:</p> <p>P1. Collect planks for pattern cutting.</p>

	<p>P2. Mark the piece as per pattern.</p> <p>P3. Select the required band saw blade.</p> <p>P4. Mount the blade.</p> <p>P5. Adjust tension of the blade.</p> <p>P6. Adjust tracking of the blade.</p> <p>P7. Adjust the Thrust bearing.</p> <p>P8. Perform pattern cutting.</p>
CU7. Perform ripping of planks	<p><i>Trainee will be able to:</i></p> <p>P1. Collect planks for ripping.</p> <p>P2. Perform first cut for edge straightening.</p> <p>P3. Adjust fence for the desired width of planks.</p> <p>P4. Perform ripping.</p>
CU8. Perform board cutting	<p><i>Trainee will be able to:</i></p> <p>P1. Select board for cutting</p> <p>P2. Adjust fence for the desired width/length of board.</p> <p>P3. Perform ripping/cross cutting</p>

Knowledge & 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.** Loading/unloading techniques
- K2.** Balancing techniques of log
- K3.** Machine adjustment techniques for safe cutting of log
- K4.** Understanding of stacking techniques
- K5.** Types of seasoning;
 - a) Air Seasoning
 - b) Kiln Seasoning
- K6.** Knowledge of cross cutting machines
- K7.** Knowledge of ripping machines
- K8.** Function and adjustment techniques of fence/stopper.
- K9.** Knowledge of cutting blades
- K10.** Safe Use of band saw

Critical Evidence(s) Required

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

- Adjust Machine for slab cut as per cutting list
- Adjust stopper for the desired length.
- Mark the piece as per pattern.
- Mount the blade.
- Adjust tension of the blade.
- Adjust tracking of the blade.
- Adjust the Thrust bearing.
- Adjust fence for the desired width/length.

Important points

- Interpretation of cutting list

K: Perform Wood Planing by Machine

Overview: This competency standard covers the skills and knowledge required to Perform surface planing, perform edge planing, and perform planing for desired thickness and Cut to size (cross cutting)

Competency Units	Performance Criteria
CU1. Perform surface planing	<p><i>Trainee will be able to:</i></p> <p>P1. Adjust safety guard of the machine</p> <p>P2. Adjust the outfeed table according to cutting edge of the cutter.</p> <p>P3. Adjust the depth of cut of in-feed table.</p> <p>P4. Feed the piece manually/feeder</p> <p>P5. Plane the surface.</p>
CU2. Perform edge planing	<p><i>Trainee will be able to:</i></p> <p>P1. Adjust fence at required angle.</p> <p>P2. Perform Test run for right angle</p> <p>P3. Adjust the in-feed table for required cut.</p> <p>P4. Plane the Edge.</p>
CU3. Perform planing for desired thickness	<p><i>Trainee will be able to:</i></p> <p>P1. Adjust table for the desired thickness of cut.</p> <p>P2. Adjust the required feeding speed.</p> <p>P3. Plain job for desired thickness.</p>
CU4. Perform planing for desired width	<p><i>Trainee will be able to:</i></p> <p>P1. Adjust table for the desired width of cut.</p> <p>P2. Adjust the required feeding speed.</p> <p>P3. Plain job for desired width.</p>
CU5. Cut to size (cross cutting)	<p><i>Trainee will be able to:</i></p> <p>P1. Select the required machine as per job.</p> <p>P2. Set the fence at required angle</p> <p>P3. Adjust the blade for required height.</p> <p>P4. Perform first end-cut in required angle.</p> <p>P5. Set stopper for the required length.</p> <p>P6. Cut the job as per desired length.</p>

Knowledge & 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. Understanding of jointer/plainer
- K2. jointer operations
- K3. Knowledge of blades
- K4. Setting for safe use of jointer/plainer
- K5. Setting of Thickness planer
- K6. Operations of thickness planer
- K7. Use of fence/stopper
- K8. Feeding Speed
- K9. Table adjustment techniques for the desired width of cut
- K10. Table adjustment techniques for the desired thickness of cut
- K11. Adjustment techniques of the in feed table for the required cut

Critical Evidence(s) Required

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

- Set the jointer/planer for various operations
- Set the thickness planer
- Set the feeding speed
- Operate thickness planer
- Adjust stopper
- Adjust in-feed table for the desired cut.

