

**Syllabus for the trade**

**of**

# **DOMESTIC PAINTER**

**( SEMESTER PATTERN )**

**UNDER**

**CRAFTSMEN TRAINING SCHEME**

**Designed in: 2013**

**By**

**Government of India**

**Central Staff Training and Research Institute**

**Directorate General of Employment & Training**

**Ministry of Labour & Employment**

**EN -81, Sector-V, Salt Lake City,**

**Kolkata-700091**

List of the Members of Trade Committee Meeting for the trade of  
**“DOMESTIC PAINTER”** held on 14<sup>th</sup> & 15<sup>th</sup> December 2010 at A.T.I , Mumbai.

<b>Sl. No.</b>	<b>Name and Designation S/Shri</b>	<b>Organization</b>	<b>Remarks</b>
1.	R.K. Singh, AGM	TATA Motors Ltd, Chikali, Pune	Chairman
2.	R.K. Pathak, JDT/HOD	ATI, Mumbai	Member
3.	Anil Kumar, JDT/HOD	CSTARI , Kolkatta	Member
4.	D.K. Pawagi, JDT/HOD	RDAT, Mumbai	Member
5.	Shephali Halbe, Sr. Manager	SAI Service, Mumbai	Member
6.	Shailesh Bharsai, Sr. GM	Sai Service, Mumbai	Member
7.	R.K. Yadav, QA Mngr.(Paint)	M&M, Mumbai	Member
8.	S.B. Sawant, Manager Paintshop	MVML, Chakan	Member
9.	Mrs. R.D. Diwan, Lecturer	VPM Polytechnic, Thane	Member
10.	S.D. Paranjpe, Consultant	Asian Paints, Mumbai	Member
11.	S.M. Sadamate, Asstt.App. Advisor	BTRI, Mulund	Member
12.	P.S. Wagh, Principal	ITI, Mulund	Member
13.	N.V. Atale, Manager field service	Mercedez-Benz India, Pune	Member
14.	R.S. Shinde, Manager Paint shop	Badve Engg. Ltd., Aurangabad	Member
15.	M.M. More, Principal	ITI, Manikdor, Pune	Member
16.	D.B. Dangat, Manager Powder coating	Godrej & Boyce, Mumbai	Member
17.	S.S. Majumdar, Ex-Principal,	VPM Polytechnique Thane	Member
18.	Dr. Anagha S. Sabnis, Asstt. Prof.	Inst. Of Chemical Tech, Mumbai.	Member
19.	R.B. Patki, Instructor	ITI, Parbhani	Member
20.	S.B. Bagwe, Sr. Mngr.	Mahindra Vehicle Mfg.Ltd., Nighoje, Pune	Member
21.	R.B. Pardhe, Instructor	ITI, Manikdor, Pune	Member
22.	S.S. Panchal, Instructor	ITI, Ambarnath	Member
23.	Manoj Somani, Manager Technical	Kansai Nerolac Paint, Mumbai.	Member
24.	Subodh Mukherjee, Officer-Technical	Kansai Nerolac Paint, Mumbai.	Member
25.	R.S. Ghume, Principal	ITI, Aundh, Pune	Member
26.	J.D. Kurkute, Asstt. Mngr. Training	TATA Motors Ltd., Pune	Member
27.	Hemant Iswalkar, Exe. Tech.	Asian Paints Ltd., Mumbai	Member
28.	S.R. Thate, Instructor	ITI, Aundh, Pune	Member
29.	C.H. Ravi, DDT	ATI, Mumbai	Member
30.	S.G. Raigonde, DDT	ATI, Mumbai	Member
31.	P.K. Roy, DDT	ATI, Mumbai	Member
32.	ARH Shaikh, TO	ATI, Mumbai	Member
33.	R.S. Wagh, VI	ATI, Mumbai	Member
34.	L.K.Mukherjee, Deputy Director	CSTARI, Kolkata	Member

**List of members attended the Workshop to finalize the syllabi of existing CTS into Semester Pattern held from 6<sup>th</sup> to 10<sup>th</sup> May'2013 at CSTARI, Kolkata.**

