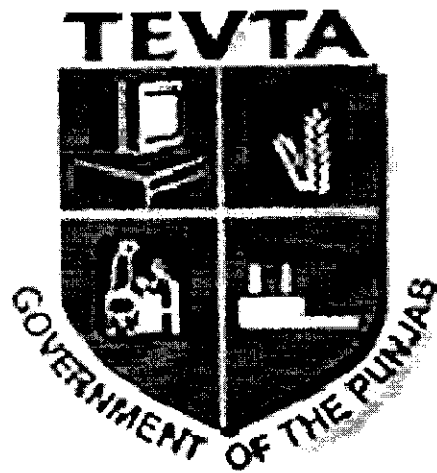


GOVERNMENT OF THE PUNJAB  
TECHNICAL EDUCATION & VOCATIONAL  
TRAINING AUTHORITY



CURRICULUM FOR  
FINISHING & POLISHING OF FURNITURE

(6 – Months Course)

Revised April 2016

APPROVED

Date: 7-4-16

Sig:

CURRICULUM SECTION  
ACADEMICS DEPARTMENT

96-H, GULBERG-II, LAHORE

Ph # 042-99263055-59, 99263064,

[gm.acad@tevta.gop.pk](mailto:gm.acad@tevta.gop.pk), [manager.cur@tevta.gop.pk](mailto:manager.cur@tevta.gop.pk)

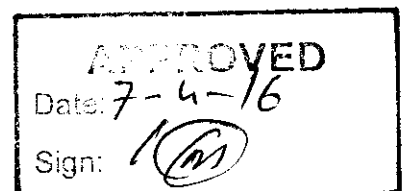
**TRAINING OBJECTIVES**

This curriculum is designed keeping in view the local requirement & job market demand in order to produce the skillful & capable workforce having familiarization with practical skill along with necessarily required theoretical knowledge of spray painting material, tools & equipment and their use for furniture finishing by more focusing on the following: -

- Natural & Man made Material.
- Health & Safety Procedures necessary for spray paints.
- Different Finishing Processes for wood.
- Different Finishing Equipments use for wood finishing.
- Practical work familiarization with essential equipment.

**CURRICULUM SALIENTS**

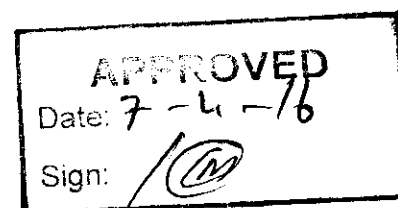
Entry Level	:	Middle
Duration of Course	:	6-Months
Total training hours.	:	800 Contact Hours
Training Methodology	:	Practical 80%
	:	Theory 20%
Medium of instructions	:	Urdu/English



### **SKILL PROFICIENCY DETAILS**

On successful completion of this course, the trainee should be able to:-

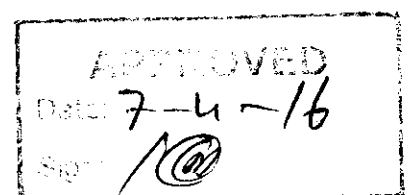
1. Define the of tree classification, kind of wood, classification of hard & soft wood.
2. Describe the man made material & their uses like particleboard, MDF, veneer, plywood, hardboard etc.
3. Explain the of safety procedures in connection with the use of paint / NC material.
4. Explain the equipment used for furniture finishing.
5. Describe the finishes & finishing process for application



**KNOWLEDGE PROFICIENCY DETAILS**

On successful completion of this course, the trainee should be able to:-

1. Follow the general safety rules.
2. Adopt the procedure for surface preparation.
3. Adopt the technique of mixing of finishing material.
4. Adopt the technique of use of hand tools for finishing.
5. Operate & perform work for the finishing products.




