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Norwegian Embassy
Islamabad

FURNITURE TECHNICIAN

TRAINER GUIDE

National Vocational Certificate Level 3

Version 1 - June, 2019

NAVTTC

Implemented by
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Published by
National Vocational and Technical Training Commission
Government of Pakistan

Headquarter
Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
www.navttc.org

Responsible
Director General Skills Standard and Curricula, National Vocational and Technical Training Commission
National Deputy Head, TVET Sector Support Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Layout & design
SAP Communications

Photo Credits
TVET Sector Support Programme

This document has been produced with the technical assistance of the TVET Sector Support Programme, which is funded by the European Union, the Federal Republic of Germany and the Royal Norwegian Embassy and has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close collaboration with the National Vocational and Technical Training Commission (NAVTTC) as well as provincial Technical Education and Vocational Training Authorities (TEVTAs), Punjab Vocational Training Council (PVTC), Qualification Awarding Bodies (QABs)s and private sector organizations.

Document Version
June, 2019
Islamabad, Pakistan

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Introduction

Competence-based training helps to bridge the gap between what is taught in training and what tasks will be performed on the job. Training trainees to perform actual job functions helps to ensure that future front-line workers have the skills, knowledge and abilities required to perform their jobs properly, safely and effectively. In addition to competence-based training, assessment based on the performance of actual work competencies helps to ensure that:

- trainees are performing their work tasks as safely as possible
- performance gaps are recognized prior to serious incidents
- Training can be implemented to improve competence.

There are significant benefits to competence-based training:

1. **Cost effectiveness**

   Since training activities and assessments in a competence-based approach are goal-oriented, trainers focus on clearly defined areas of skills, knowledge and understanding that their own industry has defined in the competence standards. At the same time, trainees are more motivated to learn when they realize the benefits of improved performance.

2. **Efficiency**

   The transfer gap between the training environment and working on the job is reduced substantially in a competence-based approach. This is because training and assessment are relevant to what needs to be done on the job. As a result, it takes less time for trainees to become competent in the required areas. This, in turn, contributes to improved efficiency where training and assessment are concerned.

3. **Increased productivity**

   When trainees become competent in the competence standards that their own industry has defined, when they know what the performance expectations are and receive recognition for their abilities through successful assessments, they are likely to be more motivated and experience higher job satisfaction. The result is improved productivity for organizations. The communication and constructive feedback between future employers and employees will improve as a result of a competence-based approach, which can also increase productivity.

4. **Reduced risk**

   Using a competence-based approach to training, development, and assessment, employers are able to create project teams of people with complementary skills. A trainee's record of the skills, knowledge and understanding relating to the competence standards they have achieved can be used by a future employer to identify and provide further relevant training and assessment for new skills areas. Competence standards can shape employee development and promotional paths within an organization and give employees the opportunity to learn more competencies beyond their roles. It can also provide organizations with greater ability to scale and flex as needed, thereby reducing the risk they face.

5. **Increased customer satisfaction**

   Employees who have been trained and assessed using a competence-based approach are, by the definition of the relevant competence standards, able to perform the required tasks associated with a job. The knock-on effect is that, in service-related industries, they are able to provide high service levels, thereby increasing customer satisfaction. In production or manufacturing industries, they are able to work closely to industry standards in a more effective and efficient way.

Lesson plans

This manual provides a series of lesson plans that will guide delivery of each module for the *(Furniture Technician)* qualification. It is important for trainers to be flexible and be ready to adapt lesson plans to suit the context of the subject and the needs of their trainees.

Good teachers acknowledge that CBT means each and every trainee in the class learns at a different speed. The good teacher is prepared to throw aside the day's lesson plan and do something different (and unplanned) for the class even if it means 'writing' a lesson plan for each trainee to match their learning pace for that day or week.

Learning by doing is different from learning theory and then applying it. To learn to do something, trainees need someone looking over their shoulder saying 'it's not quite like that, it's like this', 'you do it like this because …', or even 'tell me why you chose to do it like this?'.

In this way, trainees learn that theoretical knowledge is meaningless if it is not seen in the context of what they are doing. In other words, if a trainee doesn't know why they do something, they will not do it competently (skills underpinned by knowledge = competent performer).