Important points

- Setting parameter of jointer/planer
- Use of proper PPE's
- Best utilization of machine/material

L: Prepare Job on machine

Overview: This competency standard covers the skills and knowledge required to identify job as per drawing, Make Joints, Perform Boring, Perform Profiling/shaping, perform Turning on Wood Lathe, Perform Lipping, Perform Sanding and Install Hardware.

Competency Units	Performance Criteria
CU1. Identify job as per drawing	<p><i>Trainee will be able to:</i></p> <p>P1. Select the drawing/cutting list</p> <p>P2. Interpret drawing/cutting list</p> <p>P3. Select the required materials</p> <p>P4. Mark the job as per drawing.</p>
CU2. Make Joints by machine	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the marking/measuring tools</p> <p>P2. Perform Marking on job for joint making</p> <p>P3. Select the machine/hand tools for joint making</p> <p>P4. Install attachments (Cutters/Jigs/Fixtures) with machine</p> <p>P5. Adjust the machine as per operation.</p> <p>P6. Perform cutting as per requirement.</p> <p>P7. Assemble the Joint</p>
CU3. Perform Drilling/Boring	<p><i>Trainee will be able to:</i></p> <p>P1. Mark Centre point on the job for drilling/boring</p> <p>P2. Select the machine/hand tools</p> <p>P3. Install the required drill Bit.</p> <p>P4. Set machine as per operation.</p> <p>P5. Perform drilling/boring</p>
CU4. Perform Profiling/shaping	<p><i>Trainee will be able to:</i></p> <p>P1. Mark the job for profile/shape</p> <p>P2. Install the required attachments (Cutters/Jigs/Fixtures)</p> <p>P3. Adjust machine as per operation.</p> <p>P4. Carry out test cut.</p> <p>P5. Perform profiling/shaping</p>
CU5. Perform Turning on Wood Lathe	<p><i>Trainee will be able to:</i></p> <p>P1. Select tools & equipment</p> <p>P2. Mark the job as per drawing.</p> <p>P3. Adjust the turning speed/ Feed.</p> <p>P4. Mount the piece in Lathe chuck.</p>

	<p>P5. Adjust the tool rest as per operation.</p> <p>P6. Perform lathe work as per drawing.</p>
CU6. Perform Lipping	<p><i>Trainee will be able to:</i></p> <p>P1. Select the machine/manual tool for lipping</p> <p>P2. Select the required lipping material</p> <p>P3. Adjust the feeding speed of the machine</p> <p>P4. Set machine as per operation</p> <p>P5. Apply adhesive/lipping material</p> <p>P6. Perform Lipping</p> <p>P7. Test uniformity of lipping</p>
CU7. Perform Sanding	<p><i>Trainee will be able to:</i></p> <p>P1. Select the required machine for sanding</p> <p>P2. Install the required sand paper</p> <p>P3. Set machine as per operation</p> <p>P4. Perform sanding of job</p>
CU8. Install Hardware (Woodworking)	<p><i>Trainee will be able to:</i></p> <p>P1. Select the required hardware</p> <p>P2. Mark the job for fitting of hardware</p> <p>P3. Select the machine/tool</p> <p>P4. Set machine for hardware installation.</p> <p>P5. Install the hardware.</p>

Knowledge & 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. Describe following Machines along with their setting techniques

- Circular Saw
- Spindle molder
- Wood Turning Lathe
- Lipping Machine
- Universal Sanding
- Drill Press
- Boring Machine
- Tool Grinding machine

K2. Identification and use of the following tools

- Measuring Tools
- Squaring Tools
- Marking Tools
- Fixing & Holding Tools
- Boring Bits
- Hand Saws
- Hand Planes
- Chisels & Gouges
- Hammers
- Mallets
- Screwdrivers
- Sharpening stones

