



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

PAINTER (GENERAL)

(Duration: Two Years)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 5



SECTOR – CONSTRUCTION



Directorate General of Training

PAINTER (GENERAL)

(Engineering Trade)

(Revised in 2019)

Version: 1.2

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 5

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

EN-81, Sector-V, Salt Lake City,
Kolkata – 700 091

www.cstaricalcutta.gov.in

CONTENTS

SNo.	Topics	Page No.
1.	Course Information	1
2.	Training System	2
3.	Job Role	6
4.	General Information	7
5.	Learning Outcome	9
6.	Assessment Criteria	11
7.	Trade Syllabus	20
	Annexure I(List of Trade Tools & Equipment)	42
	Annexure II (List of Trade experts)	46

1. COURSE INFORMATION

During the two years duration of Painter (General) trade, a candidate is trained on Professional Skill, Professional Knowledge, Engineering Drawing, Workshop Calculation & Science and Employability Skill related to job role. In addition to this, a candidate is entrusted to undertake project work and extracurricular activities to build up confidence. The broad components covered under Professional Skill subject are as below:-

FIRST YEAR-The practical part starts with practice different types of sketching, ability to synthesize of free hand sketching of different objects etc. Identifying the paper, colour schemes and compose different types of colour shade expertise in 2D design. He will also practice sketches of different types of letters with colour shades. The safety aspect covers components like PPE, Fire extinguisher, First Aid.

The trainees undergo allied trade training viz. basic fitting, marking, chiseling, filing, drilling and pipe fitting etc. He will practice for manufacturing of simple sheet metal items as per drawing and join them by riveting. Execute different types of operating system and explore the working on DTP, corel draw, photo shop etc. Involved to making of different shapes in ornamental design, text, symbols etc. Produce sign board, name plate and preparing back ground painting, screen printing.

Second Year –In this year the trainees covers to development of craft work and artistic work on radium/vinyl/thermocool etc. He will also learn the techniques of decorative painting on wooden surface. Practice on internal and external building painting by using different decorative press. He will also learn painting of windows, grill, doors and different metal surface and pipes.

The trainees will practice the process of cleaning and painting on metal surface for preventive coating. Maintenance of different pneumatic components of paint gun, compressor, filter, pressure gauge, regulator, valve etc. Practicing of spray painting technique and also work on spray booths. Finding out the aspect ratio of missing of paint, hardener and solvent. Identify and apply of spray painting in home appliances, agricultural equipments and automotive bodies after removing of dents and recover the damaged parts. Identifying different types of power coating and apply the power coating technique in appropriate place. He will also integrate quality testing for various paints and painted films.

2. TRAINING SYSTEM

2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of economy/ Labour market. The vocational training programmes are delivered under the aegis of Directorate General of Training (DGT). Craftsman Training Scheme (CTS) with variants and Apprenticeship Training Scheme (ATS) are two pioneer schemes of DGT for strengthening vocational training.

The 'Painter (General)' trade under CTS is one of the popular newly designed courses. The course is of two years duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) impart professional skills and knowledge, while Core area (Workshop Calculation & science, Engineering Drawing and Employability Skills) impart requisite core skill, knowledge and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by DGT which is recognized worldwide.

Trainee broadly needs to demonstrate that they are able to:

- Read & interpret technical parameters/documentation, plan and organize work processes, identify necessary materials and tools;
- Perform tasks with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional knowledge, core skills & employability skills while performing the job, and repair & maintenance work.
- Document the technical parameters in tabulation sheet related to the task undertaken.

2.2 PROGRESSION PATHWAYS:

- Can join industry as Technician and will progress further as Senior Technician, Supervisor and can rise up to the level of Manager.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programs in different types of industries leading to a National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming an instructor in ITIs.
- Can join Advanced diploma (Vocational) courses under DGT as applicable.

2.3 COURSE STRUCTURE:

Table below depicts the distribution of training hours across various course elements during a period of two-years: -

S No.	Course Element	Notional Training Hours	
		1 st Year	2 nd Year
1	Professional Skill (Trade Practical)	1000	1000
2	Professional Knowledge (Trade Theory)	280	360
3	Workshop Calculation & Science	80	80
4	Engineering Drawing	80	80
5	Employability Skills	160	80
	Total	1600	1600

2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course through formative assessment and at the end of the training programme through summative assessment as notified by the DGT from time to time.

a) The Continuous Assessment (Internal) during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes. The training institute has to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the formative assessment template provided on www.bharatskills.gov.in.

b) The final assessment will be in the form of summative assessment. The All India Trade Test for awarding NTC will be conducted by Controller of examinations, DGT as per the guidelines. The pattern and marking structure is being notified by DGT from time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final assessment. The examiner during final examination will also check** individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and one year duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percent for Trade Practical and Formative assessment is 60% & for all other subjects is 33%. There will be no Grace marks.

2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking the assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap / wastage and disposal of scrap/waste as per procedure, behavioral attitude, sensitivity to the environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

Evidences and records of internal (Formative) assessments are to be preserved until forthcoming examination for audit and verification by examining body. The following marking pattern to be adopted while assessing:

Performance Level	Evidence
(a) Weightage in the range of 60%-75% to be allotted during assessment	
For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and	<ul style="list-style-type: none"> • Demonstration of good skill in the use of hand tools, machine tools and workshop equipment. • Below 70% accuracy achieved while undertaking different work with those

practices	<p>demanded by the component/job.</p> <ul style="list-style-type: none"> • A fairly good level of neatness and consistency in the finish. • Occasional support in completing the project/job.
(b) Weightage in the range of 75%-90% to be allotted during assessment	
<p>For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices</p>	<ul style="list-style-type: none"> • Good skill levels in the use of hand tools, machine tools and workshop equipment. • 70-80% accuracy achieved while undertaking different work with those demanded by the component/job. • A good level of neatness and consistency in the finish. • Little support in completing the project/job.
(c) Weightage in the range of more than 90% to be allotted during assessment	
<p>For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.</p>	<ul style="list-style-type: none"> • High skill levels in the use of hand tools, machine tools and workshop equipment. • Above 80% accuracy achieved while undertaking different work with those demanded by the component/job. • A high level of neatness and consistency in the finish. • Minimal or no support in completing the project.

3. JOB ROLE

Painter, General applies decorative or protective coats of paint, varnish, shellac, enamel, lacquer or other materials on exterior or interior surfaces, trimming and fixtures of glass, metal, wood, plaster concrete brick, building boards or other objects using brush, spray gun, roller, stencils etc. Receives work order and selects correct type of paint materials with the consideration to suitability, durability, ease of application and estimated cost. Mixes pigments, oils and other ingredients to material where required by manual or mechanical mixing device using paddle or electric mixer to obtain desired colour, shade and consistency. Removes dirt, grease or rough spots and irregularities by scrapers, chemicals and abrasives and patches cracks and holes with putty or other filler. Covers surface with appropriate prime coat or sealer to have suitable surface or base for paint. Brushes, sprays or stencils one or more coats of material on surfaces. May finish or decorate surfaces by gilding, silvering or painting over stencils. May be designated according to object coated or material used. May mix paint with linseed oil, colouring matter of materials, labour, etc. May erect scaffolds to facilitate work.

Plan and organize assigned work and detect & resolve issues during execution. Demonstrate possible solutions and agree tasks within the team. Communicate with required clarity and understand technical English. Sensitive to environment, self-learning and productivity.

Reference NCO-2015:

7132.0100 – Painter, General

4. GENERAL INFORMATION

Name of the Trade	PAINTER (GENERAL)
Trade Code	DGT/1030
NCO - 2015	7132.0100
NSQF Level	Level-5
Duration of Craftsmen Training	2 Years (3200 Hours)
Entry Qualification	Passed 8 th class examination.
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	LD, CP, LC, DW, AA, LV, DEAF, HH, AUTISM, ID, SLD, MI
Unit Strength (No. Of Students)	20 (There is no separate provision of supernumerary seats)
Space Norms	104 Sq. m
Power Norms	5 KW
Instructors Qualification for:	
1. Painter (General) Trade	<p>B.Voc/Degree in Paint Technology/ Bachelor of fine arts from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>03 years Diploma in Paint Technology/Painting from AICTE recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>NTC/NAC passed in the Trade of "Painter (General)" With three years' experience in the relevant field.</p> <p><u>Essential Qualification:</u></p> <p>Relevant National Craft Instructor Certificate (NCIC) in any of the variants under DGT.</p> <p>Note: Out of two Instructors required for the unit of 2 (1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications. However both of them must possess NCIC in any of its variants.</p>
2. Workshop Calculation & Science	<p>B.Voc/Degree in Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>03 years Diploma in Engineering from AICTE recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field.</p> <p style="text-align: center;">OR</p>

	<p>NTC/ NAC in any one of the engineering trades with three years' experience.</p> <p><u>Essential Qualification:</u></p> <p>National Craft Instructor Certificate (NCIC) in relevant trade.</p> <p style="text-align: center;">OR</p> <p>NCIC in RoDA or any of its variants under DGT.</p>					
3. Engineering Drawing	<p>B.Voc/Degree in Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>03 years Diploma in Engineering from AICTE recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>NTC/ NAC in any one of the Mechanical group (Gr-I) trades categorized under Engg. Drawing / D'man Mechanical / D'man Civil with three years experience.</p> <p><u>Essential Qualification:</u></p> <p>National Craft Instructor Certificate (NCIC) in relevant trade.</p> <p style="text-align: center;">OR</p> <p>NCIC in RoDA / D'man (Mech /civil) or any of its variants under DGT.</p>					
4. Employability Skill	<p>MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience with short term ToT Course in Employability Skills from DGT institutes.</p> <p>(Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above)</p> <p style="text-align: center;">OR</p> <p>Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills from DGT institutes.</p>					
5. Minimum Age for Instructor	21 Years					
List of Tools and Equipment	As per Annexure – I					
Distribution of training on hourly basis: (Indicative only)						
Year	Total Hrs /week	Trade Practical	Trade Theory	Workshop Cal. & Sc.	Engg. Drawing	Employability Skills
1 st	40 Hours	25 Hours	7 Hours	2 Hours	2 Hours	4 Hours
2 nd	40 Hours	25 Hours	9 Hours	2 Hours	2 Hours	2 Hours

5. LEARNING OUTCOME

Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.