This is how a *(Furniture Technician)* acquires a practical grasp of the standards expected. It's not by learning it in theory, but because those standards are acquired through correction by people who show what the standards are, and correct the trainee where they do not meet those standards, and where they repeat it correction until they have internalised those standards.

Demonstration of skill

Demonstration or modeling a skill is a powerful tool, which is used, in vocational training. The instructions for trainers for demonstration are as under:

a) Read the procedure mentioned in the Trainer Guide for the relevant Learning Unit before demonstration.
b) Arrange all tools, equipment and consumable material, which are required for demonstration of a skill.
c) Practice the skill before demonstration to trainees, if possible.
d) Introduce the skill to trainees clearly at the commencement of demonstration.
e) Explain how the skill relates to the skill(s) already acquired and describe the expected results or show the objects to trainees.
f) Carry out demonstration in a way that can be seen by all trainees.
g) Use the same tools and materials that the learner will be using.
h) Go through EACH of the steps involved in performing the skill.
i) Go SLOWLY - describe each step as it is completed.
j) Encourage the learners to move around and watch what you are doing from a number of different angles.

k) Identify critical or complex steps, or steps that involve safety precautions to be followed.
l) Explain theoretical knowledge where applicable and ask questions to trainees to test their understanding.
m) Try to involve the learners: Ask them questions about why they think the process may work that way.
n) Repeat critical steps in demonstration, if required.
o) Summarize the demonstration by asking questions to trainees.

Involvement in the process (actively seeing) is important at this stage. When you work on getting involved, getting people to participate, you make them a part of what is happening. Questions for clarification or explanation are important throughout the demonstration. It is up to the learners to ask questions about things they do not understand, but it is also important for trainers to seek out and elicit questions from learners. A trainer may need to do repeated demonstrations of difficult or complex skills.

Overview of the program

Course: *<Furniture Technician>*	**Total Course Duration:**
Course Overview:	
The purpose of these qualifications is to set high professional standards for furniture industry. • Improve the professional competence of the trainees • Shift from informal and non-formal to formal technical and vocational training • Provide opportunities for recognition of skills attained through non-formal or informal pathways • Improve the quality and effectiveness of training and assessment for furniture sector • Enable the existing workforce to capacitate themselves in new technologies and methods	

Module	**Learning Unit**	**Duration**
Module 1: Develop drawings of furniture products manually **Aim:** The aim of this module to be develop knowledge, skills and understanding to develop drawings of furniture products manually.	**LU1:** Develop component and size chart **LU2:** Prepare 2D Multiview drawing of Furniture **LU3:** Prepare 2D Multiview drawing of Furniture Components **LU4:**	140 hours
Module 2: Prepare wooden components of the furniture **Aim:** The aim of this module to be develop knowledge, skills and understanding of preparing wooden components of the furniture.	**LU1:** Cut wood logs into Planks **LU2:** Prepare templates for furniture components **LU3:** Cut wood planks into furniture components **LU4:** Cut board/ panels into furniture components **LU5:** Plain surfaces of wooden components **LU6:** Finalize the size of wooden components	60 hours

Module 3: Make Furniture Joints **Aim:** The aim of this module to be develop knowledge, skills and understanding of making different types of joints being used for furniture manufacturing.	**LU1:** Perform Cutting **LU2:** Perform Plaining **LU3:** Prepare joints as per design / drawing **LU4:** Assemble joints	200 hours
Module 4: Apply surface aesthetics **Aim:** The aim of this module to be develop advanced knowledge, skills and understanding to apply surface aesthetics on the furniture.	**LU1:** Perform profiling of components **LU2:** Perform turning of components **LU3:** Perform Carving Manually **LU4:** Perform Marquetry/Parquetry Manually	100 hours
Module 5: Assemble Furniture Products **Aim:** The aim of this module to be develop basic knowledge, skills and understanding required to assemble the furniture products.	**LU1:** Pre-Assemble Furniture Products parts **LU2:** Assemble Furniture Products parts **LU3:** **LU4:**	20 hours
Module 6: Perform Finishing Operations on Furniture **Aim:** The aim of this module to be develop advanced knowledge, skills and understanding required to perform finishing operations on furniture.	**LU1:** Prepare the surfaces **LU2:** Perform staining on surfaces **LU3:** Perform sealing **LU4:** Perform top finishing **LU5:** Apply powder coating on metal furniture	120 hours
Module 7: Perform Upholstery **Aim:** The aim of this module to develop advanced knowledge, skills and essential understanding of materials, techniques needed to perform upholstery on furniture.	**LU1:** Apply Tapestry on the furniture **LU2:** Apply Canning on the furniture **LU3:** **LU4:**	100 hours