**SCHEME OF STUDIES**  
**Finishing & Polishing of Furniture**  
(6-Months Course)

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Basic Workshop Safety Rules	3	8	11
2.	Wood As A Material	16	20	36
3.	Wood Finishing	117	516	633
4.	I.T Fundamentals	8	32	40
5.	Functional English	16	64	80
<b>Total</b>		<b>160</b>	<b>640</b>	<b>800</b>

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**DETAIL OF COURSE CONTENTS**  
**Finishing & Polishing of Furniture**  
 (6-Months Course)


S.No	Detail of Topics	Theory (Hours)	Practical (Hours)
1	<b>Basic Workshop Safety Rules</b>		
	1.1 General Environment Safety	0.5	-
	1.2 Clothing and Protection	0.5	-
	1.3 General Hand Tools & Safety	0.5	-
	1.4 Special Safety with Power Tools	0.5	-
	1.5 Shellac, Oil and Wax Finishes Safety	0.5	5
	1.6 First Aid	0.5	3
2	<b>Wood As A Material</b>		
	2.1 The Vegetative Structure of the Tree	1.5	
	2.2 Characteristic Structure & Growth of Tree.		
	2.2.1 Classification of Tree	0.5	-
	2.2.2 Board Leaf Tree Hard Wood	0.5	-
	2.2.3 Conifer or Evergreen	0.25	-
	2.2.4 Outer Tree Structure	0.5	-
	2.2.5 The Roots	0.25	-
	2.2.6 The Trunk	0.5	-
	2.2.7 Inner Tree Structure	0.5	-
	2.2.8 Detail of Log in Cross Section	0.5	-
	2.2.9 Sapwood and Hard Wood	0.25	-
	2.3 Sawing & Draying Lumber		-
	2.3.1 Methods of Sawing	0.5	20
	2.3.2 Plain Sawing	0.5	-
	2.3.3 Quarter Sawing	0.5	-
	2.4 Seasoning of Lumber		-
	2.4.1 Process of Draying Lumber	0.5	
	2.4.2 Methods of Drying	0.5	-
	2.4.3 Progressive Kiln	0.5	-
	2.4.4 Determination of Moisture Content	0.25	-

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	2.4.5 Air Drying	0.25	-
	2.4.6 Kiln Seasoning or Kiln Drying	0.5	-
	2.4.7 Compartment Kiln	0.5	-
2.5	Shrinkage or Drying Defects		-
	2.5.1 Shrinkage and Swelling of Wood	0.5	
	2.5.2 Twisting and Wrapping of Wood	0.5	-
2.6	Veneer		-
	2.6.1 Methods of Cutting Veneer	0.5	
	2.6.2 Rotary Cutting	0.5	-
	2.6.3 Sawing	0.5	-
	2.6.4 Slicing	0.5	-
	2.6.5 Veneer Drying	0.5	-
2.7	Board Material		-
	2.7.1 Ply Wood	0.5	
	2.7.2 Hard Board	0.5	-
	2.7.3 Particle Board or Chip Board	0.5	-
	2.7.4 Laminated Board	0.5	-
	2.7.5 Block Board	0.5	-
	2.7.6 Insulation Board	0.5	-
2.8	Laminated Plastics (Formica)	0.5	-
3	<b>Wood Finishing</b>		
	3.1 Procedure for preparing the Surface.		
	3.1.1 To trace of glue is removed around the joints.	3	12
	3.1.2 To inspect the surface through for dent.	2.5	12
	3.1.3 Quicker way of taking out dent.	3	12
	3.1.4 To inspect any mark around the cabinet.	3	12
	3.1.5 To inspect any spot of oil & grace.	3	12
	3.1.6 To inspect any hole or other defects.	3	12
	3.1.7 To inspect the surface for staining.	3	12
	3.2 Sand Paper		
	3.2.1 Detail study of Sand Papers Comparison of natural (garnet) grit numbers		

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	And artificial (aluminum oxide and silicon carbide)		
	Sizes of grits:		
	3 = 24 grit	2/0 = 100 grit	
	2.1/2 = 30 grit	3/0 = 120 grit	
	1.1/2 = 40 grit	4/0 = 150 grit	
	1 = 50 grit	5/0 = 180 grit	
	1/2 = 60 grit	6/0 = 220 grit	
	1/0 = 80 grit	8/0 = 280 grit	
	0 = 3/0 = 120 grit		
	0 = 4/0 = 150 grit		
		4	12
3.3	Productions & Manufacture of Shellac.		
	3.3.1 Seed Lac.	4	20
3.4	Finishing Material		
	3.4.1 Brushes		
	3.4.1.1 Soft hair brush edges in 1",2",3",4",5"		
	3.4.1.2 Hard hair brush edges in 1",2",3",4",5"	3	10
	3.4.2 Linseed Oil	3	10
	3.4.3 Turpentine	3	10
	3.4.4 Alcohol	3	10
	3.4.5 Steel Wool	3	10
	3.4.6 Pumice Stone	3	10
	3.4.7 Rubbing oil	3	10
3.5	Stain		
	3.5.1 Water Stain	3	12
	3.5.2 Oil Stain	3	12
	3.5.3 Spirit Stain	3	12
	3.5.4 Acid stains or stain due to the chemical actions.	3	12
	3.5.5 Bleaching	3	12
3.6	Applying oil & Wax Finishes.		
	3.6.1 How to apply wax.	3	12
	3.6.2 How to apply oil finish.	3	12
3.7	Shellac Finish		
	3.7.1 How to apply the shellac finish	4	30