5.1 LEARNING OUTCOMES (TRADE SPECIFIC)

FIRST YEAR

1. Make different types of sketching viz., free Hand sketching of different objects, designing of different shapes, size, geometrical shapes of different objects following safety precaution.
2. Ability to synthesize of free Hand sketching of Human figures, Shading, Use graph & figure enlargement.
3. Identify of paper, colour schemes and compose different types of colour shade Expertise in 2D design.
4. Create different types of realistic objects viz., bird, animals, realistic human figure with application of colour shades.
5. Demonstrate with colour shades different types letters (Devanagari, roman, gothic, Text writing/ lettering) and apply them in appropriate place.
6. Plan and organize the work to make job as per specification applying different types of basic operation. *[Basic fitting operation – marking, Chiseling, Filing, Drilling, Pipe fitting]*
7. Manufacture simple sheet metal items as per drawing and join them by riveting. (like-Screen frame, sign board, & hanging Paintings frame)
8. Execute different types of Operating System and explore the working on DTP, Corel Draw, Photo shop etc.
9. Produce stencils involving different shapes in ornamental design, text, symbols etc. operations for different medium like papers, cards, tin, foam board, observing procedure and check for accuracy.
10. Produce Sign board, Name plate. prepare back ground painting, screen printing, Observe finishing, lettering proportion & evenness

SECOND YEAR

11. Develop a craft work and artistic work on radium/ vinyl/ thermocol etc.
12. Identity different types of Plywood, MDF & low-quality wood and make wooden surface used various techniques, decorate, paint& make an attractive wooden article.
13. Develop internal and external Building painting by using different decorative press.
14. Choose different pipes as per safety aspect and apply line painting with colour code.

15. Process of cleaning and painting on metal surface for preventive coat.
16. Identify, replace and assemble different pneumatics and paint gun. [Different components– Compressor, Pressure Gauge, Filter Regulator, Valve for hose]
17. Perform Spray Painting technique. (Spray Gun / hose handling, air & paint pressure controlling,)
18. Operate the system of spray booths, Oven, cleaning & their maintenance, application of sealant component on metallic joints.
19. Perform aspect ratio mixing of paint, hardener & solvent. Measure Viscosity of paint. Operate the Spray-painting system.
20. Identify and apply of spray-painting in-Home appliances, Agricultural equipment's, Machines, Automotive Bodies etc.
21. Removal of dents & recover the damaged accidental area. Repaint & recovering damaged area.
22. Finish special effects for Modern furniture.
23. Identify different types of powder coating and apply the Powder coating technique in appropriate place.
24. Integrate quality testing for various Paints & Painted films.

6. ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
FIRST YEAR	
1. Make different types of sketching viz., free Hand sketching of different objects, designing of different shapes, size, geometrical shapes of different objects following safety precaution.	Make a practice of different lines and strokes, nature forms like- flowers, leaves, trees, birds and animals
	Explain most useful for improving hand force and object proportion optically by free hands sketching practice.
	Explain importance of graphics & perspective.
	Draw geometrical shapes and construct for design.
	Draw free hand geometrical forms in perspective.
	Draw free hand different types of perspective.
2. Ability to synthesize of free Hand sketching of Human figures, Shading, Use graph & figure enlargement.	Draw free hands sketching practice of human figures.
	Test & verify types of pencils.
	Develop the anatomy of human figures (Male, female & children)
	Draw black & white/ colour pencil shading of human figures
	Make with graph and figure enlargement with pencil.
	Find and rectify trade tools and equipments and draw with shading.
3. Identify of paper, colour schemes and compose different types of colour shade Expertise in 2D design.	Marking & Cutting different Drawing Paper as per given size.
	Identify and draw Colour wheel with poster colour.
	Draw & Colour Design in primary, Secondary & Tertiary colours.
	Marking & Out line Drawing 2D Design.
	Colouring 2D design in Warm & Cool Colour.
	Make 2D design & Colour in Contrast colours.
	Identify and make colour shades:
	Make gray scale in pencil shading.
	Make gray scale in poster colour.
	Make different colour Scale in poster colour.
	Make 2D Design in different composition paint in High key, middle key & low key.

	Make practice of colour mixing & matching touch-up on damage posters & photographs.
4. Create different types of realistic objects viz., bird, animals, realistic human figure with application of colour shades.	Collect and observe pictures of birds and animals.
	Draw and sketch proportionally observed pictures.
	Make a colour realistic drawing of Birds as per reference.
	Make a colour realistic drawing of Animals as per reference compare it and verify.
	Observe different colour photographs & pictures, draw & colour realistic drawing of Human figure.
	Mounting for better presentation of Painted pictures.
	Observe different nature spots, make a good composition on paper and draw Land Scape.
	Make practice match the colour from nature & colouring Landscape in water/ poster colour.
	Enlargement practice of pictures by graph on different picture & paint it as per referred drawing.
	Compose, draw & colour Safety or Related Trade Poster.
	Enlarge the Sketch and colour Cinema Posters.
5. Demonstrate with colour shades different types letters (Devanagari, roman, gothic, Text writing/ lettering) and apply them in appropriate place.	Sketching & colouring gothic letters in English.
	Sketching & colouring gothic letters in Mother Language.
	Sketching & colouring Roman letters.
	Do free hand Strokes for Devanagari.
	Sketching & colouring Devanagari letters.
	Sketching & colouring Text or Italic letters.
6. Plan and organize the work to make job as per specification applying different types of basic operation. <i>[Basic fitting operation – marking, Chiseling, Filing, Drilling, Pipe fitting]</i>	Marking on wood.
	Apply holding & sawing on different size of wood.
	Work on teeth setting & sharpening of different saw.
	Apply tenoning half cut on wooden border.
	Make setting of planers & sharpening on plane blade.
	Do plane on different wooden surfaces.
	Do chiseling slots on thick wood.
	Drilling on wood with different drilling tools (Gimlet, Hand Drill, Portable elect. drilling machine.

	Identify & check different types of pipe.
	Do pipe cutting & threading
	Apply different types of pipe joint/ fitting of different materials & different diameter. (Use PVC pipe)
	Make joint/ fitting for rain water (Use PVC pipe)
	Make joint/ fitting for water pipe line (Use GI pipe)
	Make joint/ fitting for water pipe line (Use PVC pipe)
7. Manufacture simple sheet metal items as per drawing and join them by riveting. (like- Screen frame, sign board, & hanging Paintings frame)	Make a simple lap joint.
	Make a simple mitred half lap joint.
	Make a simple Dovetail joint.
	Apply Joint fitting with nails, screw, glue etc.
	Marking of straight lines, circles, profiles and various geometrical shapes.
	Cutting of straight lines, circles, profiles and various geometrical shapes on sheets with snips.
	Marking out of simple development.
	Marking out for fold for joints.
	Make the joint of hemming, form locked.
	Make the joint of grooved and knocked up single hem
	Make the joint of straight and curved edges form double hemming.
	Make cylindrical objects with joints.
8. Execute different types of Operating System and explore the working on DTP, Corel Draw, Photo shop etc.	Operate & familiarize with computer operating system.
	Operate paint software & draw freehand sketch & practice on color bucket, eraser, pencil & all tools.
	Draw scenery like realistic in paint software
	Tool handling in photo shop familiarise with all hand tools.
	Make a different layer & create background, artistic text, design, images.
	Apply import photo image from file & scanner, edit photo images.
	Edit Image adjustment effects. & layer style effects.
	Edit special effect on different layer, colours, textures, filter effects.
	Edit & Save image in PSD, JPEG & other format.