Module 8: Prepare Metal Furniture Products **Aim:** The aim of this module to be develop advanced knowledge, skills and essential understanding required to prepare metal furniture products	**LU1:** Cut required components from raw material **LU2:** Prepare furniture components as per design **LU3:** Assemble the furniture components using welding **LU4:** Assemble the furniture components using Knockdown method	110 hours
Module 9: Handle Logistics **Aim:** The aim of this module to develop basic knowledge, skills and understanding needed to handle the logistics at warehouse	**LU1:** Pack the furniture **LU2:** Load the furniture for delivery and transportation **LU3:** **LU4:**	20 hours
Module 10: Develop drawings of furniture products using CAD/CAM **Aim:** The aim of this module is to develop advanced knowledge, skills and understanding needed develop drawings of furniture products using CAD/CAM.	**LU1:** Draw 2D Multiview drawing of Furniture Components on CAD **LU2:** Develop 3D model of Furniture Components **LU3:** Convert CAD drawing into CAM Code	140 hours
Module 11: Apply surface aesthetics using CNC Machines **Aim:** The aim of this module to develop advanced knowledge, skills and understanding needed to apply surface aesthetics using CNC machines	**LU1:** Perform Turning of components on CNC Turning Centre **LU2:** Perform Carving on CNC Machining Centre **LU3:** Perform Marquetry/Parquetry on CNC Laser Machine	190 hours

FORMAT FOR LESSON PLAN			
Module: Perform Finishing Operations on Furniture			
Learning Unit> 8			
Learning Outcomes>			
Methods	Key Notes	Media	Time
	Introduction		
	Finishing is the most important step after manufacturing a furniture item. On the whole finishing is the last step to complete the article. Various finishing materials and techniques can be utilized to bring finishes of your choice. In general any finish can be applied due to its wide spectrum.		
	Main Body		
	Importance and need of finishing. Kinds & properties of various finishing systems Techniques of preparing the surface for finishing Importance & usage of bleaching & staining techniques to finish furniture Working with various finishing systems including the (lacquers, paints, oils, wax, French polish) Introduction, technique, hardware & process used for powder coating Introduction to the spraying technique.	Multimedia Slides White board Practice	60
	Conclusion		
	The students acquire knowledge about concept of finishing, its importance and need in industry. The various finishing systems used in the industry to suit the needs of the public. It also includes the techniques used to apply the various finishes on the furniture articles. The lessons are judged practically & have some written assessment.		
	<u>Assessment</u> Narrate the various finishing systems and their importance in industry Write down the technique for preparing the surface Finish the article with lacquer. Apply at least 2 coats. Perform powder coating of the metal furniture object. Narrate the requirement to carry out the process successfully.		
		Total time:	

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Module-1

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Trainer's guidelines

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU1: Prepare the surfaces	This session is about: P1. Clear the glue line from Joints P2. Clean the surface for Dust, Oil and Grease P3. Check surface for non-conformities (Dents, minute holes, blemishes etc.) P4. Apply filler to fill gaps, holes and pores P5. Perform coarse sanding to smoothen the surface Begin this session with an illustrated presentation on the important points about the preparation of surface before polishing Prepare a presentation to the importance, types & application of putty or filler Deliver an illustrated presentation on various kinds of sand papers and their usage Hold practical workshop to prepare the surface of a furniture article before polishing considering all the important points. Ask the learner about each & every step including related discussion.	Classroom (Multimedia presentation) Workshop/Lab	Sand Papers (80, 100, 140, 220, 320) Filler (Putty) Product (Table, chair, rack etc.)