K3. Knowledge of the following Hardware/ Materials

- Nails
- Screws
- Hinges
- Locks
- Casters
- Knock down Fittings
- Edging Profiles
- Adhesives
- Sanding Papers
- White Glue

K4. Knowledge of blades

K5. Knowledge of jigs/fixtures

Critical Evidence(s) Required

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

- Perform setting of the following Machines
 - a) Table Saw
 - b) Spindle molder
 - c) Lathe
 - d) Lipping Machine
 - e) Universal Sanding
 - f) Drum Sanding
 - g) Edge Sanding
 - h) Drill Press
 - i) Boring Machine

- sharpening of blades

Important points

- Identification of the following tools
 - a) Measuring Tools
 - b) Squaring Tools
 - c) Marking Tools
 - d) Fixing & Holding Tools
 - e) Boring Bits
 - f) Hand Saws
 - g) Hand Planes
 - h) Chisels & Gouges
 - i) Hammers
 - j) Mallets
 - k) Screwdrivers
 - l) Sharpening stones

M: Assemble the Job

Overview: This competency standard covers the skills and knowledge required to Perform Pre - assembly of job, clamp the job, Test accuracy of the assembled job, Perform Final Assembling of job and Test Firmness of Joints,

Competency Units	Performance Criteria
CU1. Perform Pre-assembly of job	<p><i>Trainee will be able to:</i></p> <p>P1. Select the parts for pre assembling</p> <p>P2. Arrange the parts in Sequence.</p> <p>P3. Pre-assemble the job to ensure accuracy.</p>
CU2. clamp the job	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the clamp as per job demand</p> <p>P2. Fix/Hold the job with clamp</p>
CU3. Test accuracy of the assembled job	<p><i>Trainee will be able to:</i></p> <p>P1. Check job for accuracy of the required angle</p> <p>P2. Re-adjust the clamps if required.</p> <p>P3. Ensure flatness of the job</p>
CU4. Perform Final Assembling of job	<p><i>Trainee will be able to:</i></p> <p>P1. Dismantle the pre-assembled job.</p> <p>P2. Apply adhesive to the joints.</p> <p>P3. Assemble the job.</p> <p>P4. Clamp the Job for firm fixing.</p> <p>P5. Remove the additional adhesive.</p>
CU5. Test Firmness of Joints	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required fastener</p> <p>P2. Mount fastener to enhance firmness.</p> <p>P3. Remove the clamps after adhesive setting.</p>

Knowledge & 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. Types of clamps
 - a) F clamp
 - b) C clamp

- c) Bar clamp
- d) Quick Action Clamp
- e) Mitre Clamps
- f) Improvised Clamps

K2. Understanding of Carcass Press

K3. Setting of Carcass Press

K4. Assembling Procedures

K5. Alignment/adjustment for Assembling

K6. Types of reinforcing fasteners

K7. Clamping techniques of job

Critical Evidence(s) Required

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

- Adjust clamp according to the job
- Check accuracy of the job for the required angle
- Set the Carcass Press

Important points

- Arrange parts of the job in sequence
- Setting of Carcass Press
- Alignment/adjustment for Assembling

N: Perform Polishing

Overview: This competency standard covers the skills and knowledge required to perform Perform Surface Finishing, Arrange Polishing tools & Material, Perform Lacquer Polishing,

Perform Staining, Perform Spirit/French Polishing, Perform Paint Finishing, Perform Varnish Finishing and Perform High Gloss Finishing.