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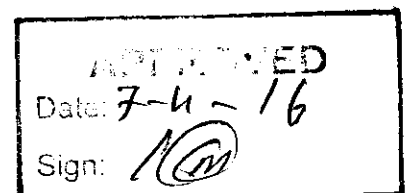


3.8	Varnish		
	3.8.1 How to apply the varnish	3	15
3.9	Nitrocellulose Lacquer		
	3.9.1 How to apply the lacquer with spray gun	3	25
	3.9.2 How to apply the lacquer with soft cloth pad	3	25
3.10	Polyester		
	3.10.1 How to apply the Polyester	3	15
3.11	D.D Varnish		
	3.11.1 How to apply the D.D Varnish	3	15
3.12	Paints		
	3.12.1 How to apply the paint with spray gun	2.5	25
	3.12.2 How to apply the paint with brushes	3	20
3.13	Spray Gun		
	3.13.1 Using a suction feed spray gun	4	25
	3.13.2 Spray Hood	3	
	3.13.3 General faults in spray gun their repair and maintenance	3	10
	3.13.4 Correct adjustment and distance for best results on surfaces	1	7
	3.13.5 Compressor	2	3
	3.13.5.1 For spray purposes		
	3.13.5.2 General Study of air compressor and their types		
	3.13.5.3 Study of accessories required for safe storage of air intend		
3.14	Hand Tools for finishing		
	3.14.1 Rectangular Scraper	3	10
	3.14.2 Curved Scraper	3	10
	3.14.3 How to sharp the Scraper	3	8
<b>Total</b>		<b>136</b>	<b>544</b>

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**LIST OF PRACTICALS**

1. Seasoning of Lumber
  - 1.1 Air Drying
  - 1.2 Kiln Seasoning
2. Sawing of Wood
  - 2.1 Plain Sawing
  - 2.2 Quarter Sawing
  - 2.3 Rotary Cutting
3. Hand Sanding and Machine Sanding
4. Plane the surface with seraper
5. Filling putty with seraper
6. Practice of spray painting with spray gun and brush
7. Use of Stain
  - 7.1 Water Stain
  - 7.2 Oil Stain
  - 7.3 Sprit stain
  - 7.4 Acid Stain
  - 7.5 Bleaching
8. Oil and Wax finishing practice, Shellac finish, Varnish, polyester and nitrocellulose lacquer




**SCHEME OF STUDIES****I.T. Fundamentals**

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Introduction to Computers	2	6	8
2.	Typing - Microsoft Word	4	14	18
3.	Internet & Electronic Mail	2	12	14
<b>Total</b>		<b>8</b>	<b>32</b>	<b>40</b>

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**DETAIL OF COURSE CONTENTS**  
**I.T Fundamentals**

S. No	Detail of Topics	Theory Hours	Practical Hours
<b>1</b>	<b>Introduction to Computers</b>	<b>2</b>	<b>6</b>
	1.1 What is a computer- Definition, functions and general features?		
	1.2 What is Hardware –		
	1.2.1 Computer parts and units		
	1.2.1.1 Input Unit - Keyboard, Mouse etc.		
	1.2.1.2 Central Processing Unit		
	1.2.1.3 Output Unit		
	1.3 What is Software –		
	1.3.1 Electronic Parts of a Pc it is		
	1.3.1.1 Software and Its types		
	1.3.1.2 System Software, Application software and its functions		
	1.4 Working with windows Operating System		
	1.4.1 How does windows desktops work?		
	1.4.2 Setting desktop, background and wall papers etc.		
	1.4.3 Viewing directories – List of files and folders different styles.		
	1.5 What are the Icons, Shortcuts and other graphic,		
	1.5.1 How to see computer contents on different drives etc.		
<b>2</b>	<b>Typing and Word processing (MS Word)</b>	<b>4</b>	<b>14</b>
	2.1 Proper way of typing correct and speedy - getting familiar with the keys		
	2.2 Where to type in computer? How to save a file? How to get it back? Where to find your saved work?		
	2.3 Formatting in MS Word Bold, Italic, page setup, setting shades and colors.		
	2.4 Working with saved work, opening and moving files.		