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU2: Perform staining on surfaces	This session is about: P1. Perform staining (Water staining, acid staining, methylated spirit staining, oil staining) as per required colour scheme P2. Perform fine sanding to smoothen the surface Deliver a detailed presentation on the following topics covering all aspects step by step • Introduction to staining • Kinds of staining ➢ Water staining ➢ Spirit staining ➢ Oil staining ➢ Acid staining Hold a practice session to perform each kind of stain on to the wood/board/furniture article surface. Match to the color pattern. Apply successive coat as per requirement. Instruct the learners to adopt the necessary health & safety required while working with various kinds of stains.	Classroom (Multimedia presentation) Workshop/Lab	Stains (Stains, Methylated spirit, Oils, Liquid ammonia) Sand papers

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU3: Perform Sealing	This session is about: P1. Prepare sealer as per sealing requirement P2. Apply sealer on the surface as per finishing requirement P3. Prepare undercoat as per process requirement P4. Apply undercoat on the surface as per finishing requirement Begin this session with an illustrated presentation on the importance of sealing the pores before polishing. • Introduction to sealing • Introduction to sealing materials ➢ Nitro Cellulose sealer ➢ Nitro Cellulose Undercoat (Primer)	Classroom (Multimedia presentation) Workshop/Lab	Product (Furniture Component) Sealer Stains Thinner Undercoat Brush Spray Gun Malmal cloth

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**

	• Introduction to thinner
	• Concept of viscosity
	• Composition of Sealer/Undercoat (Mixing Ratios)
	• Methods of application
	  ➢ By Brush
	  ➢ By cloth pad
	  ➢ By spray gun
	  ➢ Acid staining
	  ➢ Applying multiple coats
	
	Hold a practice session to perform the preparation of sealer solution with correct viscosity. Record the learner activities with various mixing ratios such as 1:1, 1:1.5 & 1:2.
	Hold sepatate practice sessions to apply the sealer/undercoat solution to furniture articles by brush, cloth pad and spray gun.		

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU4: Perform Top Finishing	This session is about: P1. Perform Finishing with different types of Lacquers P2. Perform Antique Finishing P3. Perform Leafing P4. Apply Paints P5. Apply Wax as per product requirement Begin this session with an illustrated presentations on the various topics step by step to complete top finishing • Introduction to lacquers ➢ Kinds of lacquers ➢ Application of lacquer • Introduction to Antique finishing • Introduction to leafing ➢ Kinds of leaf papers ➢ Application of leaf papers • Introduction to Paints ➢ Kinds of paints ➢ Application of paints • Introduction to wax ➢ Kinds of wax ➢ Application of wax	Classroom (Multimedia presentation) Workshop/Lab	Product (Furniture Component) Lacquers Thinner Paints Leaf Papers Wax Spray guns Nozzles Air compressor Spraying booth Safety Spraying Kit

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Deliver a detailed presentation on the following topics covering all aspects step by step • Introduction to Spraying ➢ Spray Gun ➢ Kinds of spray gun ➢ Types of nozzles ➢ Role of air compressor ➢ Regulating air & spray gun ➢ Usage of spraying booth ➢ Spraying Technique Hold a practice session to make learner familiar with spray gun and its application following spraying technique Hold a practical workshop to spray various finishing materials on wood/ board/ furniture articles Hold a practical workshop to apply wax on to the surface of wood. Hold a debate among the learners about the results of various finishing materials while covering the aspects like preparation method, ease of use, application and final result.	Classroom (Multimedia presentation) Workshop/Lab	

Module 1: 072200895 Perform Finishing Operations on Furniture			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU5: Apply powder coating on metal furniture	This session is about: P1. Treat product surface with acid to clean rust and oil P2. Wash the product to remove all traces of acid P3. Apply powder coat on the product evenly P4. Load coated product in the pre-heated baking oven Begin this session with an illustrated presentation on the important points about powder coating, its kinds, properties, temperature requirement and equipment. Prepare a presentation to the powder coating process in detail. The effect of each step and its importance. Deliver an illustrated presentation on performing the powder coating in an oven. Hold a visit to the industrial unit utilizing the powder coating in practical to show learners each & every step at industrial level in addition to academic.	Classroom (Multimedia presentation) Workshop/Lab	Product Powder coating plant Product Hanging racks Spraying gun