Competency Units	Performance Criteria
CU1. Perform Surface Finishing	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required tools for surface preparation.</p> <p>P2. Punch the nails for surface smoothing.</p> <p>P3. Check for surface dents</p> <p>P4. Fill up the cracks/minute holes</p> <p>P5. Remove the extra adhesive.</p> <p>P6. Apply sand paper for edge/surface smoothing.</p>
CU2. Arrange Polishing tools & Material	<p><i>Trainee will be able to:</i></p> <p>P1. Identify polishing tools & materials</p> <p>P2. Test spray gun for proper working.</p> <p>P3. Set the spray gun for polishing.</p>
CU3. Perform Lacquer Polishing	<p><i>Trainee will be able to:</i></p> <p>P1. Select the desired material (sealer/ lacquer/ thinner) for lacquer polishing.</p> <p>P2. Prepare solution (sealer & thinner) to apply first coat</p> <p>P3. Spray the sealer.</p> <p>P4. Match the colour if required.</p> <p>P5. Apply sand paper to the product.</p> <p>P6. Prepare solution (lacquer & thinner) to apply first coat.</p> <p>P7. Apply the required number of lacquer coats.</p> <p>P8. Apply sand paper to the product if required.</p>
CU4. Perform Staining	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required staining material.</p> <p>P2. Prepare solution (Stain & thinner) to apply first coat to the product.</p> <p>P3. Apply the required number of stain coats.</p> <p>P4. Apply sand paper to the product if required.</p> <p>P5. Apply lacquer coat for final finishing of the product.</p>
CU5. Perform Spirit/French Polishing	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required shellac material.</p> <p>P2. Apply the powder coat to the product.</p> <p>P3. Sand the product.</p>

	<p>P4. Prepare solution (Shellac & Spirit) to apply first coat to the product.</p> <p>P5. Apply the required number of shellac coats.</p> <p>P6. Apply sand paper to the product if required.</p>
<p>CU6. Perform Paint Finishing</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required paint material.</p> <p>P2. Select the quantity of materials (undercoat/paint/ thinner) for paint finishing.</p> <p>P3. Prepare solution (undercoat & thinner) to apply first coat</p> <p>P4. Spray the undercoat to the product.</p> <p>P5. Apply sand paper to the product.</p> <p>P6. Prepare solution (paint & thinner) to apply first coat.</p> <p>P7. Apply the required number of paint coats.</p> <p>P8. Apply sand paper to the product if required.</p> <p>P9. Apply lacquer coat for final finishing of the product.</p>
<p>CU7. Perform Varnish Finishing</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required varnish material.</p> <p>P2. Select Quantity of material (Varnish/ thinner) for lacquer polishing.</p> <p>P3. Prepare solution (varnish & thinner) to apply first coat</p> <p>P4. Spray varnish coat to the product.</p> <p>P5. Perform colour matching if required.</p> <p>P6. Apply sand paper to the product.</p> <p>P7. Apply the required number of varnish coat.</p>
<p>CU8. Perform High Gloss Finishing</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the high gloss finishing material.</p> <p>P2. Select the Quantity of materials (hardener/sealer/ lacquer/ thinner) for lacquer polishing.</p> <p>P3. Prepare solution (sealer & thinner) to apply first coat</p> <p>P4. Spray the sealer.</p> <p>P5. Match the colour if required.</p> <p>P6. Apply sand paper to the product.</p> <p>P7. Prepare solution (lacquer, hardener & thinner) to apply first coat.</p> <p>P8. Apply the required number of high gloss finish coats to the product.</p>

Knowledge & 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. Identification of Polishing tools
- K2. Preparation & Use of polishing materials
- K3. Use of Polishing tools
- K4. Nail punching techniques
- K5. Dent removing techniques
- K6. Surface preparation techniques for smoothing
- K7. Preparation & use of Filling materials
- K8. Types of Sand Papers (grits) & its use
- K9. Types & setting techniques of spray guns
- K10. Spraying technique for surface finishing
- K11. Application technique of Polishing material (Brush, cloth pad)
- K12. Staining Technique (color matching)
- K13. Preparation of wood grains technique

Critical Evidence(s)

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

- Punch the nails for surface finishing.
- Fill up the cracks/minute holes
- Set the spray gun for polishing.
- Identify the required staining material.
- Apply finishing material by brush
- Apply finishing material by cloth pad
- Apply lacquer coat for final finishing of the product.

Important points

- Surface preparation of product
- Polishing techniques
- Spraying techniques
- Staining techniques

O: Maintain Machines

Overview: This competency standard covers the skills and knowledge required to Replace Machine Belts/ chains, Perform sharpening of cutting Blades, Perform Lubrication of Machine's parts, Replace drill/boring bits and replace profile Cutters.