	Create a colour advertise design for festival offer
	Develop export Design, image, photograph from Photoshop to other different format for different software's. & make a print & print file for different printers.
	Tool handling in Corel draw familiarise with all hand tools Apply select /move /copy /objects, retire skew, size Objects.
	Apply combine, shape, weld, trim, align, Group / Ungroup objects.
	Practice on add text & Format text create different heading & Sub-heading.
	Draw dimensionally objects. Creating special effects for backgrounds & related objects.
	Do graphical effects to tex.Creating symbols, logo, special effects.
	Make a flex design for marketing offers. Convert & Save to CD/ DVD/ PD for final printing.
9. Produce stencils involving different shapes in ornamental design, text, symbols etc. operations for different medium like papers, cards, tin, foam board, observing procedure and check for accuracy.	Create ornamental designs for stencils.
	Cut the stencils & make a print.
	Draw simple sentence in different lettering stencil.
	Cutting & stencilling the letters.
10. Produce Sign board, Name plate. Prepare back ground painting, screen printing, Observe finishing, lettering proportion & evenness.	Make sign board
	Paint the background of sign board.
	Make Figure Enlargement for sign board.
	Draw and painting letters & design or logo on Sign Board.
	Practice thePainting of name plate on different material
SECOND YEAR	
11. Develop a craft work andartistic work on radium/ vinyl/ thermocol etc.	Use manually ornamental design on radium or vinyl.
	Create symbol or image design by computer graphics.
	Cut it with plotter.

	Do "Instruction board" on acrylic sheet with help of malty layer radium or vinyl.
	Make a lettering/ image/ symbol design for "Instruction board" by computer graphics, with help of radium or vinyl & cutting it with plotter, pasting on glass/ acrylic/ sun mica or different sheets.
	Create a design for wall decoration by computer in graphics & cut it on multi colour vinyl, paste on wall.
12. Identity different types of Plywood, MDF & low-quality wood and make wooden surface used various techniques, decorate, paint & make an attractive wooden article.	Apply Cleaning, sanding, knotting, stooping, staining preparation on wooden surface properly for polish.
	Make & apply putty for varnishing & polishing.
	Apply polish on prepared wooden surface with cotton rags.
	Apply Cleaning, sanding, knotting, stooping, staining preparation wooden surface properly for varnish.
	Apply varnish on prepared wooden surface with brush.
	Prepare wooden article & apply varnish with spray.
	Prepare wooden article & apply melamine or PU wooden finish with spray.
	Make a wooden top with thick layer of melamine polish.
	Prepare wooden surface properly for painting.
	Apply wood primer by brush.
	Make a putty for wood finishing.
	Apply putty & prepare wooden surface properly.
	Do paint wooden surface properly with brush
	Prepare & spray painting on different furniture take the all precautions.
13. Develop internal and external Building painting by using different decorative press.	Prepare ceiling&Wall surface for lime wash. (Sanding & Cleaning)
	Apply POP on wall.
	Make & mixing of lime & Steiner.
	Apply Lime on ceiling & wall with brush properly.
	Prepare ceiling & wall for distemper painting.
	Make wall putty for distemping.
	Apply wall putty with finish & prepare wall surface.
	Mixing & apply a distemper properly for wall.

	Prepare ceiling & wall surface with putty & Apply interior emulsion paint. Use roller & brush.
	Prepare interior wall surface with putty, Apply enamel or luster paint.
	Making process of scaffolding for exterior wall painting.
	Clean exterior wall area with cleaning process & water pressure process.
	Prepare exterior wall with white cement for painting.
	Paint the prepared wall by brush with cement paint.
	Prepare exterior wall with exterior priming for painting.
	Paint the prepared wall by brush with emulsion paint.
	Decorate the projection with dark shade apply special shades of emulsion colour.
	Prepare wall & design wall paper pasting on wall.
	Find the defects on wall before painting and remove it.
	Find the defects on wall after painting and remove it.
14. Choose different pipes as per safety aspect and apply line painting with colour code.	Cleaning, Sanding, or wire brushing & paint by brush windows, grill, doors, safety doors, gate etc.
	Prepare Paint & painting on ceiling and wall. use dip-feed roller / pad or airless spray.
	Paint the GI pipe by brush.
	Paint the sanitary pipe of building. Take & care self precaution & safety.
	Paint the MS square & round pipe, take all precautions & safety while painting.
	Do Paint different pipe line with colour code as per ISI.
	Demonstrate knowledge of safety procedures in Industrial pipe line painting
	Identify colour code wise– Pipe lines, different types of valves.
15. Process of cleaning and painting on metal surface for preventive coat.	Do Scrap on corrode metal surface.
	Cleaning process of metal surface by wire brush or orbital wire brush.
	Apply burn process on old paint from metal surface by blow lamp or gas flame.
	Apply dry sanding with help of emery paper/cloth.

	Apply wet sanding on old painted object.
	Clean the metal surface by Sander machine.
	Do level the different metal surface by portable hand grinder.
16. Identify, replace and assemble different pneumatics and paint gun. [Different components– Compressor, Pressure Gauge, Filter Regulator, Valve for hose]	Prepare metal surface & apply ready primer on metal surface by brush.
	Apply enamel/ polyester putty or filler on primed surface.
	Apply enamel paint on primed metal surface by brush.
	Prepare and paint metallic article by brush.
	Prepare & colour making for deep painting.
	Prepare article for deep painting. (Cleaning, rubbing, sanding.)
	Explain the Electro coat Deeping process & conveyor system with all safety.
	Identify pneumatic components – Compressor, pressure gauge, Filter, Regulator, and Lubricator. Different types of valves.
	Explain the safety procedures in spray systems and personal Protective Equipment (PPE).
	Maintenance, troubleshooting, and safety aspects of pneumatic and Painting instruments.
17. Perform Spray Painting technique. (Spray Gun / hose handling, air & paint pressure controlling,)	Application of spray gun holding and stroke adjustment, Paint adjustment, air adjustment techniques.
	Spraying on the surface like as edges, corner, square, round & curved area.
18. Operate system of spray booths, Oven, cleaning & their maintenance, application of sealant component on metallic joints.	Use and apply of paint spray booth & maintenance, troubleshooting, safety aspects.
	Use & Operation of Oven Setting, temperature & timing.
	Apply sealant on metallic joints.
19. Perform aspect ratio mixing of paint, hardener & solvent. Measure Viscosity of paint. Operate the Spray	Preparation of Paint mixing for spray painting.
	Measure the viscosity of paint.
	Spray Painting on ornamental objects, with different types of paints.

painting system.	Spraying metallic primer on metal surface.
	Apply Carpatch, Putty and Filler on metallic surface & preparation.
	Apply Surfacer on primed or putty finish surface.
	Spraying finish application for Top Coat. Use of enamel/ N.C. paints. (Or latest paints.)
20. Identify and apply of spray-painting in-Home appliances, Agricultural equipment's, Machines, Automotive Bodies etc.	Prepare the surface of home appliances.
	Priming & surfacing process on home appliances.
	Apply finish undercoat & top coat on home appliances. Use enamel/ N.C/ P.U. paints- Solid/ Metallic/ Pearl.
	Application of preparing machine surface.
	Priming & surfacing on machine.
	Application of finish undercoat & top coat on machine. Use Enamel/ Epoxy/N.C./ P.U. /paints. (or latest paints.)
	Preparation of the two wheeler body and spares surface.
	Priming & surfacing the Two wheeler body and spares surface.
	Apply finish undercoat & top coat on two wheeler body and spares surface. Use Automotive paints.
	Apply Graphic sticker on painted surface properly & apply lacquer coat evenly.
	Use Enamel/ N.C/ P.U. paints/- Solid/ Metallic. (Or latest paints.)
	Identify the parts of Electrostatic gun assembly & operate it carefully.
	Identify the parts of Airless gun assembly & Operate it carefully.
Demonstrate different types of Spray painting.	
21. Removal of dents & recover the damaged accidental area. Repaint & recovering damaged area.	Disassemble essential damage parts, inspect & mark denting area. Choose & decide process tools for denting.
	Removed dent on marked area, apply essential method.
	Do sanding or burn on denting area & apply primer & surface. Apply putty layer on spotted area evenly.
	Use wet sanding, level denting surface area, procedure of thin coat of Surfacer.
	Masking process on unwanted area properly.
	Match the shade Overlay proper equally on unmask area.

	Unmasked the mask area carefully & checkout properly & touch-up it by necessary process.
	Apply final coat rubbing and waxing process properly.
	Demonstrate of Paint defects & its remedies.
	Check & Find out different paint defects (run down, sagging, pin hole, orange peel, oil & water spot, over/ dry spray, uncover, shade variation etc.)
	Mark the defected area, Decide Techniques & apply remedies properly. Make Finished surface.
22. Finish special effects for Modern furniture.	Apply Process of Finish special effects on different furniture & different surface. (like as- colour gradations, multi tones applying, different textures, etc.)
23. Identify different types of powder coating and apply the Powder coating technique in appropriate place.	Pretreatment & Clean the metallic article in chemical (degreasing, de-rusting, activation, phosphating, passivation & water rinsing as where required etc.)
	Apply procedure of powder coating on cleaned article & baking in oven with appropriate temperature & timing.
24. Integrate quality testing for various Paints & Painted films.	Check and identify the Paint defects & its remedies.
	Test the quality of paints & Painted surfaces by various testing method & instruments.