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Module 2: 072200896 Perform Upholstery			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU1: Apply Tapestry on the furniture	This session is about: P1. Check all joints for non-conformities P2. Perform marking on the Tapestry material as per drawing P3. Cut material (fabric/Leather/artificial leather/foam, etc.) as per marking P4. Prepare base for Tapestry using required accessories (rubber web, elastic web, zig zag spring, helical spring, etc.) P5. Fix base fabric (jute, rough cloth, markeen etc.) to maintain stretching of base P6. Attach foam/ball fibre layer on the structure as per required thickness P7. Stitch the material (fabric /Leather/artificial leather) for seat and back in required size and profile P8. Fill stitched material with foam/ball fibre as per required thickness and shape P9. Fix stitched material on the structure as per design	Classroom Upholstery Workshop/ Lab	Tapestry cloth sample handbook or charts Upholstery Hand tools Upholstery Machines Upholstery Hardware Techniques Chart Pattern Designs Measuring Tools

Module 2: 072200896 Perform Upholstery			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	P10. Fix Markeen cloth on the bottom of structure Begin this session with an illustrated presentation on types of materials used to complete various upholstery tasks. Help learners understand the difference between leather, artificial leather and sofa clothes. Show them the material samples and explain methods of identifying the material types. Explain the properties of basic materials e.g. sofa cloths, leather etc. Explain various quality parameters (shade, grain, color matching, stretch-ability, hardness, thickness, textures, color schemes etc.) through practical demonstration. Show various defects in general to learners and explain their consequences. Deliver an illustrated presentation on various filling materials and their application (foam, jute markeen cloth, rubber padding etc.) Deliver a detailed presentation on the following topics covering all aspects step by step • Identifying various structures to be upholstered (Stool, Chair, Sofa etc.) • Upholstery Hand Tools		

Module 2: 072200896 Perform Upholstery			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	• Upholstery Machines • Upholstery Needles • Thread Types • Stitching Techniques • Stretching & fixing techniques • Upholstery Hardware Hold practical workshops to complete the each & every step and record the result. Give basic understanding of pattern and types of patterns. Facilitate learners to identify different parts of patterns of various products Let learner's practice pattern tracing, cutting and matching on paper sheets before shifting to leather or sofa cloth. This helps in reducing material wastage during the training. Hold practical sessions on tracing cutting patterns on tapestry and ensure that learners are able to demonstrate their knowledge and skills relating to tracing. Give an illustrated presentation on cutting techniques and methods prevailing in the industry. Make sure to include; • Single or multi-layer cutting • Different Reinforcement Materials (fusing material/ Cotton Tape etc.) and their usage		

Module 2: 072200896 Perform Upholstery			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	in tapestry cutting process • Different types of cutting methods and tools (Direct Knife, Scissor, Electric Cutter, Press, Laser Cutting, etc.) • Quality criteria for cutting of leather Explain nesting/manipulation efficiency in cutting and basic techniques of controlling cutting wastage. Make sure to give basic know-how of matching of tapestry. Hold a practical job (stool, chair, sofa etc.) from material to fixing and completing every aspect including the detailed discussion.		
LU2: Apply Canning on the furniture	This session is about: P1. Arrange canning material (Single Cane, Double Cane, Natural Cane, Plastic Cane) as per canning design P2. Make canning web as per canning design maintaining required tension Begin this session with an illustrated presentation on types of materials used to complete various canning tasks. Help learners understand the difference between natural and artificial cane	Classroom Workshop/Lab	Charts for identifying the furniture canning raw materials Canning Hand Tools Canning Hardware Chart for Knot types

Module 2: 072200896 Perform Upholstery			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	types, material samples and explain methods of identifying the material types. Deliver a detailed lecture on knots and types of knots. Hold a detailed workshop to make the leaners get skilled for various knots. Give basic understanding of various pattern designs and their application for various products. Instruct the learners about the fixing of cane on to the product while maintain the tension on a live product (Stool, Chair) Hold a discussion session involving the learner's about tools, materials, hardware and structure as per design to get clarity in their minds.		