Competency Units	Performance Criteria
CU1. Replace Machine Belts/chains	<p>Trainee will be able to:</p> <p>P1. Disconnect power supply of machine.</p> <p>P2. Remove the safety covers</p> <p>P3. Check condition of the belt/chain.</p> <p>P4. Unmount the belt/chain</p> <p>P5. Replace the belt/chain as per specification.</p> <p>P6. Adjust tension of the belt/chain.</p> <p>P7. Connect the Power supply.</p> <p>P8. Carry out test run of the machine.</p> <p>P9. Mount the Safety covers.</p>
CU2. Perform Sharpening of Cutting Blades	<p>Trainee will be able to:</p> <p>P1. Disconnect power supply of machine.</p> <p>P2. Check condition of the cutting blade</p> <p>P3. Lock the spindle.</p> <p>P4. Unmount the safety covers/jigs/fixtures</p> <p>P5. Remove the blade.</p> <p>P6. Identify the required sharpening machine.</p> <p>P7. Remove the slage</p> <p>P8. Sharp the blade</p> <p>P9. Remount the blade.</p> <p>P10. Unlock the spindle.</p> <p>P11. Adjust tension of the blade if required.</p> <p>P12. Connect the Power supply.</p> <p>P13. Carry out test run of the machine.</p> <p>P14. Mount the Safety covers.</p>
CU3. Perform Lubrication of machine parts.	<p>Trainee will be able to:</p> <p>P1. Identify the lubricating tools & material.</p> <p>P2. Observe noise of the machine for smooth functioning.</p> <p>P3. Perform lubrication of the machine parts.</p>
CU4. Replace Drilling/	<p>Trainee will be able to:</p>

<p>boring bits</p>	<p>P1. Identify types of drilling/boring bits P2. Check condition of drilling/boring bits P3. Identify the required tools for the replacement of drilling/boring bits. P4. Replace the faulty drilling/boring bit.</p>
<p>CU5. Replace Profile Cutters</p>	<p>Trainee will be able to:</p> <p>P1. Identify the profiling cutter. P2. Disconnect power supply of machine. P3. Check condition of the cutting blade P4. Lock the spindle. P5. Unmount the safety covers/jigs/fixtures P6. Remove the profile cutters P7. Remount the desired profile in the cutter head. P8. Remount the safety covers/jigs/fixtures. P9. Unlock the Spindle. P10. Connect the power supply. P11. Carry out test run. P12. Perform operations.</p>

Knowledge & 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.** Specifications (shape, types and sizes) of belts/chains
- K2.** Replacement techniques of belt/chain
- K3.** Specifications (Number/size) of belt/chain
- K4.** Types and uses of blades
- K5.** Replacement techniques of blades
- K6.** Nature of cutting materials
- K7.** Types of Sharpening machines
- K8.** Types / shapes of profile cutters/bits
- K9.** Alignment/adjustment techniques of profile cutters/bits
- K10.** Alignment /adjustment techniques of jigs & fixture
- K11.** Importance of lubrication of Machines
- K12.** Lubrication techniques of Machine’s parts

K13. Noise observation machine for smooth functioning

K14. Importance of safety covers.

K15. Importance of carrying out test run of the machine

K16. Importance of Locking/unlocking of spindle

Critical Evidence(s) Required

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

- Change/replace the belt.
- Adjust tension of the belt/chain.
- Replace the cutting blades
- Remove the faulty profile cutter/bits.
- Install profile cutters/bits
- Install jigs & fixtures
- Sharp the blade.
- Lubricate Machine's parts
- Mount the Safety covers.
- Carry out test run of the machine
- Perform locking/unlocking of spindle

Important points

- Specifications of belts/chain, blades, profile cutters, bits.
- Replacement techniques of cutting blades, belts, Profile cutters, bits
- Sharpening/alignment techniques of blades, profile cutter, bits.
- Carry out test run of the machine
- Mount the Safety covers.