7. TRADE SYLLABUS

SYLLABUS FOR PAINTER (GENERAL) TRADE			
FIRST YEAR			
Duration	Reference Learning Outcome	Professional Skills (Trade Practical) With Indicative Hours	Professional Knowledge (Trade Theory)
Professional Skill 150Hrs; Professional Knowledge 42Hrs	Make different types of sketching viz., free Hand sketching of different objects, designing of different shapes, size, geometrical shapes of different objects following safety precaution.	<ol style="list-style-type: none"> 1. Introduction of trade skills and work application. (02hrs.) 2. Safety attitude development of the trainee by educating them to use personal protective equipment (PPE) and Material safety data sheet (MSDS). (05hrs.) 3. First-aid method and basic training. (02hrs.) 4. Safe disposal of waste materials like- cotton waste, waste paint and waste paint material etc.(02hrs.) 5. Hazard and non hazard identification and avoidance. (02hrs.) 6. Use of firefighting equipment, like- extinguishers, sand bucket, water etc. (10 hrs.) 7. Identification of safety signs, like- Danger, warning, caution and personnel safety .(01hr) 8. Importance of trade training. (02hrs.) 9. Understand precautions to 	Introduction of the Institution; rules and management (work) Process of an Institution. Knowledge about the facilities; leaves and rules and subjects an syllabus. Introduction of vocational trade, The importance of trade in the industrial Development of the nation Care in Vocational trade. (14hrs)

		<p>be followed while working in the painting jobs. (02hrs.)</p> <p>10. Motivational talk by experts. (05 hrs.)</p> <p>11. 5S training. (02hrs.)</p> <p>12. Draw different sketches and hand writing practice. (15 hrs.)</p>	
		<p>13. Introduction and identification of tools and equipments different for cleaning and painting. (15 hrs.)</p> <p>14. Identification and there assembly and function of trade machineries. (10 hrs.)</p>	<p>Accident and First-Aid: Cost of Accidents; Causes and effects of an accident; First-Aid in case of internal injuries; fracture; wound and electric shock. (07hrs)</p>
		<p>15. Free hands sketching practice of different lines and strokes. (17hrs.)</p> <p>16. Free hands sketching practice of nature forms like- flowers, leaves, trees. (17hrs.)</p> <p>17. Free hands sketching practice of birds and animals. (16hrs.)</p>	<p>Lines- Different types of lines; its uses and specialty. Pencil- Origin of pencil and its introduction. Different types of pencils; uses and its specialty. (14hrs)</p>
		<p>18. Draw geometrical shapes and construct for design. (15 hrs.)</p> <p>19. Draw free hand geometrical forms in perspective. (5hrs.)</p> <p>20. Draw free hand different types of perspective. (5 hrs.)</p>	<p>Colours for drawing and painting: charcoals, oil and dry pestles, water; poster; acrylic; oil colours and reducer medium. (07hrs)</p>
Professional Skill 50Hrs; Professional Knowledge	Ability to synthesizeof free Hand sketching of Human figures, Shading, Use	<p>21. Free hands sketching practice of human figures. (10hrs.)</p> <p>22. Black & white/ colour pencil shading of human figures</p>	<p>Definition and Need of Sketching-Introduction to sketching; its benefits and importance in our culture and traditions as well to the trainees.</p>

14Hrs	graph & figure enlargement.	(Male, female & children). (15hrs.) 23. Graph and figure enlargement with pencil shading. (10hrs.) 24. Draw with shading different tools and equipments of trade. (15hrs.)	Human organs and their proper place; Body structures of Male and Female. (14hrs)
Professional Skill 100 Hrs; Professional Knowledge 28 Hrs	Identify of paper, colour schemes and compose different types of colour shade Expertise in 2D design.	25. Marking & Cutting different Drawing Paper as per given size. (05hrs.) 26. Draw colour wheel with poster colour. (10 hrs.) 27. Draw & Colour Design in primary, Secondary & Tertiary colours. (10hrs.) 28. Marking & Out line Drawing 2D Design. (05 hrs.) 29. Coloring 2D design in Warm & Cool Colors. (10 hrs.) 30. Make 2D design & Colour in Contrasts colors. (10 hrs.)	Colours & colour knowledge: Definition of colour; colour blindness; tone, colour shade- primary, secondary, tertiary. (14 hrs)
		Make colour shades: 31. Make gray scale in pencil shading (5hrs.) 32. Make gray scale in poster colour (5hrs.) 33. Make different colour scale in poster colour (15 hrs.)	Colour wheel, colours & Different types of colour schemes & colour harmony. (07 hrs)
		34. Make 2D Design in different Composition paint in High key, middle key & low key by poster colour. (20 hrs.) 35. Colour mixing & matching Touch up on Damage posters & photographs. (5 hrs.)	Brush: Different types of Brushes with shapes & sizes. Use & Care of Brushes. (07 hrs)

Professional Skill 150 Hrs; Professional Knowledge 42 Hrs	Create different types of realistic objects viz., bird, animals, realistic human figure with application of colour shades.	36. Draw & colour realistic drawing of Birds. (25 hrs.) 37. Draw & colour realistic drawing of Animals. (25 hrs.)	Drawing instruments- Drawing board; T- square; steel and wooden scale; set square; compass; Colour dish. (14 hrs)
		38. Draw & colour realistic drawing of Human figure. (20hrs.) 39. Mounting & Decorate Painted Pictures. (05hrs.)	Brush- Different types of brushes with shapes and sizes. Uses and care of brush. (07hrs)
		40. Draw Landscape. (05hrs.) 41. Colouring Landscape in water/poster colour. (15 hrs.) 42. Use graph on portrait picture & Enlarge outline drawing on drawing paper. (05 hrs.) 43. Water or poster colouring on enlarged drawing (15 hrs.) 44. Draw & Colour Safety or Related Trade Poster. (10 hrs.)	Drawing paper- Types of drawing papers; its uses and care. (14hrs)
		45. Enlarge & Sketching Cinema Posters. (05 hrs.) 46. Colouring enlarged Cinema Poster. (20 hrs.)	Knife-Uses; different types of Putty knife; Scraper knife; hacking knife; Diamond-glazier; Gilder knife; Shave hook knife; Stencil knife; Chisel knife. (07hrs)
		47. Sketching & coloring gothic letters in English. (10 hrs.) 48. Sketching & coloring gothic letters in Mother Language. (10 hrs.) 49. Sketching & coloring Roman letters. (09hrs.) 50. Do free hand boru Strokes Devnagri. (08hrs.) 51. Sketching & colouring	Lettering- Description; uses of devnagri, Roman, Gothic; Italic and Text writing. Spacing - Mechanic and Optical spacing. (14hrs)
Professional Skill 50 Hrs; Professional Knowledge 14 Hrs	Demonstrate with colour shades different types letters (Devanagari, roman, gothic, Text writing/ lettering.) and apply them in		

	appropriate place.	Devnagri letters. (08hrs.) 52. Sketching & colouring Text or Italic letters. (05 hrs.)	
Professional Skill 100 Hrs; Professional Knowledge 28 Hrs	Plan and organize the work to make job as per specification applying different types of basic operation. [<i>Basic fitting operation – marking, Chiselling, Filing, Drilling, Pipe fitting</i>]	CARPENTER WORK: 53. Marking Practice on wood. (07hrs.) 54. Holding & Sawing Practice different size of wood. (10 hrs.) 55. Teeth setting & sharpening of different saw. (07hrs.) 56. Tennening Half cut on wooden border. (05 hrs.) 57. Setting of planers & sharpening on plane blade. (05 hrs.) 58. Plane on different wooden surfaces. (06hrs.) 59. Chiselling slots on thick wood. (05 hrs.) 60. Drilling on wood with different drilling tools (Gimlet, Hand Drill, Portable electrical drilling machine. (05 hrs.) 61. Identify & check different types of pipe. (05 hrs.) 62. Do pipe cutting & threading (10 hrs.) 63. Apply different types of pipe joint/ fitting of different materials & different diameter. (Use PVC pipe) (10 hrs.)	Carpenter - safety precaution description, Use hand tools, carpenter tools, types of wood their description & use common defects in timber & their effects. Plumber: Instruction to the trade safety precautions and elementary first aid. Plumber hand tools description on rain water & pipe system including installation of water supply fitting. Description of different types of pipes & their use such as galvanized pipes, PVC pipes. Pipe line leakage & Maintenance. (21 hrs)
		64. Make a simple lap joint. (05 hrs.) 65. Make a simple mitred half lap joint. (05 hrs.)	Equipments for joint, Joints - Types and uses of different types of joints. (07 hrs)