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	2.5 How to get it printed?		
3	<b>Emailing and Internet Surfing</b>	2	12
	3.1 How to go to Internet, what is required for an internet connection etc.		
	3.2 How to use email? How to search on web? Etc		
	3.3 How to make new email account, login and logout an email account etc.?		
	3.4 Downloading and uploading attachments etc.		
	<b>Total</b>	<b>8</b>	<b>32</b>

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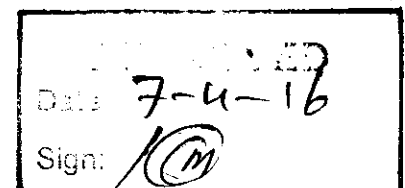
**LIST OF PRACTICALS**  
**I.T Fundamentals**

S. No.	Name of Practical
1.	Turn On/Off and setting of power supply
2.	Accessing The Desktop
3.	Using of Icons and Shortcuts
4.	Setting / customizing the desktop
5.	Viewing the contents of computer – Directory
6.	Setting the view of a folder
7.	Copying, Deleting and Moving Files in a folder
8.	Working with different Applications
9.	Opening MS Word for typing
10.	First lesson of Typing A S D F
11.	Second Lesson of typing J K L ;
12.	Third Lesson U I O P
13.	Fourth Lesson R E W Q
14.	Fifth Lesson N M , .
15.	Sixth Lesson V C X Z
16.	Seventh Lesson All letter using R index Finger
17.	Eighth Lesson All letter using L index Finger
18.	Formatting in MS Word Bold, Italic etc.
19.	Page Setting/ Page Layout
20.	Using Internet
21.	Opening Email, making new account
22.	Sending Receiving Emails
23.	Downloading and uploading attachments etc.

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**SCHEME OF STUDIES**  
**Functional English**

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Use of past indefinite tense	2	6	8
2.	Use of 'was' 'were' ' questions and negatives	3	6	8
3.	Explaining a situations/ analysis	2	6	8
4.	Communication in writing	2	6	8
5.	Comprehension	1	6	7
6.	Application/ C.V.	1	6	7
7.	Dialogues	1	9	10
8.	Understand vocabulary	1	3	4
9.	Writing complaints/ answers to complaints	1	9	10
10.	Interviews	2	7	10
<b>Total</b>		<b>16</b>	<b>64</b>	<b>80</b>



**DETAIL OF COURSE CONTENTS**  
**Functional English**


S. No	Detail of Topics	Theory Hours	Practical Hours
1	<b>Use of past indefinite tense</b> 1.1 Describing past events	2	6
2	<b>Use of 'was' 'were' ' questions and negatives</b>	2	6
3	<b>Explaining a situations/ analysis</b> 3.1 Making a plan 3.2 Visiting factory area 3.3 Giving justifications	2	6
4	<b>Communication in writing</b> 4.1 Asking for list of stationery items 4.2 Submitting report of performance of team of technicians 4.3 Submitting joining report	2	6
5	<b>Comprehension: practice sets</b>	2	6
6	<b>Job application/C.V.</b>	1	6
7	<b>Dialogues</b>	1	9
8	<b>Understand vocabulary</b>	1	3
9	<b>Writing complaints/ answers to complaints</b>	1	9
10	<b>Interviews</b>	2	7
<b>Total</b>		<b>16</b>	<b>64</b>

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**LIST OF PRACTICALS**  
**Functional English**

S. No.	Practical
1.	Group discussion
2.	Interviews
3.	Role play

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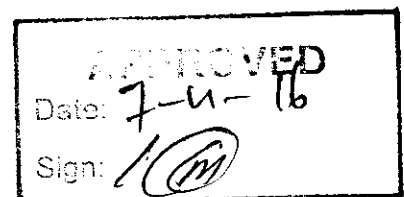
**LIST OF LABS**