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Module-3

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Module 3: 072200897 Prepare Metal Furniture Products			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU1: Cut required components from raw materials	This session is about: P1. Prepare material and size chart as per product design P2. Clean the material for dust, grease and oil P3. Cut the material as per required size P4. Smoothen the sharp ends with grinder Begin this session with an illustrated presentation about metals, their kinds, properties and usage in furniture making. Prepare a presentation to the forms, gauges, weight and other important properties of metals Deliver an illustrated presentation on various kinds of metal cutting tools, machines and hardware Hold practical workshop to cut various size of pipes/sheets utilizing hand and machine cutting tools. Observe required safety during the practice session including the detailed discussion.	Classroom (Multimedia presentation) Workshop/Lab	Metal Samples Disc cutter Portable grinder Grinding disc (various sizes) Hack saw Sheet cutter Portable nibbler for sheet cutting

Module 3: 072200897 Prepare Metal Furniture Products			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU2: Prepare furniture component as per design	This session is about: P1. Bore holes of required size and depth as per drawing P2. Counter sink holes as per joining requirement P3. Bend the material as per product design Deliver a detailed presentation on the following topics covering all aspects step by step • Introduction to drill press • Introduction to portable electric drill • Introduction to various kinds of chucks • Introduction to various kinds of bits • Introduction to various types of rivets • Introduction to rivet plier Deliver a detailed presentation on metal benders, techniques of bending. Hold a practice session to bore holes on various furniture components as per design. Hold a practical workshop to bend metal sheet to various direction & angles. Apply rivets as per design	Classroom (Multimedia presentation) Workshop/Lab	Drill press Portable Electric drill Bits (various sizes & types) Sheet bending press Pipe bending die Rivet plier Rivets (various sizes & types)

Module 3: 072200897 Prepare Metal Furniture Products			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU3: Assemble the furniture components using welding	This session is about: P1. Prepare welding pattern as per product design P2. Weld components as per pattern P3. Adjust component angles as per design P4. Perform grinding at welded areas to smoothen the surface P5. Perform buffing at welded areas to achieve required surface finish Begin this session with an illustrated presentation on the joining of metal furniture components • Introduction to welding • Introduction to SWG • Kinds of welding ➢ Electric arc welding ➢ Gas welding ➢ Spot welding • Introduction to grinders • Introduction to related hardware	Classroom (Multimedia presentation) Workshop/Lab	Metal Pieces Welding plants (Arc, spot & gas) Portable disc Grinder Grinding disc Welding rods (various types)

Module 3: 072200897 Prepare Metal Furniture Products			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Hold a practice session to perform welding of various pieces through each process of welding. Discuss the difference and related results of each welding type with students. Hold separate practice sessions to grind the welded parts. Each learner be able to install the grinding disc as per job requirement.		
LU4: Assemble the furniture components using knockdown method	This session is about: P1. Prepare joining pattern as per product design P2. Apply knockdown fitting to assemble the components as per product requirement Begin this session with an illustrated presentations on the various topics step by step to inform leaners about knock down metal furniture • Introduction to knock down system • Benefits of knock down system • Usability of knock down metal furniture • Kinds of knock down fittings	Classroom (Multimedia presentation) Workshop/Lab	Product pieces Knock down fittings (Various kinds) Brackets (Metal)

Module 3: 072200897 Prepare Metal Furniture Products			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Deliver a detailed presentation on usability requirements of each knock down system. Hold a a practice session for each knock down system. Develop a product using one knock down system of choice using appropriate technique.		

Frequently Asked Questions

1. What is Competency Based Training (CBT) and how is it different from currently offered trainings in institutes?	Competency-based training (CBT) is an approach to vocational education and training that places emphasis on what a person can do in the workplace as a result of completing a program of training. Compared to conventional programs, the competency based training is not primarily content based; it rather focuses on the competence requirement of the envisaged job role. The whole qualification refers to certain industry standard criterion and is modularized in nature rather than being course oriented.