P: Perform CAD/CAM Operations

Overview: This competency standard covers the skills, knowledge and attitude required to Interpret Drawing & Design using CAD, Draw & Design the job using CAD, Load the desired Tools, Perform Simulation, Perform Material Loading and Perform CAM Operations.

Competency Units	Performance Criteria
CU1. Interpret Drawing & Design using CAD	<p><i>Trainee will be able to:</i></p> <p>P1. Collect the desired drawing & design</p> <p>P2. Transfer the desired drawing & design to the concerned section/ person</p> <p>P3. Perform supervision of the job as per drawing</p>
CU2. Draw & Design the job using CAD	<p><i>Trainee will be able to:</i></p> <p>P1. Consult catalogue as per client demand</p> <p>P2. Set Interface in CAD software</p> <p>P3. Make Multiview drawing & design of the job</p> <p>P4. Make 3D drawing & design of the job/ part</p> <p>P5. Render the job as per client's demand</p> <p>P6. Plot/ print the job</p>
CU3. Load the desired Tools	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the required tools as per process</p> <p>P2. Select the tools in the CAD/CAM software</p> <p>P3. Load the tools in CAD/CAM software</p>
CU4. Perform Simulation	<p><i>Trainee will be able to:</i></p> <p>P1. Convert CAD to CAM codes using the software</p> <p>P2. Run Simulation to check accuracy of process</p>
CU5. Perform Material Loading	<p><i>Trainee will be able to:</i></p> <p>P1. Identify required parts of the job</p> <p>P2. Set the clamping/ vacuum sucking units as per parts of the job</p> <p>P3. Load the job parts on the machine bed</p>
CU6. Perform CAM Operations	<p><i>Trainee will be able to:</i></p> <p>P1. Ensure the loading of desired tools/ bits in ATC.</p> <p>P2. Calibrate the machine.</p> <p>P3. Execute the machine to complete the process</p> <p>P4. Take out the completed part</p>

Knowledge & 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. Knowledge and understanding about drawings
- K2. Understanding of CAD software
- K3. Describe the tools/ Commands for drawing in CAD software
- K4. Knowledge of specific bits/ cutters/ aggregates of CNC machine
- K5. Knowledge of various CAM software
- K6. Understanding of various CAM operations
- K7. Describe the vacuum system
- K8.** Describe the automatic tool changer

Critical Evidence(s) Required

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

- Set Interface in CAD software
- Make 3D drawing & design of the job/ part
- Select the tools in the CAD/ CAM software
- Set the clamping/ vacuum sucking units as per parts of the job

Important points

- Making of Multiview drawing & design of the job
- Selection of the tools in the CAD/ CAM software
- Loading the job parts on the machine bed

Q: Develop Professionalism

Overview: This competency standard covers the skills and knowledge required to demonstrate work ethic, Identify factors affecting personal health negatively, Resolve problems or disagreements with others, Participate in professional development programs, Work with others, Work independently, Speak and listen effectively, Interpret documentation, Communicate with signals and Communicate with electronic equipment.

Competency Units	Performance Criteria
CU1. Resolve problems or disagreements with others	<p><i>Trainee will be able to:</i></p> <p>P1. Communicate effectively</p> <p>P2. Adopt peaceful approach</p> <p>P3. Determine cause of problem or disagreement</p> <p>P4. Discuss and resolve issues</p>
CU2. Demonstrate work ethic	<p><i>Trainee will be able to:</i></p> <p>P1. Follow principles of work ethics in all situations</p> <p>P2. Demonstrate professional behaviour</p>
CU3. Work with others	<p><i>Trainee will be able to:</i></p> <p>P1. Work as a team member to achieve common goals</p> <p>P2. Keep open mind</p> <p>P3. Participate in work place meetings</p> <p>P4. Communicate accurately and clearly</p> <p>P5. Co-ordinate job related activities</p> <p>P6. Cooperate with others</p>
CU4. Work independently	<p><i>Trainee will be able to:</i></p> <p>P1. Confirm and clarify assignment</p> <p>P2. Take initiative, anticipate and prepare for next steps in job</p> <p>P3. Identify and resolve potential and actual problems</p> <p>P4. Communicate with other site personnel</p> <p>P5. Complete assignments</p>
CU5. Communicate with signals	<p><i>Trainee will be able to:</i></p> <p>P1. Identify and work with signals</p> <p>P2. Communicate with audible signals, such as back-up alarm, and site emergency horn</p> <p>P3. Communicate with hand signals</p>
CU6. Interpret documentation	<p><i>Trainee will be able to:</i></p> <p>P1. Access and maintain documents</p>