**Finishing & Polishing of Furniture**

- Wood working shop
- Polishing Lab
- Seasoning Lab
- Spray painting Lab

**I.T Fundamentals**

- Computer Lab

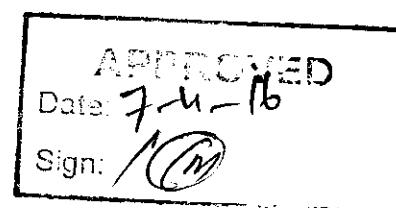


**LIST OF MACHINERY / EQUIPMENT / TOOLS**

(For a class of 25 students)


<b>Name of Trade</b>	<b>Finishing &amp; Polishing of Furniture</b>
<b>Duration of Course</b>	<b>6-Months</b>

<b>S. No.</b>	<b>Name of Items</b>	<b>Quantity</b>
1	Compressor 50 Liter complete with mat & switch	2 Nos.
2	Spray Gun For Polishing	5 Nos.
3	Spray Gun For Spray painting	5 Nos.
4	Exhaust unit Local Made	1 Nos.
5	Hand sanding Machine Portable Electric	4 Nos.
6	Hand drill machine For mixing of Paint	1 Nos.
7	Air regulator filler (air Control)	4 Nos.
8	Scraper for filling putty	2 Set
9	Chisels 1"	5 Nos.
10	Tools cabinet (steel cabinet) 8' x 4' x 3' high	2 Nos.
11	G.I.Pipe for Air distribution Complete fitting for Compressor	50 Rft
12	Mask	25 Nos.
13	Goggles	25 Pairs
14	Gloves (Rubber) For mixing of color	8 Set
15	Bucket Plastic	5 Nos.
16	Fire Extinguisher Soda Acid	2 Nos.
17	Fire Extinguisher Electric	2 Nos.
18	Sand pots For sand	8 Nos.
19	Sand pad	4 Nos.
20	Stand for sand pot	2 Nos.
21	Hanged lights (Spot Light)	4 Nos.
22	Exhaust Fans	4.Nos



**COMPUTER LAB**

S. No.	Tools / Equipment	Quantity
1.	Desktop computer (Specifications as per notification issued by MIS Section, TEVTA)	26 (1 for each student & 1 for the teacher)
2.	Printer (Laser)	01
3.	Scanner	01
4.	Internet Connection (At least 1 MB speed)	01
5.	UPS 10 KVA	01
6.	Air Conditioner 1 ½ Ton	02
7.	Multimedia Projector	01

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**CONSUMABLE MATERIALS****Finishing & Polishing of Furniture**

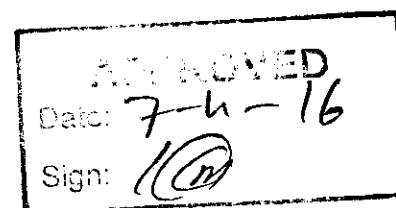
S. No.	Item	Quantity
1.	Glue	As per requirement
2.	Sand Paper	
3.	Paint Brushes	
4.	Linseed Oil	
5.	Turpentine Oil	
6.	Alcohol used for Polishing	
7.	Steel Wool	
8.	Pumice Stone	
9.	Rubbing Oil	
10.	Sprit	
11.	Colors for Polishing	
12.	Shellac	
13.	Plaster of Paris / Chalk Powder	
14.	Paints	
15.	Lacquer	
16.	Cloth Pad / Cloth (Malmal)	
17.	Varnish	

**Functional English**

S. No.	Item	Quantity
1.	Stationary	As per requirement
2.	Board Markers	As per requirement

**I.T Fundamentals**

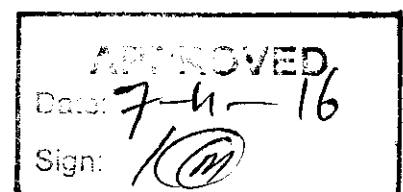
S. No.	Item	Quantity
1.	Printing Paper	As per requirement
2.	Printer Toner	As per requirement



**EMPLOYABILITY OF PASS OUTS**

The pass outs of this course may find job / employment opportunities in the following sectors / areas: -

1. Medium Size Furniture manufacturing Industry.
2. Small Size Furniture manufacturing Industry.
3. Furniture Shops / Workshop
4. Car painting workshop
5. Own finishing & polishing shop / self employment