2. What is the passing criterion for CBT certificate?	You shall be required to be declared “Competent” in the summative assessment to attain the certificate.
3. What are the entry requirements for this course?	The entry requirement for this course is National Vocational Certificate Level-2 in Furniture Technician (Carpenter).
4. How can I progress in my educational career after attaining this certificate?	You shall be eligible to take admission in the National Vocational Certificate Level-4 in Furniture Technician (Computerized Pattern Designer). You shall be able to progress further to a level-5, DAE or equivalent course in relevant trade. In certain case, you may be required to attain an equivalence certificate from The Inter Board Committee of Chairmen (IBCC).
5. If I have the experience and skills mentioned in the competency standards, do I still need to attend the course to attain this certificate?	You can opt to take part in the Recognition of Prior Learning (RPL) program by contacting the relevant training institute and getting assessed by providing the required evidences.
6. What is the entry requirement for Recognition of Prior Learning program (RPL)?	There is no general entry requirement. The institute shall assess you, identify your competence gaps and offer you courses to cover the gaps; after which you can take up the final assessment.
7. Is there any age restriction for entry in this course or Recognition of Prior	There are no age restrictions to enter this course or take up the Recognition of Prior Learning program.

Learning program (RPL)?	
8. What is the duration of this course?	The duration of the course work is 1,100 hrs. (approx. 08 months)
9. What are the class timings?	The classes are normally offered 25 days a month from 08:00am to 01:30pm. These may vary according to the practices of certain institutes.
10. What is equivalence of this certificate with other qualifications?	As per the national vocational qualifications framework, the level-4 certificate is equivalent to Matriculation. The criteria for equivalence and equivalence certificate can be obtained from The Inter Board Committee of Chairmen (IBCC).
11. What is the importance of this certificate in National and International job market?	This certificate is based on the nationally standardized and notified competency standards by National Vocational and Technical Training Commission (NAVTTC). These standards are also recognized worldwide as all the standards are coded using international methodology and are accessible to the employers worldwide through NAVTTC website.
12. Which jobs can I get after attaining this certificate? Are there job for this certificate in public sector as well?	You shall be able to take up jobs in the Furniture products making companies in the functions of fashion designing, pattern making and computerized fashion designing of Furniture articles.
13. What are possible career progressions in industry after attaining this certificate?	You shall be able to progress up to the level of supervisor after attaining sufficient experience, knowledge and skills during the job. Attaining additional relevant qualifications may aid your

	career advancement to even higher levels.
14. Is this certificate recognized by any competent authority in Pakistan?	This certificate is based on the nationally standardized and notified competency standards by National Vocational and Technical Training Commission (NAVTTC). The official certificates shall be awarded by the relevant certificate awarding body.
15. Is on-the-job training mandatory for this certificate? If yes, what is the duration of on-the-job training?	On-the-job training is not a requirement for final / summative assessment of this certificate. However, taking up on-the-job training after or during the course work may add your chances to get a job afterwards.
16. How much salary can I get on job after attaining this certificate?	The minimum wages announced by the Government of Pakistan in 2019 are PKR 17,500. This may vary in subsequent years and different regions of the country. Progressive employers may pay more than the mentioned amount.
17. Are there any alternative certificates which I can take up?	There are some short courses offered by some training institutes on this subject. Some institutes may still be offering conventional certificate courses in the field.
18. What is the teaching language of this course?	The leaching language of this course is Urdu and English.
19. Is it possible to switch to other certificate programs during the course?	There are some short courses offered by some training institutes on this subject. Some institutes may still be offering conventional certificate courses in the field.
20. What is the examination	Competency based assessments are organized by

/ assessment system in this program?	training institutes during the course which serve the purpose of assessing the progress and preparedness of each student. Final / summative assessments are organized by the relevant qualification awarding bodies at the end of the certificate program. You shall be required to be declared "Competent" in the summative assessment to attain the certificate.
21. Does this certificate enable me to work as freelancer?	You can start your small business of making furniture, Upholstery, Canning or other products; or offer services in pattern making and fashion designing. You may need additional skills on entrepreneurship to support your initiative.