- P2.** Provide complete, legible and accurate information in documents
- P3.** Interpret equipment inspection documentation from previous shifts before conducting pre-operational inspection

Knowledge & 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:

- Define principles of work ethic and expectations, such as be punctual, prepared for work, cooperative, honest, productive and respectful
- Define Own current mental, emotional, and physical state
- Read Applicable legislation, such as harassment
- Define Conflict resolution techniques.
- Explain own role and responsibilities
- Describe Roles and responsibilities of others in industry.
- Explain work assignment, location, and working conditions
- Define Roles of individuals on job site, such as supervisor, inspector, other trades people
- Describe types of documentation required, such as safety reports, maintenance reports, inspection reports, time cards
- Describe Importance of complete, legible, and accurate documentation
- Describe the role and responsibilities of signaller

Critical Evidence(s) Required

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

- Own current mental, emotional, and physical state.
- Maintain safety reports, maintenance reports, inspection reports, time cards
- Signallers on job site

R: Develop Entrepreneurial Skills

Overview: This competency standard covers the skills and knowledge required to Conduct Market survey, Develop basic marketing skills, Identify needs of the market, Prepare Business plan, Implement marketing activities, Evaluate marketing performance, Develop Business promotion technique and Develop Business competition Skills

Competency Units	Performance Criteria
CU1. Conduct Market survey	<p><i>Trainee will be able to:</i></p> <p>P1. Collect information regarding market size and potential from appropriate sources</p> <p>P2. Investigate market trends and developments to identify market needs relative to business ideas</p> <p>P3. Gather market information from primary and secondary sources to identify possible market needs in relation to business ideas</p> <p>P4. Identify ethical and cultural requirements of the market and their impact on business ideas</p> <p>P5. Identify new and emerging markets and document their features</p> <p>P6. Identify and organise information on expected market growth or decline and associated risk factors</p>
CU2. Develop basic marketing skills	<p><i>Trainee will be able to:</i></p> <p>P1. Present a design to the client as per requirement</p> <p>P2. Finalize the business deal</p> <p>P3. Purchase the equipment/tools and consumables as per agreed design</p> <p>P4. Adopt correct means of transportation</p> <p>P5. Select promotional means, according to target needs of clients</p>
CU3. Identify needs of the market.	<p><i>Trainee will be able to:</i></p> <p>P1. Analyse upcoming market trends.</p> <p>P2. Develop Professional network.</p> <p>P3. Demonstrate behavioural skills.</p> <p>P4. Develop sound interpersonal skills</p> <p>P5. Develop new designs.</p>
CU4. Prepare Business plan	<p><i>Trainee will be able to:</i></p> <p>P1. Develop operational goals and targets to meet the enterprise strategic plan.</p> <p>P2. Identify and incorporate supply chains into the business</p>

	<p>plan.</p> <p>P3. Identify risk management needs are within the business plan.</p> <p>P4. Incorporate trial systems in order to test budgetary impact and operational potential prior to full implementation of the business plan.</p> <p>P5. Set clear and measureable indicators of operational performance to allow for realistic analysis of performance.</p>
<p>CU5. Implement marketing activities</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Schedule planned marketing activities within appropriate timeframes</p> <p>P2. Develop measurable performance targets that meet business plan objectives</p> <p>P3. Organize distribution channels and ensure product and service information is accurate and readily available to clients</p> <p>P4. Implement marketing activities within budgetary constraints to meet legal, ethical and enterprise requirements</p>
<p>CU6. Evaluate marketing performance.</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Review the established marketing objectives to ensure they remain viable</p> <p>P2. Assess product, pricing and distribution policies in relation to market changes, marketing objectives and enterprise requirements</p> <p>P3. Identify areas of positive marketing performance and take corrective action to remedy poor marketing performance areas</p>
<p>CU7. Develop Business promotion technique</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Establish marketing objectives based on current and potential product specifications</p> <p>P2. Select appropriate production processes to ensure product specifications are met</p> <p>P3. Select selling strategies to ensure required prices are achieved</p> <p>P4. Select appropriate distribution channel options to ensure</p>