## REFERENCE BOOKS

### Finishing & Polishing of Furniture

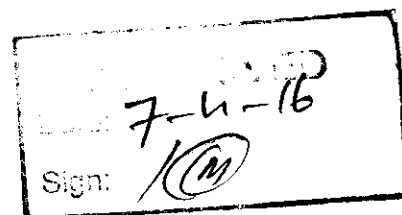
1. Wood Technology By Pak-German Technical Training Institute Centre

### Functional English

1. High School English Grammar By Wren & Martin
2. Oxford English Grammar

### I.T Fundamentals

1. Introduction to Computer by Peter Norton
2. 2007 Microsoft® Office System Step by Step by Joyce Cox, Steve Lambert and Curtis Frye
3. Internet and E-mail with Windows 7 by Studio Visual Steps



**MINIMUM QUALIFICATION OF INSTRUCTOR**

**Finishing & Polishing of Furniture**

- 2-Year certificate in wood technology with 4-Year experience

OR

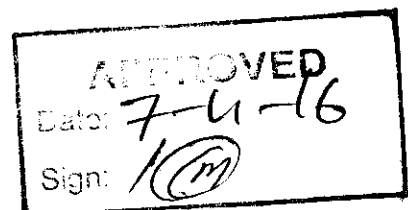
- Diploma in Wood Technology with 2-Year experience

**Functional English**

- M.A (English)

**I.T Fundamentals**

- DAE CIT/ BCS from HEC recognized university






## LIST OF TRADE RELATED JARGON GENERAL VOCABULARY WORDS

Words	Meanings	Words	Meanings
Accessories	معاون اشیاء	Knowledge	علم
Adopt	اپنانا	Lacquer	نہ چڑھانا
Artificial	مصنوعی	Moisture	نمی
Basic	بنیادی	Opportunities	مواقع
Bleaching	ہلکا کرنا	Outer	بیرونی
Board	بورڈ	Own	اپنانا
Cabinet	الماری	Polyester	سونی کپڑا
Candidate	امیدوار	Preparation	تیاری
Capable	قابل	Process	طریقہ کار
Comparison	مقابلہ	Products	پیداوار
Completion	مکمل	Proficiency	مہارت
Concerned	متعلقہ	Purposes	مقاصد
Curriculum	نصاب	Requirement	ضرورت
Defect	نقص	Result	نتیجہ
Dent	گڑھا	Sawing	کٹانی
Describe	بیان کرنا	Scheme	ترتیب
Distribution	تقسیم	Scraper	کھرچنا
Duration	دورانیہ	Seasoning	خشک کرنا
Environment	ماحول	Shellac	پالش
Essential	ضرورت	Shrinkage	سکڑاؤ
Experience	تجربہ	Stain	دھبہ
Familiarization	واقفیت	Standing	مقام
Fitting	جوڑنا	Structure	ساخت
Hanged Lights	لٹکی ہوئی روشنی	Study	مطالعہ
Inner	اندرونی	Successful	کامیاب
Inspect	جانچنا	Termination	ختم کرنا
Intend	ارادہ	Twisting	مروڑنا

### SPECIFIC VOCABULARY WORDS

Words	Meanings	Words	Meanings
Conifer	پلاٹ / درخت	Roots	جڑیں
Determination	ارادہ	Rotary Cutting	گولائی میں کاتنا
Drying Lumber	خشک لکڑی	Sand Paper	ریگمار
Exhaust Fan	ہوا خارج کرنے والا پنکھا	Seed Lac	لاخ دانہ
Finishing Product	فائنل پیداوار	Self-Employment	ذاتی کام
First Aid	ابتدائی طبی امداد	Shellac Oil	پالش
Grit Numbers	ایک انچ مربع میں سوراخوں کی تعداد	Swelling of Wood	لکڑی کا پھول جانا
Log	خشک درخت کا تنہا	Trunk	تنہا
Power Tools	بجلی سے چلنے والے اوزار	Vegetative	ہودوں سے متعلق
Progressive Kiln	خشک کرنے والا تنور	Wrapping of Wood	لکڑی کو لپیٹنا

APPROVED  
Date: 7-4-16  
Sign: 

**Curriculum Revision Committee**

1. **Mr. Muhammad Younas Jamal,**  
Sr. Instructor,  
GCT, Sahiwal

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