		<p>66. Make a simple Dovetail joint. (05 hrs.)</p> <p>67. Joint fitting with nails, screw, glue etc. (10 hrs.)</p>	
<p>Professional Skill 100 Hrs; Professional Knowledge 28 Hrs</p>	<p>Manufacture simple sheet metal items as per drawing and join them by riveting. (like- Screen frame, sign board, & hanging Paintings frame)</p>	<p>SHEET METAL WORK:</p> <p>68. Marking of straight lines, circles, profiles and various Geometrical shapes and cutting the sheets with snips. (15 hrs.)</p> <p>69. Marking out of simple development (05 hrs.)</p> <p>70. Marking out for flaps for joints (05 hrs.)</p>	<p>Safety precautions to be observed in a sheet metal workshop, sheet and sizes, Shearing machine-description, parts and uses. (07 hrs)</p>
		<p>Make various joints:</p> <p>71. Hemming, form locked, grooved and knocked up single hem straight and curved edges form double hemming. (15 hrs.)</p> <p>72. Make cylindrical objects with joints. (10 hrs.)</p>	<p>Marking and measuring tools, wing compass, Prick punch, square tools, snips, types and uses. hammers and mallets type-sheet metal tools, Soldering iron, Trammel, Stakes. (07 hrs)</p>
		<p>73. Make simple Square table tray with folding edge and fix handle with riveting. (17 hrs.)</p> <p>74. Make simple triangular tray with folding edge and fix handle with riveting. (08 hrs.)</p> <p>75. Make joint/ fitting for rain water (Use PVC pipe). (10 hrs.)</p> <p>76. Make joint/ fitting for water pipe line (Use GI pipe). (10 hrs.)</p> <p>77. Make joint/ fitting for water</p>	<p>Marking and measuring tools, wing compass, Prick punch, square tools, snips, types and uses. hammers and mallets type-sheet metal tools, Soldering iron, Trammel, Stakes. (14 hrs)</p>

		pipe line (Use PVC pipe). (05 hrs.)	
Professional Skill 125 Hrs; Professional Knowledge 35 Hrs	Execute different types of Operating System and explore the working on DTP, Corel Draw, Photo shop etc.	<p>78. Operate & familiarise with computer operating system. (05 hrs.)</p> <p>79. Operate paint software & draw freehand sketch & use like as colour bucket, eraser, pencil & all tools.(05 hrs.)</p> <p>80. Draw scenery like realistic in paint software (05 hrs.)</p> <p>Photoshop:</p> <p>81. Tool handling in photo shop. (05 hrs.)</p> <p>82. Familiarise with all hand. (05 hrs.)</p> <p>83. Make a different layer & create background, artistic text, design, images. (05 hrs.)</p> <p>84. Import photo image from file & scanner, edit photo image. (05hrs.)</p> <p>85. Edit Image adjustment effects. & layer style effects. (05 hrs.)</p> <p>86. Edit special effect on different layer, colours, textures, filter effects. (05 hrs.)</p> <p>87. Edit & Save image in PSD, JPEG & other format. (05 hrs.)</p> <p>88. Create a colour advertise design for festival offer. (15 hrs.)</p> <p>89. Export Design, image,</p>	Standard pipe threads, nominal diameter, wall thickness, schedule number, die & diestock, tubing. (21 hrs)

		<p>photograph from Photoshop to other different format for different software's. & make a print & print file for different printers. (10 hrs.)</p>	
		<p>Corel Draw :</p> <p>90. Apply select /move /copy /objects, retire skew, size Objects. (05 hrs.)</p> <p>91. Apply Combine, Shape, weld, trim, Align, Group / Ungroup objects. (05 hrs.)</p> <p>92. Add text & Format text, create different heading & Sub-heading. (05 hrs.)</p> <p>93. Draw dimensionally objects, creating special effects for backgrounds & related objects. (10 hrs.)</p> <p>94. Do graphical effects to text. (05 hrs.)</p> <p>95. Creating symbols, logo, special effects. (10 hrs.)</p> <p>96. Make a flex design for marketing offers. Convert & Save to CD/DVD/PD for final printing. (10 hrs.)</p>	<p>Drawing simple geometric objects using Corel Draw Transforming objects, Organizing objects, Working with text, Dimensioning objects Creating special effects. (14 hrs)</p>
<p>Professional Skill 25Hrs;</p> <p>Professional Knowledge 07 Hrs</p>	<p>Produce stencils involving different shapes in ornamental design, text, symbols etc. operations for different medium like papers, cards, tin, foam board,</p>	<p>97. Create ornamental designs for stencils, cut it & make a print. (10 hrs.)</p> <p>98. Draw simple sentence in different lettering, stencil cutting & stencilling. (15 hrs.)</p>	<p>Stencil -Definition and types of stencils. Uses; Care and cleaning of different types of stencils. Instruments and equipments for stencil. (07 hrs)</p>

	observing procedure and check for accuracy.		
Professional Skill 150 Hrs; Professional Knowledge 42 Hrs	Produce Sign board, Name plate. prepare back ground painting, screen printing, Observe finishing, lettering proportion & evenness	<p>99. Make sign board with background painting. (10 hrs.)</p> <p>100. Make Figure Enlargement for sign board. (10 hrs.)</p> <p>101. Draw and painting letters & design or logo on Sign Board. (10hrs.)</p> <p>102. Paint a name plate on different material (wood/ tin/ acrylic). (10 hrs.)</p>	<p>Advertisement-Sign Board, Banner, Posters, Hoardings, Wall painting, Name plate, Logo, Symbol, Monogram, Digital Flex Board.</p> <p>Graph Making & Enlargement, Need of graph for Enlargement. (14 hrs)</p>
		<p>103. Make a wooden frame with bolting cloth. (10hrs.)</p> <p>104. Create Art work on tracing for screen exposing. (10 hrs.)</p> <p>105. Coating solution & expose screen with ready art work, Develop exposed screen with cold water, touch up pin holes and nonprinting area, taping around inside. (20hrs.)</p> <p>106. Use cromoline film & expose screen with ready art work, Develop exposed screen with cold water, touch up pin holes and nonprinting area, taping around inside. (20hrs.)</p>	<p>Screen Printing - Types, definition and explanation. Origin and development of screen painting.</p> <p>Selection of cloth, instruments, chemicals, cloth fitting, exposing.(14 hrs)</p>
		<p>107. Prepare & registration Pining work on printing table. (05 hrs.)</p> <p>108. Testing of registration with</p>	<p>Screen developing; printing and de-exposing /washing. Types of ink. (14 hrs)</p>

		<p>squeezing ink. (02 hrs.)</p> <p>109. Do single colour printing on selected cards/sheets. (15 hrs.)</p> <p>110. Do multi colour printing on selected cards/sheets. (25 hrs.)</p> <p>111. Decorating used screen with bleach powder or decorating solution, wash & clean. (03 hrs.)</p>	
<p>Project Work/ Industrial Visit</p> <p>Broad areas:</p> <ul style="list-style-type: none"> a) Digital Flex Chart (Safety / Enrolment / Educational) b) Decorative or Advertise painting on wall. c) Make Greeting cards or visiting cards with screen printing. 			

SYLLABUS FOR PAINTER (GENERAL) TRADE

SECOND YEAR

Duration	Reference Learning Outcome	Professional Skills (Trade Practical) With Indicative Hours	Professional Knowledge (Trade Theory)
Professional Skill 50 Hrs; Professional Knowledge 18 Hrs	Develop a craft work and artistic work on radium/ vinyl/ thermocol etc.	112. Make a manually ornamental design on radium or vinyl. (05 hrs.) 113. Make a symbol or image design by computer in graphics & cut it with plotter. (10 hrs.) 114. Do "Instruction board" on acrylic sheet with help of multi layer radium or vinyl. (13 hrs.) 115. Make a lettering/ image/ symbol design for "Instruction board" by computer in graphics, with help of radium or vinyl & cutting it with plotter, pasting on glass/ acrylic/ sun mica or different sheets. (12 hrs.) 116. Create a design for wall decoration by computer in graphics & cut it on multi colour vinyl, paste on wall. (10 hrs.)	Different medium paper for plotter cutting. Manual cutting Instruments & their safety/ care/ precautions, proper pasting procedure, pasting techniques, care & precaution. (18 hrs)
Professional Skill 100 Hrs; Professional Knowledge 36 Hrs	Identify different types of Plywood, MDF & low-quality wood and make wooden surface used various	117. Clean, sanding, knotting, stooping, staining preparation wooden surface properly for polish. (05 hrs.) 118. Make & apply putty for varnishing & polishing. (05	Polish paper-Types and uses. Putty - Definition, their material types and uses. Method of mixing & its different system of application. Varnish - Definition; types and

	techniques, decorate, paint & make an attractive wooden article.	<p>hrs.)</p> <p>119. Apply polish on prepared wooden surface with cotton rags. (05 hrs.)</p> <p>120. Clean, sanding, knotting, stooping, staining preparation wooden surface properly for varnish. (05 hrs.)</p> <p>121. Apply varnish on prepared wooden surface with brush. (05 hrs.)</p> <p>122. Prepare wooden article & apply varnish with spray. (08hrs.)</p> <p>123. Prepare wooden article & apply melamine or PU wooden finish with spray. (08hrs.)</p> <p>124. Make a wooden top with thick layer of melamine polish. (09hrs.)</p>	<p>characteristics of varnish. Process of making of varnish its importance and contains. Polish- Types and uses. Different application methods. (18 hrs)</p>
		<p>125. Prepare wooden surface properly for painting. (05 hrs.)</p> <p>126. Apply wood primer by brush (05 hrs.)</p> <p>127. Make putty for wood finishing. (05 hrs.)</p> <p>128. Apply putty & prepare wooden surface properly. (05hrs.)</p> <p>129. Do paint wooden surface properly with brush (05hrs.)</p>	<p>Paint- Definition; classification and use. Pigment, Binders, Solvent, oil, dryers; additives. Painting- Definition and importance of painting. (09hrs)</p>
		<p>130. Prepare & spray painting on different furniture taking all precautions. (25 hrs.)</p>	<p>Method of wooden surface painting. (09 hrs)</p>
Professional Skill 225 Hrs;	Develop internal and external Building painting by	<p>131. Prepare ceiling surface for lime wash. (05 hrs.)</p> <p>132. Prepare wall surface for</p>	<p>Types, uses of building (wall) paints. Wall primer- Water base / Oil base, types of putty</p>