	<p>access to target markets is achieved efficiently and appropriately</p> <p>P5. Establish time-frames for distribution and selling activities</p> <p>P6. Develop a gross margin budget to demonstrate the cost effectiveness of the marketing plan</p> <p>P7. Develop partial gross margin budgets to account for market variability</p>
<p>CU8. Develop Business competition Skills</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Prepare and record detailed plans for promotional activities</p> <p>P2. Outline objectives, level of exposure and available markets</p> <p>P3. Ensure strategies take account of time management and scheduling issues, and resource constraints</p> <p>P4. Create promotional materials that enhance the product and commercial presentation</p> <p>P5. Record and communicate priorities, responsibilities, timelines and budgets for promotional activities.</p>

Knowledge and Understanding

- ❖ Define Entrepreneurship
- ❖ Describe Business opportunities
- ❖ Define Business plan
- ❖ What is Business promotion technique
- ❖ What is Market survey
- ❖ What is Essential financial reports

Critical Evidence(s) Required

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

- ✓ Prepare Business plan
- ✓ Evaluate marketing performance.
- ✓ Develop Business competition Skills

13. Complete List of Tools and Equipment

1. Measuring Tool

- Measuring tape
- Steel tape
- Steel rule
- zigzag rule

- Vernier caliper
- Carpenter Tri square
- miter square
- Framing square
- Combination square
- Spirit level
- marking /mortise gauge
- Sliding bevel
- Scriber
- marking awl
- Nail punch

2. Cutting tools

- hand saw
- Hack saw
- Key hole saw
- Compass saw
- Bow saw
- Coping saw
- Fret saw
- Miter saw
- Back saw
- Veneer saw
- Firmer Chisel set
- Mortis chisel set

3. Fixing & Holding devices

- G-Clamp
- C-Clamp
- Sash Bar Clamp
- Miter Clamp
- Corner/Edge Clamp

4. Machine, Tools and Equipment

- Arc welding machine
- Chisel set
- File set
- Grip pliers
- Hammer set
- Hand electrical drill machine
- Hand electrical grinder
- Pliers set
- Pressure jack
- Puller
- Screw driver tool kit
- Socket set
- Socket set T-Type
- Spanner set
- Adjustable Wrench
- Sash bar clamp

- Corner clamp
- Wheel dresser
- Blind Rivet gun

List of Consumables

Sr. #	Description
1.	Box board sheet
2.	Lubricating oil
3.	Plastic Pipe
4.	PVC Pipe
5.	Paper tape 1 inch.
6.	Wood Log
7.	Polish
8.	Water
9.	Cloths
10.	Bearings
11.	Pulleys
12.	Belts
13.	Grease
14.	Kerosene oil
15.	Sand Paper
16.	Steal Ropes
17.	Cotton Ropes
18.	Brushes
19.	Nuts
20.	Bolts

List of Personal Protective Equipment


Sr. #	Description
1.	First AID Box
2.	Fire Extinguisher Cylinder
3.	Fire Blanket
4.	Fire Bucket
5.	Safety Gloves
6.	Ear Protector
7.	safety goggles
8.	Safety Helmet
9.	Safety mask
10.	Formal Uniform For Work
11.	Safety Shoes
12.	Safety Belt


List of Stationary

Sr. #	Description
1.	Handbooks
2.	Design books
3.	Pencils
4.	Rubber
5.	Sharpener
6.	Paper Cutter
7.	Seizers
8.	Colours
9.	White charts
10.	Brown sheets
11.	White board markers
12.	Permanent markers
13.	File cover and files

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