Short Question & Answers (Module 1)

What is meant by finishing?	Finishing is the last step after assembling the product. It enhances the beauty of the product with various kinds of polish materials.
What kinds of finishing materials are?	1. Oil Finish 2. Paint Finish 3. Wax Finish 4. French Polish 5. Staining 6. Lacquer Finish 7. Varnish Finish 8. Powder Coating
Which finish is utilized more?	Lacquer finish is utilized more now a days as it is quite easy to use, everlasting in results. The latest polyurethane or acrylic lacquer are gaining more popularity in the category but they are expensive.
Which techniques are used to apply finishes?	1. Cloth pad method 2. Brush method 3. Spray method 4. Electrostatic spraying method
Is there any special safety for finishing?	Yes finishing materials are carcinogenic in nature especially for lungs and brain, so exhaust duct may be employed. Rubber gloves and mask may be used for body safety.

Short Question & Answers (Module 2)

What is meant by Upholstery?	Applying cushion work to a furniture article is considered as upholstery work. It requires some skill to do it to perfection.
What tapestry materials are used?	9. Sofa cloth 10. Leather 11. Leatherite 12. Rexine 13. Velvet
How many types of canes utilized?	Generally two kinds of canes are utilized. 1. Natural cane 2. Plastic cane
How many designs can be used for weaving?	Lot of designs can be made using brain. The weaving technique is common but any style can be adopted to show various designs.
Are these techniques require skill?	yes, these techniques requires the skill to complete it to perfect. Normal skill may favour do it yourself jobs but professional jobs require high skill to make it to perfection.

Short Question & Answers (Module 3)

Which metals are used for furniture?	1. M.S. pipe of various sizes 2. M.S. round pipe of various sizes 3. M.S. sheet of various gauges 4. Aluminum 5. Iron
Which raw material is basically used for metal furniture?	Generally mild steel pipe of various shapes and sizes are utilized the most. For cabinets or almirah's steel sheet is utilized the most.
What are the kinds of welding?	Welding is a technique used to joint the metal parts together. 1. Tig Welding 2. Electric Arc welding 3. Spot Welding 4. Gas Welding
Which finishes can be applied over metal furniture the most?	1. Paint finish 2. Powder Coating
What is meant by SWG	It stands for Standard Wire Guage

Test Yourself (Multiple Choice Questions)

MODULE 1

Question 1 Surface preparation includes

A Removing glue line

B Removing dents, surface checks

C Filling minute holes

D All of the above

Question 2 The most used finishing material now a days is

A Paints

B Varnish

C Lacquer

D None of the above

Question 3 To give color to the wood is called as

A Bleaching

B Staining

C Painting

D None of the above

Question 4 The best method to apply finish is

A Brush method

B Cloth Method

C Spray Method

D None of the above

Question 5 The air less spray method is used to serve

A Less Material waste

B Less bounce back

C Easy overhead spray

D All of the above

MODULE 2

Question 1 Upholstery is meant for

A Cushion Work

B Carpentry Work

C Cane work

D None of the above

Question 2 In upholstery top covering may be

A Sofa cloth

B Leatherite

C Rexine

D All of the above

Question 3 Canning is best assisted by

A Plastic cane

B Natural Cane

C Cloth strips

D None of the above

Question 4 Natural cane is obtained from

A Bamboo

B Trees

C Shrubs

D All of the above

Question 5 Base of the seat/back is covered by

A Rubber Strips

B Tyre Strips

C Plastic Strips

D None of the above

MODULE 3

Question 1 Metal sheet is bended by

A Carcass press

B Sheet bending press

C Hydraulic Press

D None of the above

Question 2 Metal parts are united together with

A Epoxy

B Welding

C Adhesives

D None of the above

Question 3 Metal furniture is prepared by

A Metal Sheets

B Square Pipes

C Round Pipes

D All of the above

Question 4 Gas welding is performed at

A High pressure

B High temperature

C Low temperature

D None of the above

Question 5 Most commonly welding technique is

A Arc Welding

B Mig welding

C Gas Welding

D None of the above

Answers

Q1. D
Q2. C
Q3. B
Q4. C
Q5. D

Module 2.

Q1. A
Q2. D
Q3. B
Q4. A
Q5. A

Module 3.

Q1. B
Q2. B
Q3. D
Q4. B
Q5. A

National Vocational and Technical Training Commission (NAVTTC)

Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
+92 51 9044 322
+92 51 9044 322
info@navttc.org
www.navttc.org