<b>Sl. No.</b>	<b>Name &amp; Designation</b>	<b>Organisation</b>	<b>Remarks</b>
1.	R.N. Bandyopadhyaya, Director	CSTARI, Kolkata-91	Chairman
2.	K. L. Kuli, Joint Director of Training	CSTARI, Kolkata-91	Member
3.	K. Srinivasa Rao, Joint Director of Training	CSTARI, Kolkata-91	Member
4.	L.K. Mukherjee, Deputy Director of Training	CSTARI, Kolkata-91	Member
5.	Ashoke Rarhi, Deputy Director of Training	ATI-EPI, Dehradun	Member
6.	N. Nath, Assistant Director of Training	CSTARI, Kolkata-91	Member
7.	S. Srinivasu, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
8.	Sharanappa, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
9.	Ramakrishne Gowda, Assistant Director of Training	FTI, Bangalore	Member
10.	Goutam Das Modak, Assistant Director of Trg./Principal	RVTI, Kolkata-91	Member
11.	Venketesh. Ch. , Principal	Govt. ITI, Dollygunj, Andaman & Nicobar Island	Member
12.	A.K. Ghate, Training Officer	ATI, Mumbai	Member
13.	V.B. Zumbre, Training Officer	ATI, Mumbai	Member
14.	P.M. Radhakrishna pillai, Training Officer	CTI, Chennai-32	Member
15.	A.Jayaraman, Training officer	CTI Chennai-32,	Member
16.	S. Bandyopadhyay, Training Officer	ATI, Kanpur	Member
17.	Suriya Kumari .K , Training Officer	RVTI, Kolkata-91	Member
18.	R.K. Bhattacharyya, Training Officer	RVTI, Trivandrum	Member
19.	Vijay Kumar, Training Officer	ATI, Ludhiana	Member
20.	Anil Kumar, Training Officer	ATI, Ludhiana	Member
21.	Sunil M.K. Training Officer	ATI, Kolkata	Member
22.	Devender, Training Officer	ATI, Kolkata	Member
23.	R. N. Manna, Training Officer	CSTARI, Kolkata-91	Member
24.	Mrs. S. Das, Training Officer	CSTARI, Kolkata-91	Member
25.	Jyoti Balwani, Training Officer	RVTI, Kolkata-91	Member
26.	Pragna H. Ravat, Training Officer	RVTI, Kolkata-91	Member
27.	Sarbojit Neogi, Vocational Instructor	RVTI, Kolkata-91	Member
28.	Nilotpal Saha, Vocational Instructor	I.T.I., Berhampore, Murshidabad, (W.B.)	Member
29.	Vijay Kumar, Data Entry Operator	RVTI, Kolkata-91	Member

## GENERAL INFORMATION

1. Name of the Trade : **DOMESTIC PAINTER**
2. NCO Code No. :
3. Duration : 1 year (Two Semesters)
4. Power Norms : 2.5 Kw
5. Space Norms : 4.00 Sq Meter / Trainee
6. Entry qualification : Passed 10th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
7. Unit Size (No. of trainees) : 20
8. Instructor's/ Trainer's Qualification : a) Tenth Class Passed + NTC + NAC in paint technology./ surface technology

:b) Preference will be given to a candidate  
With Craft Instructor Certificate

Note : At Least One Instructor must have Degree/Diploma in Paint Technology / surface technology

**Syllabus for the Trade of**  
**“DOMESTIC PAINTER” under C .T.S.**  
**(Semester Code No. DOP-01)**

**SEMESTER – I**

<b>Week No.</b>	<b>Trade Practical</b>	<b>Trade Theory</b>	<b>Engineering Drawing</b>	<b>Workshop Calculation &amp; Science</b>
1 to 2	<p>Introduction to training. Industrial discipline and working environment. Familiarization with shop layout, Introduction to safety - including fire equipments and their uses. Familiarize with Carpentry and Fitter’s hand tools.</p> <p>Physical introduction to measuring of handling instruments such as Steel rule of different ranges.</p> <p>Filing a flat surface of mild steel and cast iron. Check for flatness, straightness and squareness. Mark out according to simple blue print.</p>	<p>Importance of safety and general precaution observed in the institute. Occupational safety hazard related to the trade. Introduction to 5-S and TPM system. Preliminary information about Kaizen. Environmental factors and pollution. Personal safety and health hazards. Introduction to metals and non metals and their properties. Introduction to different tools and equipment used for fitting jobs.</p>	<p>Freehand sketching of straight line, rectangles, squares, circles, polygons etc</p>	<p>Applied workshop problem involving multiplication &amp; division common fractions, addition, subtraction, multiplication and division.</p>
3-4	<p><b>Allied Trade Training</b>  Hacksawing –marking, sawing and chiseling the edges straight and square to the surface</p> <p>Filing flat and square surfaces.  Marking and punching of stepped and angular components and finishing.  Measurement of flat rectangular objects, cylindrical objects, hollow components.  Drilling practice and maintenance</p>	<p>Marking and punching tools and their uses. Hacksaw and their application  Chisel-types and their uses.  Units of measurements – Physical quantities.  Broad classification of files and its application.  Bench vice and its working  Hand Drilling machine and its operation  Standard size of threads, - types, care</p>	<p>Free hand writing of letters and numbers</p>	<p>Common properties and uses of cast iron, wrought iron, plain carbon steel, high speed steel and alloy steel.</p>
5-6	<p>Marking out for carpentry work. Use of carpenter’s basic hand tools for simple operation viz. sawing, planing, drilling etc. Sharpening of tools.</p>	<p>Types of woods, their description and use. common defects in timber and their effects. Introduction to tools used in carpentry work.</p>	<p>Free hand sketching of nuts and bolts with dimensions from sample.</p>	<p>Introduction to metals and non metals and their properties.</p>