Professional Knowledge 81 Hrs	using different decorative press.	lime wash. (05 hrs.) 133. Apply POP on wall for lime painting. (03 hrs.) 134. Make & mixing of lime & stainer. (02 hrs.) 135. Apply Lime on ceiling & wall with brush properly. (10 hrs.) 136. Prepare ceiling & wall for distemper painting. (05 hrs.) 137. Make wall putty for distemping. (02 hrs.) 138. Apply wall putty with finish & prepare wall surface. (08 hrs.) 139. Mixing & apply a distemper properly for wall. (10 hrs.)	for wall. Mixing, Preparation process of Lime and Distemper. Other required Equipments- Below lamp, bucket, plum-bob, putty blender, Paint strainer. Types of Trestle, ladder, scaffolding. (18hrs)
		140. Prepare ceiling & wall surface with putty & Apply interior emulsion paint. Use roller & brush. (25 hrs.) 141. Prepare office & work shop interior wall surface with putty, Apply enamel or luster paint. (25 hrs.)	Colour selection for interior wall painting and use of Paints. Effects; Intention; Purpose of colors. Paint mixing and preparation process. Difference between emulsion paint and Oil paint. (18hrs)
		142. Make scaffolding for exterior wall painting. (05hrs.) 143. Clean exterior wall aria with cleaning process & water pressure process (05 hrs.) 144. Prepare exterior wall with white cement for painting. (08 hrs.) 145. Paint the prepared wall by brush with cement paint. (08 hrs.) 146. Prepare exterior wall with	Color selection for exterior wall painting and use of Paints. Method of paint mixing and preparation. Paint used for exterior wall painting. (18hrs)

		<p>exterior priming for painting. (10 hrs.)</p> <p>147. Paint the prepared wall by brush with emulsion paint. (10hrs.)</p> <p>148. Decorate the projection with dark shade apply special shades of emulsion colour. (04 hrs.)</p>	
		<p>149. Decorate the wall with design roller/ stamp/ stencil. (25 hrs.)</p> <p>150. Prepare wall & create texture, use different medium, colour& make a different textures. (25 hrs.)</p>	<p>Difference between brush painting and Roller painting. Types of Roller and preparation of texture for wall painting. (18hrs)</p>
		<p>151. Prepare wall & design wall paper pasting on wall (10 hrs.)</p> <p>152. Find the defect on wall before painting and remove it. (08 hrs.)</p> <p>153. Find the defect on wall after painting and remove it. (07 hrs.)</p>	<p>Wall defects and defects removal process of wall painting. (9hrs)</p>
<p>Professional Skill 100Hrs;</p> <p>Professional Knowledge 36Hrs</p>	<p>Choose different pipes as per safety aspect and apply line painting with colour code.</p>	<p>154. Prepare & paint by brush windows, grill, doors, safety doors, gate etc. (20 hrs.)</p> <p>155. Paint a ceiling and wall with dip-feed roller / pad or airless spray. (20 hrs.)</p>	<p>Building Painting estimate & costing. (18hrs)</p>
		<p>156. Paint the GI pipe, take all precautions while painting. (08 hrs.)</p> <p>157. Paint the sanitary pipe, take all precautions while painting. (08 hrs.)</p> <p>158. Paint the MS square & round</p>	<p>Intention and effects of pipe line painting, Colour Codes of pipe line painting. ISI colour code.(18hrs)</p>

		<p>pipe, take all precautions while painting. (09 hrs.)</p> <p>159. Paint deferent pipe line with colour code as per ISI. (15 hrs.)</p> <p>160. Demonstrate knowledge of safety procedures in Industrial pipe line painting (Demo by video & charts). (10 hrs.)</p> <p>161. Identify colour code wise– Pipe lines, different types of valves. (10 hrs.)</p>	
Professional Skill 125Hrs; Professional Knowledge 45Hrs	Process of cleaning and painting on metal surface for preventive coat.	<p>162. Scrap thecorrode metal surface. (08 hrs.)</p> <p>163. Clean the metal surface by wire brush or orbital wire brush. (08 hrs.)</p> <p>164. Burn the old paint from metal surface by blow lamp or gas flame. (08 hrs.)</p> <p>165. Do dry sanding with help of emery paper/cloth (06 hrs.)</p> <p>166. Apply wet sanding on old painted object. (06 hrs.)</p> <p>167. Clean the metal surface by Sander machine. (06 hrs.)</p> <p>168. Level different metal surface by portable hand grinder. (08 hrs.)</p>	Corrosion- Definition and classification. Reasons for rusting and effect of climate. Different anti-rusting process. (18hrs)
		<p>169. Apply degreasing process on metal surface. (05 hrs.)</p> <p>170. Apply de-rusting or pickling process on corrode metal. (06 hrs.)</p> <p>171. Treated phosphating on metal surface with all pre-treatment process. (08 hrs.)</p>	Metal surface - types and selection of sanding paper (polish paper). Metal surface cleaning- Mechanical and chemical cleaning. (Dry/ wet Sanding, scraping, wire brushing, orbital wire brushing, paint burning, sand

		<p>172. Demonstrate practical of Different types of, Industrial Pt system by video. (06 hrs.)</p> <p>173. Make a proper thin metal primer for brush application. (02 hrs.)</p> <p>174. Prepare metal surface & apply ready primer on metal surface by brush. (05 hrs.)</p> <p>175. Apply enamel / polyester putty or filler on primed surface. (08 hrs.)</p> <p>176. Apply enamel paint on primed metal surface. (10 hrs.)</p> <p>177. Prepare and paint metallic article by brush. (15 hrs.)</p> <p>178. Prepare & colour making for deep painting. (01 hr)</p> <p>179. Prepare article for deep painting. (04 hrs.)</p> <p>180. Demonstrate practical of Electro coat Deeping process & conveyor system by video. (05 hrs.)</p>	<p>and shot- blasting, pickling and phosphating). (09hrs)</p> <p>Metal Primer - Types, Purpose, application and use. Types of surface. Types of solvent or reducers / thinner/ automotive paints (Enamel, NC, Stoving, PU, Epoxy, rubber base sound deadener paint, metallic, pearl, water base automotive paint), lacquer. (09hrs)</p> <p>Types of painting process- Traditional and modern technology. Ex.- Brushing, Deeping, barreling, Aerosol, roller coating, suction spray, vertical spray, pressure vessel, spray airless, electrostatic, powder coating etc. (09hrs)</p>
<p>Professional Skill 25Hrs;</p> <p>Professional Knowledge 09Hrs</p>	<p>Identify, replace and assemble different pneumatics and paint gun. [Different components– Compressor, Pressure Gauge, Filter Regulator, Valve for hose]</p>	<p>181. Identify pneumatic components – Compressor, pressure gauge, Filter-Regulator-Lubricator (FRL) unit, and Different types of valves and actuators. (05 hrs.)</p> <p>182. Demonstrate knowledge of safety procedures in spray systems and personal Protective Equipment (PPE) (orally & video). (05 hrs.)</p> <p>183. Maintenance,</p>	<p>Spray Gun - Principles of spray painting, spray gun accessories and their function different types of spray guns. Holding of spray gun and stroke adjustment. Types of spray painting method. Air compressor for Painting Process. Required instruments for spray painting. (09hrs)</p>

		troubleshooting, and safety aspects of pneumatic and Painting instruments (The practical for this component may be demonstrated by video) (15 hrs.)	
Professional Skill 25 Hrs; Professional Knowledge 09 Hrs	Perform Spray Painting technique. (Spray Gun / hose handling, air & paint pressure controlling,)	184. Knowledge & Inspect spray gun holding and stroke adjustment, Paint adjustment, air adjustment techniques. (15 hrs.) 185. Spraying practice on the surface like as edges, corner, square, round & curved area. (10 hrs.)	Description of spray painting plant. Types of booth, description of booth, care and maintenance of spray booth. (09hrs)
Professional Skill 25 Hrs; Professional Knowledge 09 Hrs	Operate the system of spray booths, Oven, cleaning & their maintenance, application of sealant component on metallic joints.	186. Operate, maintenance, troubleshooting, and safety aspects of paint spray booth. (08 hrs.) 187. Operate, and safety aspects of Oven Setting, temperature & timing. (08 hrs.) 188. Apply sealant on metallic joints. (09 hrs.)	Types of oven for painting. Description of oven and its care. Sealant - Definition and description. Purpose of sealant application - edge protection; prevention of water leakage. (Hiding the metal joint/clinch). (09hrs)
Professional Skill 50 Hrs; Professional Knowledge 18 Hrs	Perform aspect ratio mixing of paint, hardner & solvent. Measure Viscosity of paint. Operate the Spray painting system.	189. Paint preparation & mixing for spray painting. (05 hrs.) 190. Practice to Measure the viscosity of paint. (10 hrs.) 191. Spray Painting practice on ornamental objects, with deferent types of paints. (10 hrs.) 192. Spraying metallic primer on metal surface. (05 hrs.) 193. Apply Car patch, Putty, Filler on metallic surface & prepare it. (10 hrs.)	Paint viscosity - importance, method of the paint viscosity. Paint preparation & mixing for different application. (09hrs) Introduction and uses of Pressure feed. (09hrs)