		Safety precaution, description, uses and care of hand tools. Grinding of tools and precaution to be taken.		
7-8	Making simple carpentry joints, used in doors, windows, timber floors, panels, wooden partition, etc. Use of jointing devices nails, screws, nuts, bolts and dowels joints by wooden fittings with glue. Prepare the surface of wood by varnishing, polishing and touch wood. Finishing surface of wood.	Common joints their description and use. Use of nails, screw, hinges, dowels, etc. Glue's specification, preparation of compounding and their application. Use of planer different types and their functions.	Introduction of simple orthographic projection use of different types of lines and symbols for drawings.	Ratio and proportion. Simple algebraic symbols, addition, subtraction, multiplication and division of expressions involving algebraic symbols.
9-10	Importance of skills involved. Handling of tool and equipments used in sheet metal work. Familiarization with machinery and equipments and their layout in the section. Use of protective safety devices on shop floor. Practice in scribing of straight line. Bisection of straight line with marking tools practice in marking simple geometrical shapes. Practice in cutting sheet metal to different shapes using various types of snips. Folding/bending sheet metal to 90° using wooden mallet.	Introduction to trade. Safety precautions to be observed in the workshop. Importance of sheet metal work and welding in industry. Sheet metal- Classification and their uses. Measuring and Marking tools- Try square, dividers, trammels, marking block, Scriber, Steel rules, Calipers, SWG, etc. Types of Snips, shears and their uses. Sheet metal work Tools-Mallet, Nylon Hammers, Bench vice, C Clamps, Pliers.	Use of different types of lines and symbols for drawings. Simple isometric drawings isometric views of simple objects such as square, rectangles, cubes etc.	Standard algebraic formula. Simple equations and simultaneous equations with two unknown quantities.
11-13	Jointing of simple sheet metals of different gauges by simple self secured joints. Joining sheet metal by soft soldering and brazing. Practice in making articles such as cone, cylinders etc.	Different types and uses of joints employed in sheet metal work. Brief description of brazing and soldering.	Use of different types of scales in inches and mm. Freehand isometric sketching of simple objects with dimensions.	Heat and temperature. Name and use of temperature measuring instruments normally used in workshops.

	<p>Flanging sheet metal to 90° To make 90° L piece of equal diameter and join them at right angle Making holes in sheet metal using power operated hand drilling machine Riveting practice using various types of rivet heads. Making Riveted joints Practice on pipe bending. Practice on removing dents of spherical and hemi-spherical articles</p>	<p>Cutting methods- straight cutting-circle cutting- Louver cutting, Nibbling, slot cutting, Notching Sheet metal works - Folding, Bending &amp; Flanging Brief description and use of hand punching machine Description of power operated and drilling machine, drill bits, etc. Method of laying out pattern Bending of pipes Introduction to tube and pipe.</p>		<p>Thermometric scale and conversion of Centigrade and Fahrenheit scales.</p>
14-15	<p>Introduction of welding workshop and welding methods. Welding methods 1. Gas welding, brazing, soldering. 2. Resistance welding- (a) seam welding (b) spot welding and (c) butt welding 3. MIG welding –(CO<sub>2</sub> welding) <u>Material:</u> Thin material- M.S., Galvanised Steel and S.S. Welding defects its causes and remedies.</p>	<p>Introduction of welding process. Gas cylinders, pressure regulator, hose pipe, welding torch and safety precautions.  Introduction to resistance welding – equipments and accessories and types. Advantages, disadvantages and application.  Introduction to MIG welding – equipments and accessories and types of inert gases. Advantages, disadvantages and application. Types of defects- internal, external.</p>	<p>Free hand sketching of plan and elevation of simple objects like hexagonal bar, square bar, circular bar, tapered bar, hollow bar etc</p>	<p>Determination of area and volume of simple solid bodies.</p>
16-18	<p><u>Basic computer &amp; graphic skills</u> Introduction to Computing • Introduction to Computers • Classification of computers based on size, purpose and operation • Input and output devices</p>	<p>Familiarization with computer and its accessories. Customization with desktop.</p>	<p>Free hand sketching of simple objects related to the trade and preparation of simple working drawings from the sketches. Free hand</p>	<p>Trigonometry; Trigonometric functions and tables. Trigonometric identities.  Practice in calculations involving area and</p>

<ul style="list-style-type: none"> <li>• Block diagram of CPU</li> <li>• Operating system software</li> <li>• Utility Software</li> </ul> <p>Safety and occupational health:</p> <ul style="list-style-type: none"> <li>➤ Cramped room and ill-light working environment damage the eye sight and develop stress symptoms.</li> <li>➤ Proper sitting posture.</li> <li>➤ Proper lifting of posture of heavy monitor, computer, printer and other office machineries may cause back pain.</li> <li>➤ When direct physical telephone line is used for internet connection make sure it is being detached whenever there is thundering.</li> </ul> <p>Environment:</p> <ul style="list-style-type: none"> <li>➤ Pollution of environment due to e-waste like junk key board, components of computer and other office machineries</li> <li>➤ Waste recovery facility through inter industry exchange.</li> </ul> <p>Word Processing Introduction to Word Processing : Editing a Document Move and Copy Text and Help System</p> <ul style="list-style-type: none"> <li>• Formatting Text and Paragraph</li> <li>• Finding and Replacing Text and Spell Checking</li> <li>• Using Tabs</li> <li>• Enhancing Document Columns, Tables and Other Features</li> <li>Using Graphics, Templates and Wizards</li> <li>Using Mail Merge</li> <li>Miscellaneous features of Word</li> </ul> <p>Spread Sheet</p> <ul style="list-style-type: none"> <li>• Introduction to Spreadsheet</li> <li>• Creating Worksheets &amp;</li> </ul>	<p>Tools to be Used : MS Office <u>MS Office</u> Preparation of a document using different toolbar. Creating objects using drawing toolbar with shading, filling colour, grouping and placed in order. Creating artistic page border.</p> <p><u>MS Excel</u> Preparation of different charts using same data and with multiple data.</p> <p>Formatting data series, filling effects in charts. Changing orientation &amp; style of data labels and values of chart.</p> <p><u>MS Power Point</u> Preparation of a presentation containing own profile</p> <p>Tools to be Used : Adobe Illustrator</p> <p>Drawing 1 Fundamental techniques of drawing in pencil, charcoal, and ink. Emphasis is on realistic representation and visual observation.</p> <p>Drawing 2 Advanced concepts of drawing. Emphasis is on</p>	<p>sketching of different forms of threads.</p> <p>Drawing simple diagram using signs and symbols using colour representation</p> <p>Free hand sketching of helical bevel and gear</p>	<p>volume of wood and workout total cost on the basis on given rates.</p>
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	<p>feeding data Using functions</p> <ul style="list-style-type: none"> <li>• Editing Cells and Using commands and functions</li> <li>• Opening, Saving and Printing a Worksheet</li> <li>• Working with Charts</li> </ul> <p>Presentation</p> <ul style="list-style-type: none"> <li>• Creating Presentations using AutoContent Wizard, Template &amp; Blank Presentation</li> <li>• Working with Master's Slide, Title handout and Notes</li> <li>• Viewing a Presentation</li> </ul> <p>Coordinate Systems</p> <ul style="list-style-type: none"> <li>• 2-D coordinated system</li> <li>• 3-D coordinated system</li> </ul> <p>Concept of</p> <ul style="list-style-type: none"> <li>• Polygon and Mesh</li> <li>• Perspective Projection</li> </ul> <p>Concept of Multimedia Methodology &amp; Process of Multimedia Project Management</p> <p><u>Graphics Editing</u> Traditional Design Traditional and digital applications of color, concept and composition.</p> <p>Drawing 1 Drawing 2 Color Theory Principles and techniques for the perception and effective use of color in all media. Includes work with values, neutrals, basic color schemes.</p>	<p>design and composition and experimental techniques in different media.</p> <p>Color Theory Painting Still life, landscape and figurative studies.</p> <p>Illustration Techniques Creation of pictorial illustration as applied to commercial art.</p> <p><u>Graphics Editing</u> <u>Techniques</u></p> <ul style="list-style-type: none"> <li>• Use of Graphics Editing Tool.</li> <li>• Knowledge about vector graphics.</li> <li>• Understanding paths</li> <li>• Fill and stroke attributes</li> <li>• Selections and stacking order</li> </ul> <p>Editing Graphics</p> <ul style="list-style-type: none"> <li>• The Welcome screen</li> <li>• Important document settings</li> <li>• Exploring panels and workspaces</li> <li>• Using the control panel</li> <li>• Navigating within a document</li> <li>• Using guides and grids</li> <li>• Utilizing the bounding box</li> <li>• Using smart guides</li> <li>• Choosing preview options</li> </ul> <p>Drawing</p> <ul style="list-style-type: none"> <li>• Using the basic</li> </ul>		
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	<p>Painting Materials and techniques of painting. Subject matter includes still life, landscape and figurative studies. Emphasis is on individual development and response to the media.</p> <p>Illustration Techniques An introduction to various illustrational styles, techniques and media used in the creation of pictorial illustration as applied to commercial art.</p> <p><u>Graphics Editing Techniques</u> : Introduction Creating Graphics Editing Tool Documents The Graphics Editing Tool Interface Basic Drawing Working with Color Object Transformation and Positioning Use of Brushes Saving and Printing</p>	<p>shapes tools</p> <ul style="list-style-type: none"> <li>• Drawing with the Pen tool</li> <li>• Drawing with the Pencil tool</li> <li>• Painting with the Paintbrush tool</li> </ul> <p>Editing</p> <ul style="list-style-type: none"> <li>• Creating compound shapes</li> <li>• Utilizing pathfinder functions</li> <li>• Using the Eraser tool</li> <li>• Joining and averaging paths</li> <li>• Outlining strokes</li> <li>• Simplifying paths</li> </ul> <p>Use of Selection Tool</p> <ul style="list-style-type: none"> <li>• Using the basic selection tools</li> <li>• Using the Magic Wand and the Lasso tool</li> <li>• Selecting objects by attribute</li> <li>• Saving and reusing selections</li> </ul> <p>Appearances</p> <ul style="list-style-type: none"> <li>• Targeting object attributes</li> <li>• Adding multiple attributes</li> <li>• Applying live effects</li> <li>• Expanding appearances</li> <li>• Creating graphic styles</li> <li>• Modifying graphic styles</li> <li>• Appearance palette settings</li> <li>• Copying appearance</li> <li>• Creating Live Paint groups</li> <li>• Detecting gaps in Live Paint groups</li> <li>• Path editing with Live Paint</li> <li>• Using Offset Path</li> <li>• Dividing an object into a grid</li> <li>• Cleaning up errant</li> </ul>		
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		<p>paths</p> <p>Working with Color</p> <ul style="list-style-type: none"> <li>• Defining swatches</li> <li>• Creating swatch groups and libraries</li> <li>• Working with gradients</li> <li>• Working with patterns</li> <li>• Using the Color Guide</li> <li>• Experimenting with color</li> <li>• Finding colors with kuler</li> <li>• Modifying color in artwork</li> </ul> <p>Transformation and Positioning</p> <ul style="list-style-type: none"> <li>• Rotating and scaling objects</li> <li>• Reflecting and skewing objects</li> <li>• Using the Free Transform tool</li> <li>• Using the Transform panel</li> <li>• Aligning objects</li> <li>• Distributing objects</li> </ul> <p>Using Brushes</p> <p><b>A.</b> Creating a calligraphic brush</p> <p><b>B.</b> Creating a scatter brush</p> <p><b>C.</b> Creating an art brush</p> <p><b>D.</b> Creating a pattern brush</p>		
19	<p><u>Main trade training</u>  <i>Demonstration of various substrates</i></p> <p>1) <i>Metal (Ferrous)</i>  2) <i>Metal (Non Ferrous)</i>  3) <i>Non Metal- Wood .... Glass Plastic</i></p> <p>Familiarization of different hand tools used in the trade.  Introduction to paints:  Preparing surface of wall &amp; ceiling.  Cleaning rough surface.  Chiseling, scuffing by emery paper and wire brushes etc.</p>	<p>What is paint?  Types of paints and uses.  Functional purpose.  Various types of pigment. Various types of primer.  Different line water line based synthetic benecal fiutress  Constituents of paint- pigment, resine/ binder, vehicles, extenders or plasticizers and thinners. Information about types of paints</p>	<p>Reading of blue print simple exercise. Free hand sketching of locking devices.</p>	<p>Further studies of metals and non metals</p> <p>Properties and uses of lead, tin, zinc, brass, bronze etc.</p>

20-22	<p>Use of different types of brush, knife, use of ladders blow lamp, pallet board, plub, bob etc. Use of stencil cutter</p> <p>Preparing wall for oil paints of residential house. Mixing paints colours matching colours for wall &amp; ceiling surface. Use of putty for door &amp; window's fitting etc. Preparing of surface on wood by rubbing knotting, stopping &amp; sanding. Use of putty its different process for wooden chair table and article.</p> <p>Interior wall painting Painting procedure -paint mixing, thinning of paint &amp; work stage for donga(white wash), cement paint, distember, oil bound, plastic emulsion and premium, luster, oil paint, texture, special effect finishes. Matching, selection of colors.Paint mixing for water base and solvent base. Preparation and procedure for white wash. Surface preparation for dry distemper, putty preparation and application, use of oil bond distempering &amp; luster painting. Second and third coat of distemper. Exterior wall painting (Cement paint painting work)</p>	<p>Introduction to different types of brush, knife, use of ladders blow lamp, pallet board, plumb, bob, stencil cutter etc.</p> <p>Conception of colour-primary, secondary and tertiary colours, colour harmony, monochrome, analogus, complementray warm and cool colours. Attribute of colours, tint, tone, shade Why abrasive is necessary. Types of abrasive, sand papers emery papers and water papers. Information about emery papers.</p> <p>Putty preparation and use of putty</p> <p>Introduction of equipment used for wall painting work. Painters hand tools, brushes of various sizes, scrapers, chisels, knife, ladders, steps, scaffolding buckets etc. Surface preparation for wall painting method of using cement paint for exterior surface.</p>	Free hand sketching of pipe joint flanged joints	Preparation of simple estimation Idea about various steps in valued in different type paint manufacturing.
23	<p>Preparing of surface on wood for varnishing finishing &amp; polishing. Use of French polish touch wood, liquor coating &amp; melamine for quality wood.</p>	<p>Introduction to composition and types of varnish, information about touch wood and French polish, liquor coating &amp; melamine for quality wood. Wood primer creosote for wood reservation.</p>	Free hand sketching of hand tools used by painter.	--do--

24	<p>Preparation Of Metal Surface  Degrees of surface preparation.  Practice of removal of mild deposits  Hand cleaning purpose is to remove loosely adhering dirt,  grease, oil, rust with minimum time &amp; effort.  Techniques of normal cleaning by wire brush, chisels, scrappers and sand paper's. Basic sign writing  Types of letters; roman, gothic and devnagari etc.  Stenciling methods.</p>	<p>What is corrosion and types of corrosion and prevention.  introduction to barrier between metal surface and atmosphere.  Introduction to protective coating like organic coat and metallic coat.  Different types of primers used for Ferrous &amp; non Ferrous metals.</p>	<p>Free hand sketching of small parts related to the trade  Free hand sketching of small parts related to the trade</p>	<p>Pigments &amp; Dies different Examples.    Estimation of labour charges for painting jobs</p>
25	Project Work / Industrial Visit (Optional)			
26	Examination			

**Syllabus for the Trade of  
“DOMESTIC PAINTER” under C .T.S.**

**(Semester Code No. DOP-02)**

**SEMESTER – II**

Week No.	Trade Practical	Trade Theory	Engineering Drawing	Workshop Calculation & Science
01	Surface preparation painting of walls Use of plastic paint and luster paint for home and hotel decoration.	<u>Introduction to painting materials.</u> <u>Distemblers, luster paints, texture paints and cement paint.</u> Description of bonds Cement paints. Lime colour Application process and precautions	Free hand sketching of small parts related to the trade	-do-
02	Use of oil paints Door / window's and furniture painting. Use of spray painting plants with □compressed air. Surface preparation and finishing Polishing of wooden furniture application for dressing room  Handling of spray guns with spraying materials	Physical properties of paints-pigment, resine binder, thinner and vehicles. Steps of painting works. Precaution, care and maintenance Information about polishing material Like touch wood / melamine / liquor and its application techniques.	Free hand sketching of small parts related to the trade	-do-
03	Interior services like building painting polishing, plumbing & false ceiling designing. Handling of turnkey project as per □requirements.	Description of various filling materials Its field of application Safety in spray methods. Occupational safety hazards and its precaution.	Development of surfaces of simple objects	
04 to 05	Use of plaster of Paris. (P.O.P.) Texture and metallic paints for wall surface. Interior in commercial places. Texture material for relief work. Interior for offices and	Like furniture paint, epoxy paint metallic paint for decoration work selection of paints for different surface. Using mix material for - 3-D design. Working condition & modern decoration	-do-	-do-

	corporate spaces for modern painting work	trends. Article designing in wood and metal.		
06	Home renovation with computer aided designing 2-D-/3-D design. Practice with space prepare for wall painting Texture and light for school Building. Study of mural and landscapes in interior work.	Information about wide range of working conditions in floor plans & home renovation. Exterior painting with texture paint. Importance of safe and esthetically pleasing space for building uses. General ideas of relief painting in P.O.P. work.	-do-	-do-
07	Out door furniture and garden Planning. Landscape designing for out door space with fountains. Mosaic stone art designing. Water fountains and decoration work at out door area.	Graphic design for set preparation Free hand sketching with colour. Common practice in different sets Work applied for various painting surfaces. Tips for out door gardening	Construction of simple curves of inter penetration	Properties of fluids. Introduction to surface tension and viscosity.
08	Furniture designing Business sector in colour concept	Information about modern furniture & colour	-do-	
09	Set decoration and curtain designing with colours & light on party events. Decoration of stair case designing	Information about size of set plan & proportion. Basic concept of set preparation. Tips on event management and set decoration.	-do-	-do-
10	Set preparation by using thermacol/ plywood, colour by compressed air.	Procedure of estimating and measurements for various decorating activities.	Free hand sketching of small parts related to the trade.	What is corrosion. Difference between corrosion and rancidity. Precaution to avoid corrosion.
11	Prepare a project work on mural designing using by fiber finishes material and texture	The role of a designer Room theme a consistent idea used throughout a room to create a feeling of completeness.	Freehand sketching of simple assembled parts	Electroplating process.
12	Application of painted glass for hospitals and corporate space decoration. Use of	Estimate of small furniture unit for kitchen room Importance of interiors for modern	Freehand sketching of simple assembled parts	

	quality of stone for texture	age		
13 to 14	Type of lettering practice and practice on sign board painting Introduction to the new software for the creativity.  Painting advertisement by words, Signs, signals etc. Hands on practice with adobe photoshop. Techniques of sign board painting in different media.	Information about font softwares and new software version to creativity and enhancing the quality. Function of a Adobe photoshop. Describe the fine essential utility programme.	Freehand sketching of simple assembled parts	-do-
15	Prepare poster, chart banner – Hording design.	General ideas of commercial artist for sign board designing.	Freehand sketching of simple assembled parts	Problem on simple estimation as above
16	<u>Screen printing process</u> Designing work and exposing process	Information about screen printing and methods.	-do-	-do-
17	Screen printing registration process	Stenciling methods and printing process.	-do-	-do-
18	Use of fret saw machine	Type of layouts and type of fonts use in layout.	Revision and exercise on blue print reading	Magnetic substances. Properties of magnetic substances.
19	Practice of windows paint	Used of quality outputs in advertising and graphic design.	-do-	Simple electrical circuit. Ohm's law.
20 to 22	Basic shapes and colors create any Basic graphic design. Handling of A.P.S. designer. Type of font and use of font for number plate design Radium cutting and pasting practice.	Common features to all kinds application Scanning devices type of scanner flat bed scanner & pen scanner Create professional and exciting presentation General ideas of types and fonts for number plates.	-do-	--do--
23 to 24	Use of flat bet plotter or drum plotter.	Practice primary colour mixing. Colour mixing	-do-	Simple calculation on Ohm's law



	Use flex board or digital prints Board Prepare stage banner by using flex print. Printing knowledge of different Computer mattered. Practice of residential interior Practice of commercial interior	knowledge. Colour & printing technique on flat bet plotter. General idea of designing. General idea about interior. General idea about designing  Measurement method and costing.		
25	Revision			
26	Examination			

**LIST OF TOOLS AND EQUIPMENT FOR 20 TRAINEES + ONE  
FOR THE TRADE OF DOMESTIC PAINTER**

**A. TRAINEES TOOL KIT**

<b>Sl.No.</b>	<b>Name of the item</b>	<b>Quantity</b>
1.	Screw driver set 150,200,250mm	21 nos. each
2.	Measuring tape-10 meters	21 nos.
3.	Flat brush-4", 3", 2" and 1"	21 nos. each
4.	Lettering brush-2,4,6,8,10 no.	21 nos. each
5.	Wooden rule 24"	21 nos.
6.	Glass pencil (any colour)	21 nos.
7.	Lead pencil HB, 2b, 4b, charcoal	21 nos. each
8.	Putty knife-2", 4"	21 nos. each
9.	Mask	21 nos.
10.	Apron	21 nos.
11.	Blow lamp 1/2ltr/1 Ltr	1 no. each
12.	Steel wire brush 50 mmX150 mm	10 Nos.
13.	Scriber	4 Nos.
14.	Putty Knives 2",4",6"	20 nos. each
15.	Marking Gauge	4 Nos.
16.	Plier insulated 150mm	4 nos.
17.	Nose Plier insulated 150mm	4 Nos.
18.	Screw drivers 150mm	4 Nos.
19.	Electrician testing Pencil (Line/Neon tester)	4 Nos.
20.	Rule Steel 300mm	10 Nos.
21.	Punch Centre 150mm X 9mm	4 Nos.
22.	Heavy duty screw driver 200mm	4 Nos.
23.	Hammer Ball Peen 0.50Kg with handle	4 Nos.
24.	Hammer Cross Peen 100gms.With handle	4 Nos.
25.	Pliers Side Cutting insulated 150mm	4 Nos.
26.	Pincers 150mm	4 Nos.
27.	Single straight ladder 8" wooden	1 Nos.
28.	Step ladder-12' aluminium	1 Nos.
29.	Extension ladder	1 Nos.
30.	Scrapping knife	10 Nos.
31.	Chisel knife	10 Nos.
32.	Pallet knife	4 Nos.
33.	Chisels	4 Nos.
34.	Face mask	20 Nos.
35.	Hand gloves-solvent	20 Nos.
36.	Safety goggles	6 pairs
37.	Airless pumps (Wagner with complete accessories)	1 Nos.
38.	Spanner set 6 to 32mm set DE	1 Nos.
39.	Adjustable spanner-300 mm	2 Nos.
40.	Steel tape-10 meters	2 Nos.
41.	Bench vice 120mm, 150mm each one	2 Nos. each

42.	Spray gun (painting) 1 ltr, ½ ltr. Each	2 nos.
43.	Air filter	2 Nos.
44.	air hoses pipe-20 meter	1 no.
45.	Regulators for paints	1 Nos.
46.	Paint filter-conical	20 Nos.
47.	Fume filter mask	20 nos.
48.	Out side spring caliper 150 mm	4 nos.
49.	Inside spring caliper 150 mm	4 nos.
50.	Divider spring 150 mm	4 nos.
51.	Centre punch 100 mm	4 nos.
52.	File flat 2 <sup>nd</sup> cut 250 mm	4 nos.
53.	Ordinary wooden mallet 50 mm	4 nos.
54.	Cross pen hammer 0.25kg with handle	4 nos.
55.	Snip straight 250 mm	4 nos.
56.	Right cut snip 250 mm	4nos.
57.	Steel wire brush	4 nos.
58.	Marking gauge	4 nos.
59.	Tennon saw 300 mm to 375 mm	2 nos.
60.	Jack plane metal	2nos.
61.	Smoothing plane wooden	2 nos.
62.	Carpenter hammer with wooden handle	2 nos.
63.	Chisel farmer 6 mm to 25 mm set	2 nos.
64.	Chisel mortise 9 mm	2 nos.
65.	Trying plane	2 nos.
66.	File flat 2 nd cut	4 nos.
67.	Stop watch	1 no.
68.	Paint mixing rack	1 nos..
69.	Colour chart's	12 Nos.
70.	Air brush(air master make complete accessories)	1 no.
71.	Pedestal fan	1 no.
72.	Hair drier heavy duty	2nos.
73.	File flat smooth	4 nos.
74.	"C" clamp 2"	4 nos.
75.	Squeeze-2",4",6",8"with aluminum handle	2 nos. each
76.	Palette knife	4 nos.

### B. General Machinery Shop Outfit (As Per The Table)

Sl.No.	Name and description of the machinery	Quantity
1.	Viscosity cup no. 4 with stand	1 No.
2.	Air compressor with complete accessories	1 no.
3.	Spray equipments and its accessories	1 no.
4.	Pot gun	2 nos.
5.	Sealer guns,	2 nos.
6.	Sealer nozzles,	2 nos.
7.	Sealer cartridge and gun	2 nos. each
8.	Baking oven	1 no.
9.	Electrostatic powder spray equipment (Corona CF)	1 Nos.
10.	Spray booth.	1 Nos.
11.	computer with latest configuration	5nos
12.	UPS centralized with 5 KVA capacity	1 no.
13.	Laser printer	1 no.
14.	Inkjet printer (colour)	1 no.
15.	Software: windows XP operating system, MS Office 2007 (or latest version), antivirus system, licensed version	1 each
16.	Scanner	1 no.

### C. WORKSHOP FURNITURE

Sl.No.	Name and description of the machinery	Quantity
1	Suitable Work bench-4x6	4 nos.
2	Stools	20 Nos.
5	Trainees locker 20 peigon	2 Nos.
6	First-aid box	1 no.
7	Book shelf (glass panel)	1 No.
8	Storage Rack	2 nos.
9	Storage shelf	2 nos.
10	Exhaust fan heavy duty	1 no.
11	Computer table	5 nos.
12	Computer chair	20 nos.
13	Fire extinguisher	2 no.