		<p>194. Spraying Surfacer on primed or putty finish surface. (05 hrs.)</p> <p>195. Spraying finish Top Coat on prepared job. (05 hrs.)</p> <p>* Use enamel/ N.C. paints. (Or latest paints.)</p>	
<p>Professional Skill 100 Hrs;</p> <p>Professional Knowledge 36 Hrs</p>	<p>Identify and apply of spray painting in Home appliances, Agricultural equipment's, Machines, Automotive Bodies etc.</p>	<p>196. Prepare the surface of home appliances (ex- fan, cooler, fridge, washing machine etc.). (07 hrs.)</p> <p>197. Priming & surfacing on home appliances. (09 hrs.)</p> <p>198. Apply finish undercoat & top coat on home appliances. (09 hrs.)</p> <p>* Use enamel/ N.C./ P.U. paints-Solid/ Metallic/ Pearl/.</p>	<p>Airless and Electrostatic Spray painting. (09hrs)</p>
		<p>199. Prepare the surface of machine (ex- lath, drilling, grinding, compressor, suing machine etc.). (07 hrs.)</p> <p>200. Priming & surfacing on machine. (09 hrs.)</p> <p>201. Apply finish undercoat & top coat on machine. (09 hrs.)</p> <p>* Use Enamel/ Epoxy/N.C./ P.U. /paints. (Or latest paints.)</p>	<p>Process of article and machine painting. (09hrs)</p>
		<p>202. Prepare the Tow wheeler body and spares surface. (07 hrs.)</p> <p>203. Priming & surfacing the Tow wheeler body and spares surface. (09 hrs.)</p> <p>204. Apply finish undercoat & top coat on Tow wheeler body and spares surface. (09 hrs.)</p>	<p>Car: Process of repainting. (Removal of dent, car patch, putty process, metal primer, surface, paint) Spray painting. Types of paint defects & its remedies. Importance of polishing, removal defects by polishing. (18hrs)</p>

		<p>Use Automotive paints. Apply Graphic sticker on painted surface properly & apply lacquer coat evenly. Use Enamel/ N.C./ P.U. paints/- Solid/ Metallic. (Or latest paints.)</p> <p>205. Identify the parts of Electrostatic gun assembly & operate it carefully. (08 hrs.)</p> <p>206. Identify the parts of Airless gun assembly & operate it carefully. (08 hrs.)</p> <p>207. Demonstrate practical of Different types of Spray painting, Industrial Painting system by video. (09 hrs.)</p>	
<p>Professional Skill 100 Hrs; Professional Knowledge 36 Hrs</p>	<p>Removal of dents & recover the damaged accidental area. Repaint & recovering damaged area.</p>	<p>208. Disassemble essential damage parts, inspect & mark denting area. Choose & decide process tools for denting. (10 hrs.)</p> <p>209. Removed dent on marked area, apply essential method. (18 hrs.)</p> <p>210. Do sanding or burn on denting area & apply primer & surface. Apply putty layer on necessary area evenly. (16 hrs.)</p> <p>211. Use wet sanding, level denting surface area, apply thin coat of surface. (06 hrs.)</p> <p>212. Masking on unwanted area properly. (07 hrs.)</p> <p>213. Match the shade Overlay proper equally on unmask area. (07 hrs.)</p> <p>214. Unmasked the mask area</p>	<p>Removal of defects by polishing. Removal dented area on the different surface, types of denting process. (27hrs)</p>

		<p>carefully & checkout properly & touch-up it by necessary process. (05 hrs.)</p> <p>215. Apply final coat rub and wax properly & matched it. (06 hrs.)</p>	
		<p>216. Demonstrate knowledge of Paint defects & its remedies. (video). (05 hrs.)</p> <p>217. Check & Find out different paint defects (run down, sagging, pin hole, orange peel, oil & water spot, over/dry spray, uncover shade variation etc.). (05 hrs.)</p> <p>218. Mark the defected area, Decide Techniques & apply remedies properly. Make finished surface. (15 hrs.)</p>	Types of paint defects & its remedies. Importance of polishing, removal defects by polishing. (09hrs)
Professional Skill 25 Hrs; Professional Knowledge 09 Hrs	Finish special effects for Modern furniture.	219. Process Finish special effects on different furniture & different surface. (like as-colour gradations, malty tones applying, different textures, etc.). (25 hrs.)	Furniture making is a multiple skills, using different applications on one object like Painting, Polishing, Varnishing, Waxing, staining, PU coating textures creating etc. (09hrs)
Professional Skill 25 Hrs; Professional Knowledge 09 Hrs	Identify different types of powder coating and apply the Powder coating technique in appropriate place.	<p>220. Prepare & Clean the metallic article in chemical (degreasing, de-rusting, activation, phospheting, passivation & water rainssing as required etc.) (08 hrs.)</p> <p>221. Proceed powder coating on cleaned article & bake it in oven in appropriate temperature & timing. (17 hrs.)</p>	Operating system of Powder coating technique. Chemical cleaning process, Types of coating powders. (09hrs)

Professional Skill 25 Hrs; Professional Knowledge 09 Hrs	Integrate quality testing for various Paints & Painted films.	222. Demonstrate knowledge of Paint defects & its remedies. (video). (10 hrs.) 223. Test the quality of paints & Painted surfaces by various method & instruments. (15 hrs.)	Different types of paints & painted surface testing equipments, Types of testing methods. Use & care. (09hrs)
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Industrial Visit / Project Work

Broad areas:

- a) Make a Sample of different painting types of defects on metal plates.
- b) Decorate small furniture or article.
- c) Paint & decorate kids Toys by spray.(ex-small cars, doll, etc.)
- d) Powder coating article like as gate lamp assembly, keychain, metallic toys.

SYLLABUS FOR CORE SKILLS

1. Workshop Calculation & Science(Common for two year course) (80Hrs + 80 Hrs)
2. Engineering Drawing (Common for Group-I (Mechanical Trade Group)) (80Hrs + 80 Hrs)
3. Employability Skills (Common for all CTS trades) (160Hrs + 80 Hrs)

Learning outcomes, assessment criteria, syllabus and Tool List of Core Skills subjects which is common for a group of trades, provided separately in www.bharatskills.gov.in.

List of Tools & Equipment			
PAINTER (GENERAL) (For batch of 20 Candidates)			
Sl. No.	Name of the Tools and Equipment	Specification	Quantity
A. TRAINEES TOOL KIT			
1.	Rule steel	24" (600 mm.)	20+1 Nos.
2.	Drawing Board	Imperial size	20+1 Nos.
3.	Rule wooden (Consumable)	24" (600 mm.)	20+1 Nos.
4.	Brush Round Short Hair- (Consumable)	0 to 12 No.	20+1 Nos.
5.	Brush Flat Short Hair - (Consumable)	0 to 12 No.	20+1 Nos.
6.	Varnish Brush soft hair- (Consumable)	25mm, 50mm, 75mm, 100mm	20+1 Nos.
7.	Colour Pallet for water colour (Consumable)	Big size	20+1 Nos.
8.	Stencil/ Paper Cutter (Consumable)	medium size	20+1 Nos.
B. SHOP TOOLS, INSTRUMENTS			
Lists of Tools and Equipments:			
9.	T' Square	Imperial size	2 Nos.
10.	Easel 'a' Type stand		2 Nos.
11.	Square Blade	150 mm	1 Nos.
12.	Scriber		5 Nos.
13.	Marking Gauge		1 Nos.
14.	Wing Compass	254 mm or 300 mm	5 Nos.
15.	Hand saw	450 mm	5 Nos.
16.	Tendon Saw	300 mm	1 Nos.
17.	Hack Saw with Frame		5 Nos.
18.	Smoothing Plane		1 Nos.
19.	Jack Plane		1 Nos.
20.	Mallet Round		5 Nos.
21.	Carpenter Hammer (Ball Pin)		2 Nos.
22.	Hammer (Crass Pin)		2 Nos.
23.	Hammer (Claw)		2 Nos.

24.	Portable Electric Hand Drill Machine		1 Nos.
25.	Drill Bits (Consumable)	3 mm, 5mm, 8mm, 10mm, 12mm	1each
26.	Chisel Knife-	5mm, 8mm, 10mm, 20mm, 30mm	1each
27.	Hacking Knife		1 Nos.
28.	Palate Knife Set		5sets
29.	Diamond Glazier Knife		1 Nos.
30.	Paint Tin Opener		2 Nos.
31.	Scraper Knife		5 Nos.
32.	Shave Huck Knife		1 Nos.
33.	Glider Knife		5 Nos.
34.	Pliers Insulated		1 Nos.
35.	Paint Burner (Acetylene Gas)		1Set
36.	Blow Lamp		2 Nos.
37.	Screw Driver	100mm / 200mm	2 each
38.	Step Ladder (Aluminum)	6 feet	2 Nos.
39.	Scaffolding (Movable)	H 2000mm x W 1400mm x L 2000mm.	1 Nos.
40.	working Bench	240 cm X 120 cm X 75 cm	1 Nos.
41.	Bench Vice	125mm	2 Nos.
42.	Weight Per Litter Cup	100 ml capacity	1 Nos.
43.	Ford Cop for Viscosity Measurement with stand	No.3 & No.4	2 each
44.	Mild Steel Panels	300 mm X 200 mm (18 X 22 SWG)	20 Nos.
45.	Sink (Stainless steel)	H 250mm x W 450mm x L 600mm.	4 Nos.
46.	Fire Extinguisher		2 Nos.
47.	Fire Buckets with stand (4 in 1)		1 set
48.	Suction feed spray gun with accessories.	1 Ltr. Capacity of cup	2 Nos.
49.	Portable Electric Hand Grinder		1 Nos.
50.	Gloss Meter		1 Nos.
51.	Infra red lamp		2 Nos.
52.	Digital DFT meter		2 Nos.
53.	Orbital Sander Machine with dust collector		5 Nos.
54.	Aerograph (Air Brush/ Pen Gun)		1 Nos.
55.	Pneumatic Polishing Machine with Pads		5 Nos.
56.	Goggles (Consumable)		5 Nos.

57.	Face Mask & Respirator (Consumable)		5 Nos.
58.	Gloves (Rubber) (Consumable)		5 Nos.
59.	Pipe vice		2 Nos.
60.	Hacksaw		2 Nos.
61.	Pipe wrench	10" & 16"	2 Nos. each
62.	flat file- smooth finish	12"	2 Nos.
63.	Circular cut file	12"	2 Nos.
64.	Raft cut	12"	2 Nos.
65.	Pipe die set metric & Inches	Fine pitch	1 Set
66.	Gun Spray with Gravity Feed Cup with Complete accessories	with Complete accessories (Capacity- ¼ ltr. , 1/2 ltr. , 1/3ltr. , 1 ltr.)	2 Nos. each
67.	Conventional Spray Gun For Pressure Feed	with Complete accessories	2 Nos.
68.	Electric spray gun	with Complete accessories	1 Nos.
69.	Comb Gauge		2 Nos.
70.	Pencil Hardness Tester		2 Nos.
71.	Digital Weight Machine	Capacity 5 kg. weighing scale	1 No.
C. GENERAL INSTALLATION			
72.	Air Compressor	3 Phase, 2 HP	1 Nos.
73.	Air Compressor	single Phase, 1 HP	1 Nos.
74.	Pressure Feed Container with Conventional	20 ltr. Capacity with Complete accessories	1 set
75.	Electrostatic spray Gun unit	with complete accessories	1 set
76.	Airless Spray Gun unit	with complete accessories	1 set
77.	Sealer Drum Press Pump with Sealer Gun Assembly	with complete accessories	1 set
78.	Side Draught Dry Paint Booth- Overall Dimensions (mm):	1580(W) x 2250(D) x 3200(H); Working Dimensions (mm): 1500(W) x 1320(D) x 2040(H)	1 Nos.
79.	Power Coating set up with Gun		1 Unit

	booth & Oven		
D. Shop Floor Furniture and Materials			
80.	Stool		20 Nos.
81.	Desk with Locker		20 Nos.
82.	Metal Shelving Rack Open Type	1800 x 900 x 500 mm with 4 Adjustable Shelves	2 Nos.
83.	Steel Locker's with 8 Drawer's	One locker for each trainee	3 Nos.
84.	Green Glass Board	6'X4'	1 Nos.
85.	Cupboard		4 Nos.
86.	Instructor table and		1No.
87.	Instructor chair		2 Nos.
Designing Lab			
88.	Computers with Accessories	CPU: 32/64 Bit i3/i5/i7 or latest processor, Speed: 3 GHz or Higher. RAM:-4 GB DDR-III or Higher, Wi-Fi Enabled. Network Card: Integrated Gigabit Ethernet, with USB Mouse, USB Keyboard and Monitor (Min. 17 Inch) Licensed Operating System and Antivirus compatible with trade related software.	10 sets
89.	Computer Table		10 nos.
90.	Students Chair		20 nos.
91.	Anti Virus (Latest Version)		7 Nos.
92.	Scanner High Resolution		1 Nos.
93.	Printer Lager/colour		1 Nos.
94.	Software Card Draw / Page Make/ Photo Shop / Shree Lippi / ISM / Acee - Dcee Viewer (Latest Version)		1 Each (Multi installer)
95.	UPS		As required
96.	Camera Digital	Higher megapixel with Tri - Pod	1 Nos.
97.	Radium Plotter and cutter with stand	complete accessories 48"	1 Nos.
Note:			
1. Internet facility is desired to be provided in the class room.			

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum.

Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

List of Expert members participated for finalizing the course curriculum of Painter (General) at ITI, Ambernath, Maharashtra and ITC, Vadodara, Gujarat.			
Sl. No.	Name & Designation Sh./Mr./Ms.	Organization	Remarks
Industry Expert			
1.	Laxmidas Hinduja, MD	Transpek Industries Ltd, Gujarat	Chairman
2.	S. A. Pandav, RDD, Vadodara	DET, Gujarat	Coordinator
3.	L. K. Mukherjee, DDT	CSTARI, Kolkata	Coordinator
4.	Akash Vergurlekar, Mechanical Maintenance Executive	VVF India Ltd. Taloja, Raigad	Member
5.	Jayesh Karnik, Instrumentation Maintenance Executive- Engg. Service	-do-	Member
6.	Pradeep Kumar Pandey, Asst. Deputy Manager	Century Rayon, Mumbai	Member
7.	Deepak M Kanitkar, Executive	Huhtamaki PPL Ltd, Bansri, Thopoli, Raigad	Member
8.	Atul D. Taksande, Sr. Executive P&A	Bombay Dyeing & Manufacturing Co., Patulganga	Member
9.	K. M. Unni Krishnan, Sr. Manager HR & Admin.	ASB International Pvt. Ltd., Ambernath	Member
10.	Ajit D. Bagwe, Manager- Molding	-do-	Member
11.	Rohan Kadlay, General Manager	Siemens Ltd., Mumbai	Member
12.	Vidyadhar Takle, Asst. Manager- Engg. Service	Godrej Industries Ltd., Ambernath	Member
13.	Roshan Vagade, QC- Engineer	Indore Composite Pvt. Ltd. Mumbai	Member
14.	Sandip D. Pisal, Asso. Chief Manager- Painter	Godrej & Boyce Manufacturing Co. Ltd, Mumbai	Member
15.	Rajendra Agashe, Manager- HR	Asian Paints India Ltd. Taloja	Member
16.	Mahesh Bandekar, Coating Officer	Indore Composite Pvt. Ltd. Mumbai	Member
17.	Prashant A Bhosale, Sr. Manager- Production	Jubilant Life Science Ltd., N-34 Additional, Ambernath	Member

18.	Udayraj Ransing, Dy. Manager Engg.	-do-	Member
19.	Satyandra Patra, Manager	Du Pont, Vadodara	Member
20.	Varun Bhai, Manager	-do-	Member
21.	Nitesh Chakraborty, Manager	-do-	Member
22.	Chirag Mistry, Sr. Manager	Gromax Agri Equipment Ltd., Vadodara	Member
23.	Ashish Solanki, Executive	-do-	Member
24.	Ingle Kalpesh, Manager-HR	Kataria Automobiles Pvt. Ltd, Vadodara	Member
25.	Amar Dherenge	Aldium Motors Pvt. Ltd., Vadodara	Member
26.	Gopal Badgujar	Saidham Motors, Vadodara	Member
DGT & Training Institute			
27.	S. P. Parmar, Principal	ITI Petlad, Gujarat	Member
28.	R. S. Khule R.S., Craft Instructor	ITI, Nandurbar, Maharashtra	Member
29.	V.V. Ranalkar, Craft Instructor	ITI (G.) Nashik, Maharashtra	Member
30.	H. N. Bargal, TO	DVET, Mumbai	Member
31.	P. K. Bairagi, TO	CSTARI, Kolkata	Member

ABBREVIATIONS

CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities

