PAINTER (GENERAL)

COMPETENCY BASED CURRICULUM

(Duration: 2 Yrs.)

APPRENTICESHIP TRAINING SCHEME (ATS)

NSQF LEVEL- 4

SECTOR – CHEMICAL

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

PAINTER (GENERAL)

(Revised in 2018)

APPRENTICESHIP TRAINING SCHEME (ATS)

NSQF LEVEL - 4

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

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1. Andhra Prasad Heavy Machinery & Engineering Limited
2. Tata Motors Limited, Chinhat Industrial Area, Lucknow, U.P.

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Sl. No.	Name & Designation Sh./Mr./Ms.	Organization	Expert Group Designation
1.	T. Gouri Prasad, Chief (Per, Admn. &Vig.)	Andhra Prasad Heavy Machinery & Engineering Limited	Expert
2.	RajnishJulka, Plant Head	Tata Motors Limited, Chinhat Industrial Area, Lucknow, U.P.	Expert
3.	Kumar Lalit, Lko HR	Tata Motors Limited, Chinhat Industrial Area, Lucknow, U.P.	Expert
4.	Sri NirmalyaNath, Astt. Director of Trg.	CSTARI, Kolkata	Expert
5.	R.N.Manna, Training Officer	CSTARI, Kolkata	Expert

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1. BACKGROUND

1.1 Apprenticeship Training Scheme under Apprentice Act 1961

The Apprentices Act, 1961 was enacted with the objective of regulating the programme of training of apprentices in the industry by utilizing the facilities available therein for imparting on-the-job training. The Act makes it obligatory for employers in specified industries to engage apprentices in designated trades to impart Apprenticeship Training on the job in industry to school leavers and person having National Trade Certificate(ITI pass-outs) issued by National Council for Vocational Training (NCVT) to develop skilled manpower for the industry**.** There are four categories of apprentices namely**; trade apprentice, graduate, technician and technician (vocational) apprentices.**

Qualifications and period of apprenticeship training of **trade apprentices** vary from trade to trade. The apprenticeship training for trade apprentices consists of basic training followed by practical training. At the end of the training, the apprentices are required to appear in a trade test conducted by NCVT and those successful in the trade tests are awarded the National Apprenticeship Certificate.

The period of apprenticeship training for graduate (engineers), technician (diploma holders and technician (vocational) apprentices is one year. Certificates are awarded on completion of training by the Department of Education, Ministry of Human Resource Development.

1.2 Changes in Industrial Scenario

Recently we have seen huge changes in the Indian industry. The Indian Industry registered an impressive growth during the last decade and half. The number of industries in India have increased manifold in the last fifteen years especially in services and manufacturing sectors. It has been realized that India would become a prosperous and a modern state by raising skill levels, including by engaging a larger proportion of apprentices, will be critical to success; as will stronger collaboration between industry and the trainees to ensure the supply of skilled workforce and drive development through employment. Various initiatives to build up an adequate infrastructure for rapid industrialization and improve the industrial scenario in India have been taken.

1.3 Reformation

The Apprentices Act, 1961 has been amended and brought into effect from 22nd December, 2014 to make it more responsive to industry and youth. Key amendments are as given below:

- Prescription of number of apprentices to be engaged at establishment level instead of trade-wise.
- Establishment can also engage apprentices in optional trades which are not designated, with the discretion of entry level qualification and syllabus.
- Scope has been extended also to non-engineering occupations.
- Establishments have been permitted to outsource basic training in an institute of their choice.
- The burden of compliance on industry has been reduced significantly.

2. TRAINING SYSTEM

2.1 GENERAL

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

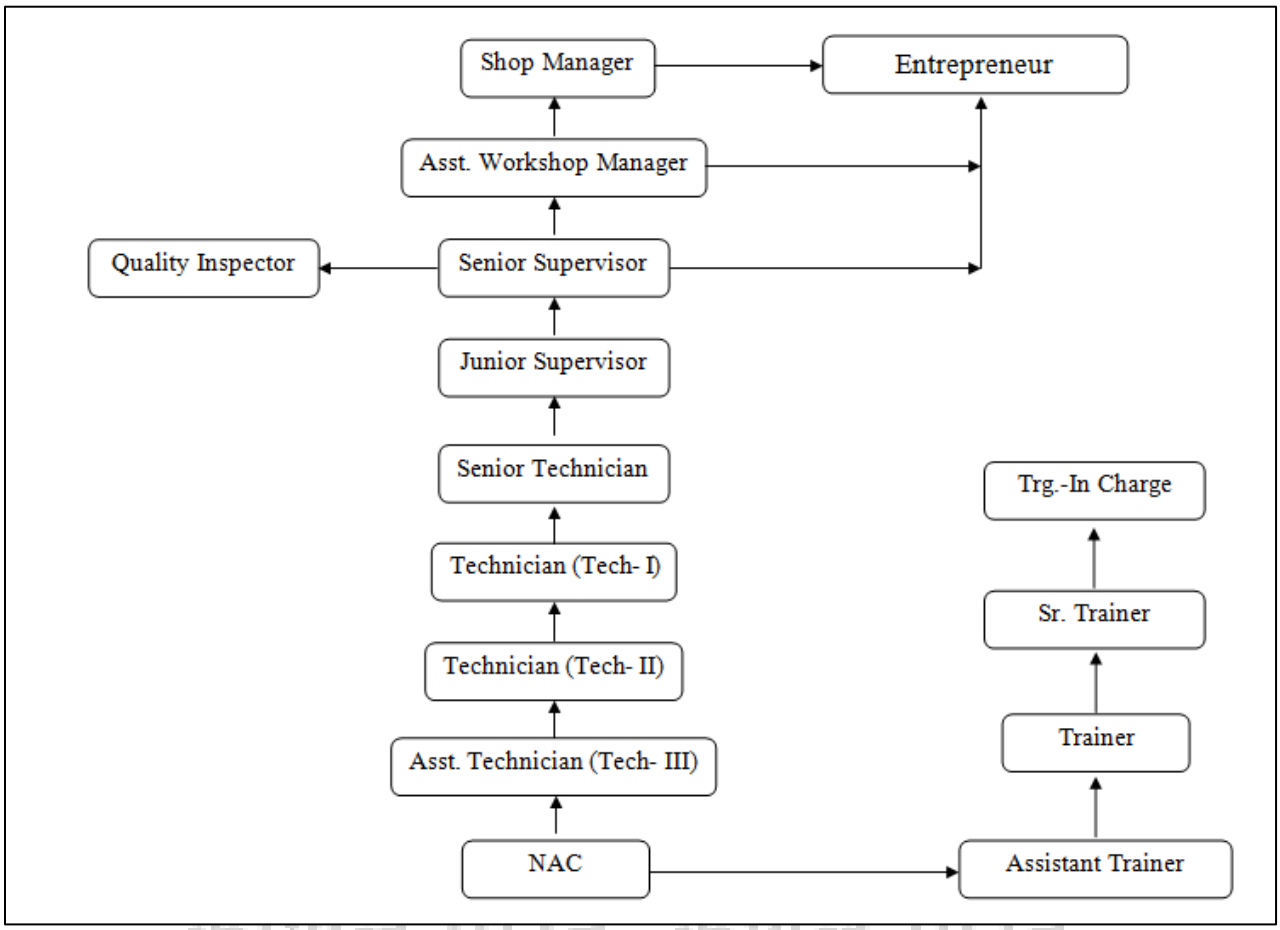
Painter (General) trade under ATS is one of the most popular courses delivered nationwide through different industries. The course is of two years (02 Blocks) duration. It mainly consists of Domain area and Core area. In the Domain area Trade Theory & Practical impart professional - skills and knowledge, while Core area - Workshop Calculation and science, Engineering Drawing and Employability Skills imparts requisite core skills & knowledge and life skills. After passing out the training programme, the trainee is being awarded National Apprenticeship Certificate (NAC) by NCVT having worldwide recognition.

Broadly candidates need to demonstrate that they are able to:

- Read & interpret technical parameters/document, plan and organize work processes, identify necessary materials and tools;
- Perform task with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional skill, knowledge, core skills & employability skills while performing jobs and solve problem during execution.
- Document the technical parameters related to the task undertaken.

2.2 CAREER PROGRESSION PATHWAYS:

- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in ITIs.
- Indicative pathways for vertical mobility.



2.3 COURSE STRUCTURE:

Table below depicts the distribution of training hours across various course elements during a period of two years (*Basic Training and On-Job Training*) : -

Total training duration details: -

Time (in months)	1-3	4-12	13-15	16-24
Basic Training	**Block– I**	**-----**	**Block – II**	**------**
Practical Training (On - job training)	**----**	**Block – I**	**------**	**Block – II**

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A. Basic Training

For 02 yrs. Course (Engg.) :-(**Total 06 months:** 03 months in 1st yr. + 03 months in 2nd yr.)

For 01 yr. Course (Engg.):-(**Total 03 months:** 03 months in 1st yr.)

S No.	Course Element	Total Notional Training Hours	
		For 02 Yrs. course	**For 01 Yr. course**
1.	Professional Skill (Trade Practical)	550	275
2.	Professional Knowledge (Trade Theory)	240	120
3.	Workshop Calculation & Science	40	20
4.	Engineering Drawing	60	30
5.	Employability Skills	110	55
	Total (Including internal assessment)	**1000**	**500**

B. On-Job Training:-

For 02 yrs. Course (Engg.) :- (**Total 18 months:** 09 months in 1st yr. + 09 months in 2nd yr.)

Notional Training Hours for On-Job Training: 3120 Hrs.

For 01 yr. course (Engg.) :- (**Total 12 months**)

Notional Training Hours for On-Job Training: 2080 Hrs.

C. Total training hours:-

Duration	Basic Training	On-Job Training	Total
For 02 yrs. Course (Engg.)	1000 hrs.	3120 hrs.	4120 hrs.
For 01 yr. Course (Engg.)	500 hrs.	2080 hrs.	2580 hrs.

2.4 ASSESSMENT & CERTIFICATION:

The trainee will be tested for his skill, knowledge and attitude during the period of course and at the end of the training programme as notified by Govt. of India from time to time. The Employability skills will be tested in first two semesters only.

a) The **Internal assessment** during the period of training will be done by **Formative assessment method** by testing for assessment criteria listed against learning outcomes. The training institute have to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the template (Annexure – II).

b) The final assessment will be in the form of summative assessment method. The All India Trade Test for awarding NAC will be conducted by NCVT on completion of course as per guideline of Govt. of India. The pattern and marking structure is being notified by govt. of India 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

The minimum pass percent for Practical is 60% & minimum pass percent for Theory subjects 40%. The candidate pass in each subject conducted under all India trade test.

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 assessment. Due consideration should be given while assessing for team work, avoidance/reduction of scrap/wastage and disposal of scarp/wastage as per procedure, behavioral attitude, sensitivity to 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

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Evidences of internal assessments are to be preserved until forthcoming semester examination for audit and verification by examination 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 with occasional guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of an acceptable standard of craftsmanship.	• Demonstration of good skill in the use of hand tools, machine tools and workshop equipment • Below 70% tolerance dimension/accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A fairly good level of neatness and consistency in the finish • Occasional support in completing the project/job.
(b)Weightage in the range of above75% - 90% to be allotted during assessment	
For this grade, the candidate, with little guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a reasonable standard of craftsmanship.	• Good skill levels in the use of hand tools, machine tools and workshop equipment • 70-80% tolerance dimension/accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A good level of neatness and consistency in the finish • Little support in completing the project/job
(c) Weightage in the range of above 90% to be allotted during assessment	
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.	• High skill levels in the use of hand tools, machine tools and workshop equipment • Above 80% tolerance dimension/accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A high level of neatness and consistency in the finish. • Minimal or no support in completing the project.

3. JOB ROLE

Brief description of Job roles:

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.

Industry has grown many folds since independence. For matching skill requirement, industry require skilled painter to ensure repeatability of process from one job to another as by nature it is process work. Paint shop people expect following from painter general trade: -

I. Knowledge about Painting process, Painting booth, Paint mixing system and Parameter setting.
II. Able to do prepare metal surface for painting application and do painting on Parts repeatedly as per Lay down specification.
III. Able to do sealant application on metal surface.
IV. Able to identify paint defect and find out cause of it and do rectification.

Painting is the protection and decorative related activity. Finally, manufactured equipment will expose to the different temperatures, different climatic conditions. Painting gives long durability for surface protection. Along with protection it gives decorative and aesthetic look also.

The Apprenticeship painter would have the knowledge related to the above factors. Hence, it is very much necessary and relevant for the Painter.

Reference NCO 2015: 7132.0100 - Painter, General

4. NSQF LEVEL COMPLIANCE

NSQF level for Painter(General) trade under ATS: **Level 4**

As per notification issued by Govt. of India dated- 27.12.2013 on National Skill Qualification Framework total 10 (Ten) Levels are defined.

Each level of the NSQF is associated with a set of descriptors made up of five outcome statements, which describe in general terms, the minimum knowledge, skills and attributes that a learner needs to acquire in order to be certified for that level.

Each level of the NSQF is described by a statement of learning outcomes in five domains, known as level descriptors. These five domains are:

a. Process
b. Professional Knowledge,
c. Professional Skill,
d. Core Skill and
e. Responsibility.

The Broad Learning outcome of Painter (General) trade under ATS mostly matches with the Level descriptor at Level- 4.

The NSQF level-4 descriptor is given below:

LEVEL	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
Level 4	Work in familiar, predictable, routine, situation of clear choice.	Factual knowledge of field of knowledge or study	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts	Language to Communicate written or oral, with required clarity, skill to basic Arithmetic and algebraic principles, basic understanding of social political and natural environment.	Responsibility for own work and learning.

5. GENERAL INFORMATION

Name of the Trade	PAINTER(GENERAL)
NCO - 2015	7132.0100
NSQF Level	Level – 4
Duration of Apprenticeship Training (Basic Training + On-Job Training)	Two years (02 Blocks each of one year duration).
Duration of Basic Training	a) Block –I : 3 months b) Block – II : 3 months **Total duration of Basic Training: 6 months**
Duration of On-Job Training	a) Block–I: 9 months b) Block–II : 9 months **Total duration of Practical Training: 18 months**
Entry Qualification	Passed 8th class examination from a recognized school.
Selection of Apprenticeship	The apprentices will be selected as per Apprenticeship Act amended time to time.
Instructors Qualification for Basic Training	As per ITI instructors qualifications as amended time to time for the specific trade.
Infrastructure for the basic training	As per related trade of ITI
Examination	The internal examination/ assessment will be held on completion of each block. Final examination for all subjects will be held at the end of course and same will be conducted by NCVT.
Rebate to Ex-ITI Trainees	01 year
CTS trades eligible for Painter(General) Apprenticeship	Painter (General)

Note:

- *Industry may impart training as per above time schedule for different block, however this is not fixed. The industry may adjust the duration of training considering the fact that all the components under the syllabus must be covered. However the flexibility should be given keeping in view that no safety aspects is compromised.*
- *For imparting Basic Training the industry to tie-up with ITIs having such specific trade and affiliated to NCVT.*

6. LEARNING OUTCOME

6.1 GENERIC LEARNING OUTCOME

The following are minimum broad Common Occupational Skills/ Generic Learning Outcome after completion of the Painter (General) course of 02 years duration under ATS.

Block I & II:-

1. Recognize & comply safe working practices, environment regulation and housekeeping.

2. Understand and explain different mathematical calculation & science in the field of study including basic electrical. *[Different mathematical calculation & science –Units and measurements Material science, ratio and Proportion, Friction, Centre of gravity, Specific Gravity, pressure, Work, Power & Energy, Algebra, Geometry & Mensuration , Volume, weight, Estimation, Applied shop problems , Estimation of Lay out and Installation piping system ,Heat & Temperature, Levers & Simple machine, Reading of graph, Statistics, Centre of gravity, Power transmission, Pressure]*

3. Interpret specifications, different engineering drawing and apply for different application in the field of work. *[Different engineering drawing-Geometrical construction, Dimensioning, Layout, Method of representation, Symbol, scales, Different Projections, Machined components & different thread forms, Assembly drawing, Sectional views, Estimation of material, Electrical & electronic symbol ,draw the lay out plan, Study the building Drawing about the plumbing sectional views about the Drains]*

4. Select and ascertain measuring instrument and measure dimension of components and record data.

5. Explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day to day work to improve productivity & quality.

6. Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.

7. Explain personnel finance, entrepreneurship and manage/organize related task in day to day work for personal & societal growth.

8. Plan and organize the work related to the occupation.

6.2 SPECIFIC LEARNING OUTCOME

Block – I

1. Identify precautions to be followed while working of Paint shop and emergency preparedness.
2. Make free hand sketching of human figures, animal figures, geometrical figures, hand scopes etc.
3. Use graphs for accurate drawing & enlarge small units.
4. Paint letters for name plates, road signs, signals and various types of advertisements.
5. Prepare sign-board paintings, posters, banners, festoons of different sizes and natures.
6. Prepare Industrial & commercial paintings and big hording on different surfaces like ply board, tin, masonite board etc.
7. Prepare cinema posters in multi-color including lettering and drawing portraits on it.
8. Use single or multiple plate stencils positive and negative according to need.
9. Carry out Pretreatment of Metal surface : 7 steps of metal surface treatment : De-Scaling, De-rusting, Degreasing, Activation, Phosphating, Passivation and rinse
10. Prepare metal surface by rubbing with emery, scraping, wire brushing and manual chipping.
11. Prepare metal surfaces with mechanical pneumatic chippers.
12. Prepare surfaces of steel body by portable grinder.
13. Descale metal surfaces by vacuum blast machine.
14. Perform flame cleaning of rusted surfaces.
15. Perform pre-treatment of ferrous and non-ferrous surfaces by degreasing, etching, picking and solvent wiping.
16. Clean and wipe different surfaces to be painted to the required standard.

Block – II

17. Prepare adhesive compound like putties, fillers and metal cements applying them on metal and wooden surfaces.
18. Identify paint mixing system in industrial application.
19. Select, mix & prepare all types of oil paints & water paints.
20. Select, mix and prepare all types of synthetic paints and such other paints to obtain specific colours.
21. Perform sand or grit blasting of metal surfaces for painting by sand blasting machines.
22. Identify different colour coding of pipe lines as per ISO standard.
23. Identify Industrial Paint Booth system: Knowledge about its functioning. Must know Do`s & Don`ts of paint booth. Fire Safety for paint booth and emergency preparedness.

Parameter setting like Temperature, Humidity, dust particles, Lux level etc. for ensuring good parts quality. Coagulation tank function and importance

24. Identify Auto body Sealant system: - Auto body sealant application methods and technique. Identification of Sealant defects, cause & its remedy. UBS (Under body sealant) type, application, defects, cause and rectification. Knowledge of Sealant pump and gun.
25. Perform Pre-treatment, applying primers coats and spray painting of surfaces on car body and finishing by different process.
26. Perform Pre-treatment and spray painting of surfaces on scooters and motor cycles.
27. Carry out Pre-treatment, applying of primer coats and spray painting of surfaces on refrigerators/domestic appliances.
28. Perform Pre-treatment, applying of primers and spray painting on the surfaces of steel furniture like Almirah, Chairs, Tables, Trays, Racks etc.
29. Identify stove enameling of different articles such as cycle, fan, typewriter parts etc. for novelty finish including air drying.
30. Identify Melt sheet application and its rectification.
31. Identify curing method purpose & type like Electrical, LPG, LDO Propane. (Elaborated)
32. Perform silk screen painting using mask and templates.
33. Identify staging work, scaffolding and painting at height.
34. Handle different types of spray painting machines in different types of painting booth including spray guns.
35. Rectify the common coating failure and repair various painting defects.
36. Test different paints and varnishes regarding fluidity, spreading, density, viscosity, adhesiveness, drying, harding etc.
37. Interpret the layout or design and subsequently adopt them for painting.
38. Clean and maintain all tools and equipment required for painting.
39. Identify safe way of storage of paints and varnishes.
40. Maintain painting schedules and follow ISI specifications and other painting regulations.
41. Perform buffing and polishing.
42. Identify Difference between AED (Anode Electron deposition) and CED (Cathode Electron deposition) Method.
43. Apply Robotic spray painting knowledge.

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

7. LEARNING OUTCOME WITH ASSESSMENT CRITERIA

GENERIC LEARNING OUTCOME	
LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
1. Recognize & comply safe working practices, environment regulation and housekeeping.	1. 1. Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements.
	1. 2. Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.
	1. 3. Identify, handle and store / dispose off dangerous/unsalvageable goods and substances according to site policy and procedures following safety regulations and requirements.
	1. 4. Identify safety alarms accurately.
	1. 5. Report supervisor/ Competent of authority in the event of accident or sickness of any staff and record accident details correctly according to site accident/injury procedures.
	1. 6. Identify basic first aid and use them under different circumstances.
	1. 7. Identify different fire extinguisher and use the same as per requirement.
	1. 8. Avoid waste and dispose waste as per procedure
	1. 9. Recognize different components of 5S and apply the same in the working environment.
2. Understand, explain different mathematical calculation & science in the field of study including basic electrical and apply in day to day work *[Different mathematical calculation & science –Units and measurements Material science, ratio and Proportion ,Friction, Centre of gravity, Specific Gravity, pressure, Work, Power & Energy, Algebra, Geometry*	2. 1. Explain concept of basic science related to the field such as Material science, Mass, weight, density, speed, velocity, heat & temperature, force, motion, pressure, heat treatment, centre of gravity, friction.
	2. 2. Measure dimensions as per drawing.
	2. 3. Use scale/ tapes to measure for fitting to specification.
	2. 4. Comply given tolerance.
	2. 5. Prepare list of appropriate materials by interpreting detail drawings and determine quantities of such materials.
	2. 6. Ensure dimensional accuracy of assembly by using different instruments/gauges.

& ***Mensuration****, Volume, weight, Estimation ,Applied shop problems , Estimation of Lay out and Installation piping system ,Heat & Temperature, Levers & Simple machine, Reading of graph, Statistics, Centre of gravity, Power transmission, Pressure]*	2. 7. Explain basic electricity, insulation & earthing.
3. Interpret specifications, different engineering drawing and apply for different application in the field of work. *[Different engineering drawing- Geometrical construction, Dimensioning, Layout, Method of representation, Symbol, scales, Different Projections, Machined components & different thread forms, Assembly drawing, Sectional views, Estimation of material, Electrical & electronic symbol ,draw the lay out plan, Study the building Drawing about the plumbing sectional views about the Drains]*	3. 1. Read & interpret the information on drawings and apply in executing practical work. 3. 2. Read & analyse the specification to ascertain the material requirement, tools, and machining /assembly /maintenance parameters. 3. 3. Encounter drawings with missing/unspecified key information and make own calculations to fill in missing dimension/parameters to carry out the work.
4. Select and ascertain measuring instrument and measure dimension of components and recorded data.	4. 1. Select appropriate measuring instruments such as micrometers, vernier calipers, dial gauge, bevel protector and height gauge (as per tool list). 4. 2. Ascertain the functionality & correctness of the instrument. 4. 3. Measure dimension of the components & record data to analyse the with given drawing/measurement.
5. Explain the concept in productivity, quality tools,	5. 1. Explain the concept of productivity and quality tools and apply during execution of job

and labour welfare legislation and apply such in day to day work to improve productivity & quality.	5. 2. Understand the basic concept of labour welfare legislation and adhere to responsibilities and remain sensitive towards such laws.
	5. 3. Knows benefits guaranteed under various acts.
6. Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.	6. 1. Explain the concept of energy conservation, global warming, pollution and utilize the available recourses optimally & remain sensitive to avoid environment pollution.
	6. 2. Dispose waste following standard procedure.
7. Explain personnel finance, entrepreneurship and manage/ organize related task in day to day work for personal & societal growth.	7. 1. Explain personnel finance and entrepreneurship.
	7. 2. Explain role of Various Schemes and Institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non financing support agencies to familiarizes with the Policies /Programmes & procedure & the available scheme.
	7. 3. Prepare Project report to become an entrepreneur for submission to financial institutions.
8. Plan and organize the work related to the occupation.	8. 1. Use documents, drawings and recognize hazards in the work site.
	8. 2. Plan workplace/ assembly location with due consideration to operational stipulation.
	8. 3. Communicate effectively with others and plan project tasks.
	8. 4. Assign roles and responsibilities of the co-trainees for execution of the task effectively and monitor the same.
SPECIFIC OUTCOME	
Block-I& II (Section:10 in the competency based curriculum)	
*Assessment Criteria i.e. the standard of performance, for each specific learning outcome mentioned under **block – I** (section: 10) must ensure that the trainee works in familiar surroundings where nature of job is routine type, situation of clear choice & predictable. Assessment criteria should broadly cover the aspect of **Planning** (Identify, ascertain, etc.); **Execution** (apply factual knowledge of field of knowledge, recall and demonstrate practical skill during performing the work in routine and repetitive in narrow range of application, using appropriate rule and tool, complying basic arithmetic and algebraic principles and language to communicate in written or oral with required clarity; **Checking/ Testing** to ensure functionality during the assessment of each outcome. The assessments parameters must also ascertain that the candidate is responsible for his/her own work and learning.*	

8. SYLLABUS

BASIC TRAINING (Block – I)
Duration: (03) Three Months

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
1.	Importance of the Trade training - machinery used In the trade type of work done. Introduction to safety including firefighting equipments and their uses. Surface preparation of wood for varnishing & polishing.	Introduction to elements of arts -such various lines, forms, tones, colour, texture and their applications. Introduction to painting medium such as pencil, canvas, papers, etc.
2.	Sign painting practice in sketching for geometrical shapes, human figures, animal figures and natural scenes with black & white by pencil & colours.	Concept of colour primary secondary & territory. Definition of colour scheme such as tint, shade, hue, tone monochromic, warm colours, glossary of terms for paints & enamels their nature constituents of paints & method of manufacture.
3.	Drawing practice of gothic & roman letters, architectural, ornamental and freehand. Practice on letters & figures of different types, signals, name plates, advertisement etc.	Different types of paints as primer surfaces, under coats, full gloss paint and enamels.
4.	Stenciling: Stencils Cutting practice on cardboard and paper. Sign board painting in deferent media, chart, poster festoon, banner, models etc. Enamel paint, water colour	Stenciling: Types of stencils, use & care. Drawing instruments used in lettering, Lettering – types. Painter hand tools - their description, use, care & maintenance.
5.	Painting of walls system of lay out-Advertisement, Industrial and commercial painting. Layout of painting with combination colouring viz. Cinema posters (Including scenery, lettering and portrait).	Painting of walls -Layout process, use of paint, Combination of all colour. Method of evaluating the job works, estimating and costing. Preservation of painted articles, posters etc. General idea of commercial artist activities.
6	Preparation of wooden surfaces: cleaning, sanding, knotting, artificial wood (staining & graining). Preparation, mixing of putty-different process of making. Use of putty on different wooden surfaces.	Theory of preparation of wooden surfaces Putty - types and uses. Method of mixing & its different system of application.

7	Surface finishing, varnishing, polishing of wooden furniture such as chair, table, almirahs, trays etc. both old & new. Preparing of wood surfaces for varnishing, finishing, polishing of doors, windows, panels, partitions of rooms, wooden boxes etc.	Varnish - its classification, properties, method of varnishing and polishing. Types of varnishes viz. natural & synthetic, Preparation of varnishes. Safety precaution to use of varnish and paint. Storing process of varnish, paints & its fire prevention.
8	Metal Surface Painting: Pre-treatment of metal surfaces for scraping, rubbing by emery, wire brushes etc. Metal pre-treatment such as pickling, phosphating etc.	Metal Surface Painting: Corrosion: - causes of corrosion, effect of corrosion with effect of atmosphere in different places. Types of emery papers, sanding (wet & dry). Corrosion on different metals both ferrous and non-ferrous -factors controlling corrosion- corrosion test- atmospheric, water, soil etc. -and its protection.
9	Preparing of surfaces for primary coat of different metals, practicing by brushes of various sizes-setting and application practice. Finishing painting by brushes on the metal surfaces like trays, boxes, containers, tables, chairs etc.	Introduction about primers, its method of application, process for coating different metals and its precaution. Types of brushes. Painter's equipments ladder, step scaffolding, trestle, buckets etc. their description & use.
10	Metal pre-treatment such etching, buffing, wire brushing etc. Painting practice on corrected metal surface.	Description of metal pre- treatment, its various method and field of application. Paint - definition, classification, & uses. Method of selection of paints its application, preparation techniques. Purposes and its effect of paints on metal surface.
11	Painting by brushes on wooden furniture surface, such as Chairs, tables, trays, almirahs, racks, boards, panels etc.	Introduction to paint testing equipments. Description of paint making and mixing equipments its use and safety precaution. Causes of application for use of Nitrocellulose / Shellac, Lacquers for wood surface.
12.	Painting with brush for different types of pipes such as - cast iron pipe, steel pipe and galvanized pipes, lead pipes, aluminium pipes, synthetic pipes etc.	Introduction to different types of pipe lines such as hot and cold water, liquid & gas, chemicals, oil, steam pipe lines etc. Basic knowledge about colour code symbol for different pipe lines such as gas, steam, water, oil, chemicals etc.

		Precaution against air pollution. Application of standard paints approved by BIS.
13.	**Revision**	
	Assessment/Examination 03days	

NOTE: - *More emphasis to be given on video/real-life pictures during theoretical classes. Some real-life pictures/videos of related industry operations may be shown to the trainees to give a feel of Industry and their future assignment.*

BASIC TRAINING (Block – II)

Duration: (03) Three Months

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
1	SPRAY PAINTING: Spray painting practice on metal surfaces with spray gun (Conventional and Electrostatic)	SPRAY PAINTING: Introduction of spray painting, it's spraying techniques and safety precautions. Advantage and disadvantages of spray painting technique. Introduction to air compressor use for painting work, its types, functions, working and safety precaution etc. Spray painting guns its types, functions, working and safety precautions. Description of various spray painting plants/booth & equipments, method of construction their fields of applications, health & safety precaution etc. on spray painting.
2.	Practice on painting by dipping the metal surfaces, like trays, boxes, containers, castings frames, garden benches etc	WALL SURFACE PAINTING: Description of bonds for plastering walls. Techniques of constructing walls. Methods of erecting scaffolding. Purpose of cleaning walls surfaces. Processes of cleaning, different methods of cleaning, its description, precautions and uses.
3.	PAINTING: Preparing of surfaces walls, cleaning of rough surfaces, use of nail brushes, iron hit, chiseling, rubbing by emery & brushes etc. for distempering. Introduction to dipping by hand & mechanical application,	Types of wall primer and putty. Lime colour, dry distemper, cement paint, for wall. Process for applying of distemper & cement paints, and its precaution.
4.	Primaring of wall surface and putty filling. Paints & colour shade making, matching colours for ceiling and walls, relief painting and texturing of walls and ceiling. Method of making scaffolding.	The methods employed in preparing surfaces for oil painting of wall, various painting defects and their remedies. Method of wall painting with oil colour paint. Emulsion paints for buildings.
5	Preparing of wall surface for oil paint.	Method of preparing various oil paints shades. Remedies of atmospheric corrosion (exterior wall). Calculation of paints required quantity for job work.

6	Painting of walls & ceiling with oil paints.	Painter's wall painting equipments its classification, functions & their uses. Principles of roller and brush painting its application and precautions. Analysis of rates for simple items of painting works.
7	Painting of residential house/offices walls with interior emulsion paints. Colouring of door & windows with oil paints.	Buildings painting by spray gun and brushes, difference -specific application & their defects & remedies. Different colour used, selection of paints for different types of fitting, electrical, water supply, sanitary & drainage line special consideration on painting of high rise building.
8.	Painting of exterior walls with emulsion and cement paints.	Pigment, definition, types of pigments, properties of pigments manufacturing processes, their different types and uses.
9.	Preparation of pigment driers, resins, etc. Practice in the mixing and matching of colours, coloured objects and materials in both oil & water medium.	Application of oil driers, resins etc. & their purpose, colour pigments, matching of colours in both oil and water medium.
10	Testing of different varnishes for special gravity weight per litre, viscosity, hardness gloss and finish, adhesion, flexibility & drying time.	Method of testing varnishes. Method of testing paints.
11	Testing of different paints for special gravity weight per litre, viscosity, hardness gloss and finish, adhesion, flexibility & drying time.	• Enamel is air drying &stoving. Testing of oil strainers, dry pigments, volatile paints thinners, viscosity drying gloss finish, weight per litre, flexibility & adhesion • The procedures involved in novelty painting, precaution to be taken colour schemes.
12	• Stoving enamel of sheet metal & cast iron articles such as cycle parts, fan etc. • Novelty finishes air drying of different articles such as fans, type writers, ovens	• Difference between AED (Anode Electron deposition) and CED (Cathode Electron deposition) Method. • Robotic spray painting knowledge.
13.	**Revision**	
	Assessment/Examination 03days	

NOTE: - *More emphasis to be given on video/real-life pictures during theoretical classes. Some real-life pictures/videos of related industry operations may be shown to the trainees to give a feel of Industry and their future assignment.*

9. SYLLABUS - CORE SKILLS

9.1 WORKSHOP CALCULATION SCIENCE & ENGINEERING DRAWING

Block – I		
Sl. No.	**Workshop Calculation and Science (Duration: - 20 hrs.)**	**Engineering Drawing (Duration: - 30 hrs.)**
1.	**Unit**: Systems of unit- FPS, CGS, MKS/SI unit, unit of length, Mass and time, Conversion of units	**Engineering Drawing: Introduction and its importance** - Viewing of engineering drawing sheets. - Method of Folding of printed Drawing Sheet as per BIS SP:46-2003
2.	Applied workshop problem involving Multiplication & division common Fractions addition, subtraction, Multiplication & division application of fraction to shop problems.	Freehand sketching of straight lines, rectangles, squares, circles, polygons etc. Free hand writing practice of letters and numbers.
3.	Calculate area of rectangle, squares, triangles, circle, regular polygons, rectangular block, cubical block, cylinder, cone, sphere, pyramid etc.	Free hand sketching of tools used in the trade
4.	Calculate volume of rectangular block, cubical block, cylinder, cone, sphere, pyramid etc	Geometrical Construction of figures-triangles, square, hexagon, Octagon, circles, ellipses etc. & dividing of lines, angles into equal parts, tangent to a curve -using drawing instruments.
5.	Definition of mass, weight density and their units. Difference between mass & weight Calculate weight of cylinder, cone, sphere etc.	Projection -introduction, principle, method of projection. Difference between third angle & first angle projection. Draw the projection view in 1st & 3rd method for the same component.

Block – II		
Sl. No.	**Workshop Calculation and Science (Duration: - 20 hrs.)**	**Engineering Drawing (Duration: - 30 hrs.)**
1.	Calculate surface area of chair, table, windows, doors, walls, floors for painting. Calculate cost of painting on the basis of painting material cost & labour cost.	Draw orthographic projections in I & III angle (simple to complex components).
2.	Solving problems of percentage, ratio and proportions.	Drawing of different pipe lines and paint as per colour code.
3.	Heat Treatment process of metals and its definitions. Baking process of metal body before and after painting.	Freehand sketching of car body and colour shading practice.
4.	Centre of gravity (CG) -definitions, calculation of CG of body. Effect of (CG) centre of gravity in the trade work.	Freehand sketching of building (interior & exterior).
5.	Definition, difference and unit of heat and temperature. Sources of heat and its effect on bodies. Types of heat transfer methods and their differences.	Practice of different colour shading

9.2 EMPLOYABILITY SKILLS

(DURATION: - 110 HRS.)

Block – I (Duration – 55 hrs.)	
1. English Literacy Duration: 20 Hrs.	Marks : 09
Pronunciation	Accentuation (mode of pronunciation) on simple words, Diction (use of word and speech)
Functional Grammar	Transformation of sentences, Voice change, Change of tense, Spellings.
Reading	Reading and understanding simple sentences about self, work and environment.
Writing	Construction of simple sentences Writing simple English.
Speaking / Spoken English	Speaking with preparation on self, on family, on friends/ classmates, on know, picture reading gain confidence through role-playing and discussions on current happening job description, asking about someone's job habitual actions. Cardinal (fundamental) numbers ordinal numbers. Taking messages, passing messages on and filling in message forms Greeting and introductions office hospitality, Resumes or curriculum vita essential parts, letters of application reference to previous communication.
2. I.T. Literacy Duration: 20 Hrs.	Marks : 09
Basics of Computer	Introduction, Computer and its applications, Hardware and peripherals, Switching on-Starting and shutting down of computer.
Computer Operating System	Basics of Operating System, WINDOWS, The user interface of Windows OS, Create, Copy, Move and delete Files and Folders, Use of External memory like pen drive, CD, DVD etc, Use of Common applications.
Word processing and Worksheet	Basic operating of Word Processing, Creating, opening and closing Documents, use of shortcuts, Creating and Editing of Text, Formatting the Text, Insertion & creation of Tables. Printing document. Basics of Excel worksheet, understanding basic commands, creating simple worksheets, understanding sample worksheets, use of simple formulas and functions, Printing of simple excel sheets.
Computer Networking and Internet	Basic of computer Networks (using real life examples), Definitions of Local Area Network (LAN), Wide Area Network (WAN), Internet, Concept of Internet (Network of Networks),

	Meaning of World Wide Web (WWW), Web Browser, Web Site, Web page and Search Engines. Accessing the Internet using Web Browser, Downloading and Printing Web Pages, Opening an email account and use of email. Social media sites and its implication. Information Security and antivirus tools, Do's and Don'ts in Information Security, Awareness of IT - ACT, types of cyber crimes.
3. Communication Skills Duration: 15 Hrs. Marks : 07	
Introduction to Communication Skills	Communication and its importance Principles of Effective communication Types of communication - verbal, non verbal, written, email, talking on phone. Non verbal communication -characteristics, components-Para-language Body language Barriers to communication and dealing with barriers. Handling nervousness/ discomfort.
Listening Skills	Listening-hearing and listening, effective listening, barriers to effective listening guidelines for effective listening. Triple- A Listening - Attitude, Attention & Adjustment. Active Listening Skills.
Motivational Training	Characteristics Essential to Achieving Success. The Power of Positive Attitude. Self-awareness Importance of Commitment Ethics and Values Ways to Motivate Oneself Personal Goal setting and Employability Planning.
Facing Interviews	Manners, Etiquettes, Dress code for an interview Do's & Don'ts for an interview.
Behavioral Skills	Problem Solving Confidence Building Attitude
Block – II **Duration – 55 hrs.**	
4. Entrepreneurship Skills Duration: 15 Hrs. Marks : 06	
Concept of Entrepreneurship	Entrepreneur - Entrepreneurship - Enterprises:-Conceptual issue Entrepreneurship vs. management, Entrepreneurial motivation. Performance & Record, Role & Function of entrepreneurs in relation to

	the enterprise & relation to the economy, Source of business ideas, Entrepreneurial opportunities, The process of setting up a business.
Project Preparation & Marketing analysis	Qualities of a good Entrepreneur, SWOT and Risk Analysis. Concept & application of PLC, Sales & distribution Management. Different Between Small Scale & Large Scale Business, Market Survey, Method of marketing, Publicity and advertisement, Marketing Mix.
Institutions Support	Preparation of Project. Role of Various Schemes and Institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non financing support agencies to familiarizes with the Policies /Programmes & procedure & the available scheme.
Investment Procurement	Project formation, Feasibility, Legal formalities i.e., Shop Act, Estimation & Costing, Investment procedure - Loan procurement - Banking Processes.
5. Productivity Duration: 10 Hrs. Marks : 05	
Benefits	Personal / Workman - Incentive, Production linked Bonus, Improvement in living standard.
Affecting Factors	Skills, Working Aids, Automation, Environment, Motivation - How improves or slows down.
Comparison with developed countries	Comparative productivity in developed countries (viz. Germany, Japan and Australia) in selected industries e.g. Manufacturing, Steel, Mining, Construction etc. Living standards of those countries, wages.
Personal Finance Management	Banking processes, Handling ATM, KYC registration, safe cash handling, Personal risk and Insurance.
6. Occupational Safety, Health and Environment Education Duration: 15 Hrs. Marks : 06	
Safety & Health	Introduction to Occupational Safety and Health importance of safety and health at workplace.
Occupational Hazards	Basic Hazards, Chemical Hazards, Vibroacoustic Hazards, Mechanical Hazards, Electrical Hazards, Thermal Hazards. Occupational health, Occupational hygienic, Occupational Diseases/ Disorders & its prevention.
Accident & safety	Basic principles for protective equipment. Accident Prevention techniques - control of accidents and safety

	measures.
First Aid	Care of injured & Sick at the workplaces, First-Aid & Transportation of sick person.
Basic Provisions	Idea of basic provision legislation of India. safety, health, welfare under legislative of India.
Ecosystem	Introduction to Environment. Relationship between Society and Environment, Ecosystem and Factors causing imbalance.
Pollution	Pollution and pollutants including liquid, gaseous, solid and hazardous waste.
Energy Conservation	Conservation of Energy, re-use and recycle.
Global warming	Global warming, climate change and Ozone layer depletion.
Ground Water	Hydrological cycle, ground and surface water, Conservation and Harvesting of water.
Environment	Right attitude towards environment, Maintenance of in -house environment.
7. Labour Welfare Legislation Duration: 05 Hrs. Marks : 03	
Welfare Acts	Benefits guaranteed under various acts- Factories Act, Apprenticeship Act, Employees State Insurance Act (ESI), Payment Wages Act, Employees Provident Fund Act, The Workmen's compensation Act.
8. Quality Tools Duration: 10 Hrs. Marks : 05	
Quality Consciousness	Meaning of quality, Quality characteristic.
Quality Circles	Definition, Advantage of small group activity, objectives of quality Circle, Roles and function of Quality Circles in Organization, Operation of Quality circle. Approaches to starting Quality Circles, Steps for continuation Quality Circles.
Quality Management System	Idea of ISO 9000 and BIS systems and its importance in maintaining qualities.
House Keeping	Purpose of House-keeping, Practice of good Housekeeping.
Quality Tools	Basic quality tools with a few examples.

10. DETAILS OF COMPETENCIES (ON-JOBTRAINING)

The **competencies/ specific outcomes** on completion of On-Job Training are detailed below: -

Block – I

1. Identify precautions to be followed while working of Paint shop and emergency preparedness.
2. Make free hand sketching of human figures, animal figures, geometrical figures, hand scopes etc.
3. Use graphs for accurate drawing & enlarge small units.
4. Paint letters for name plates, road signs, signals and various types of advertisements.
5. Prepare sign-board paintings, posters, banners, festoons of different sizes and natures.
6. Prepare Industrial & commercial paintings and big hording on different surfaces like ply board, tin, masonite board etc.
7. Prepare cinema posters in multi-color including lettering and drawing portraits on it.
8. Use single or multiple plate stencils positive and negative according to need.
9. Carry out Pretreatment of Metal surface : 7 steps of metal surface treatment : De-Scaling, De-rusting, Degreasing, Activation, Phosphating, Passivation and rinse
10. Prepare metal surface by rubbing with emery, scraping, wire brushing and manual chipping.
11. Prepare metal surfaces with mechanical pneumatic chippers.
12. Prepare surfaces of steel body by portable grinder.
13. Descale metal surfaces by vacuum blast machine.
14. Perform flame cleaning of rusted surfaces.
15. Perform pre-treatment of ferrous and non-ferrous surfaces by degreasing, etching, picking and solvent wiping.
16. Clean and wipe different surfaces to be painted to the required standard.

Block – II

17. Prepare adhesive compound like putties, fillers and metal cements applying them on metal and wooden surfaces.
18. Identify paint mixing system in industrial application.
19. Select, mix & prepare all types of oil paints & water paints.
20. Select, mix and prepare all types of synthetic paints and such other paints to obtain specific colours.
21. Perform sand or grit blasting of metal surfaces for painting by sand blasting machines.
22. Identify different colour coding of pipe lines as per ISO standard.

23. Identify Industrial Paint Booth system: Knowledge about its functioning. Must know Do`s & Don`ts of paint booth. Fire Safety for paint booth and emergency preparedness. Parameter setting like Temperature, Humidity, dust particles, Lux level etc. for ensuring good parts quality. Coagulation tank function and importance
24. Identify Auto body Sealant system: - Auto body sealant application methods and technique. Identification of Sealant defects, cause & its remedy. UBS (Under body sealant) type, application, defects, cause and rectification. Knowledge of Sealant pump and gun.
25. Perform Pre-treatment, applying primers coats and spray painting of surfaces on car body and finishing by different process.
26. Perform Pre-treatment and spray painting of surfaces on scooters and motor cycles.
27. Carry out Pre-treatment, applying of primer coats and spray painting of surfaces on refrigerators/domestic appliances.
28. Perform Pre-treatment, applying of primers and spray painting on the surfaces of steel furniture like Almirah, Chairs, Tables, Trays, Racks etc.
29. Identify stove enameling of different articles such as cycle, fan, typewriter parts etc. for novelty finish including air drying.
30. Identify Melt sheet application and its rectification.
31. Identify curing method purpose & type like Electrical, LPG, LDO Propane. (Elaborated)
32. Perform silk screen painting using mask and templates.
33. Identify staging work, scaffolding and painting at height.
34. Handle different types of spray painting machines in different types of painting booth including spray guns.
35. Rectify the common coating failure and repair various painting defects.
36. Test different paints and varnishes regarding fluidity, spreading, density, viscosity, adhesiveness, drying, harding etc.
37. Interpret the layout or design and subsequently adopt them for painting.
38. Clean and maintain all tools and equipment required for painting.
39. Identify safe way of storage of paints and varnishes.
40. Maintain painting schedules and follow ISI specifications and other painting regulations.
41. Perform buffing and polishing.
42. Identify Difference between AED (Anode Electron deposition) and CED (Cathode Electron deposition) Method.
43. Apply Robotic spray painting knowledge.

Note:

1. Industry must ensure that above mentioned competencies are achieved by the trainees during their on job training.
2. In addition to above competencies/ outcomes industry may impart additional training relevant to the specific industry.

ANNEXURE – I

INFRASTRUCTURE FOR PROFESSIONAL SKILL & PROFESSIONAL KNOWLEDGE

PAINTER(GENERAL)			
LIST OF TOOLS AND EQUIPMENT for Basic Training (For 20 Apprentices)			
A. TRAINEES TOOL KIT (For each additional unit trainees tool kit Sl. 1-18 is required additionally)			
Sl. No.	**Name of the Tool &Equipments**	**Specification**	**Quantity**
1.	Try Square	150MM	21Nos.
2.	Scriber		21Nos.
3.	Sliding T - Bevel		21Nos.
4.	Marking Gauge		21Nos.
5.	Wing Compass		21Nos.
6.	Hand Saw	450 MM	21Nos.
7.	Ball peen hammer	250Gram	21Nos.
8.	Aerograph (Air Brush)		21Nos.
9.	Pallets (consumable)		21Nos.
10.	Beam Compass (Stencil cutting)		21Nos.
11.	Stencil Knife (consumable)		21Nos.
12.	Trestle Painter with stools		21Nos.
13.	Goggles (consumable)		21Nos.
14.	Gloves (consumable)		21Nos.
15.	Spraying Mask (consumable)		21Nos.
16.	Lay Brush (consumable)		21Nos.
17.	Face Mask & Respirator (consumable)		21Nos.
B : INSTRUMENTS & GENERAL SHOP OUTFIT			
18.	Blow Lamp 500 ml		5 NOS.
19.	Steps ladder (wooden)		3 Nos.
20.	Combs (Steel)		10 Nos.
21.	Flatter Roller (consumable)		10 Nos.
22.	Portable Electrical hand grinder		2 Nos.
23.	Disc grinder set		2 No.
24.	Digital balance (1- 2) Kg capacity		2 No.
25.	Weight per liter cup		4 Nos.
26.	Ford cup No. 4 for viscosity measurement		4 Nos.
27.	Stop Watch		2 Nos.

28.	Electric oven for paint baking		1 NOS.
29.	DFT gauge machine (digital)		2 NOS.
30.	Gloss meter (digital)		2 NOS.
31.	Scratch hardness tester		2 NOS.
32.	Resistively - Meter		2 NOS.
33.	Hegman gauge		2 NOS.
34.	Bench working	240 x 120 x 90 cm	4 Nos.
35.	First- aid box		As required
C : GENERAL MACHINERY INSTALLATIONS			
1.	Gun spray with gravity cup complete with accessories and portable Electric air compressor (with single phase motor).		4 SETS.

INFRASTRUCTURE FOR WORKSHOP CALCULATION & SCIENCE AND ENGINEERING DRAWING

TRADE: PAINTER (GENERAL)

LIST OF TOOLS& EQUIPMENTS FOR -20APPRENTICES

TOOLS & EQUIPMENTS FOR EMPLOYABILITY SKILLS

A : TRAINEES TOOL KIT:-			
Sl. No.	**Name of the items**	**Specification**	**Quantity**
1.	Draughtsman drawing instrument box		20+1 set
2.	Set square celluloid 45^o	250 X 1.5 mm	20+1 set
3.	Set square celluloid 30^o-60^o	250 X 1.5 mm	20+1 set
4.	Mini drafter		20+1 set
5.	Drawing board IS: 1444	700mm x500 mm	20+1 set
B : Furniture Required			
Sl. No.	**Name of the items**	**Specification**	**Quantity**
1	Drawing Board		20
2	Models : Solid & cut section		as required
3	Drawing Table for trainees		as required
4	Stool for trainees		as required
5	Cupboard (big)		01
6	White Board	Size: 8ft. x 4ft.	01
7	Trainer's Table		01
8	Trainer's Chair		01

1) **Space Norms** : 45 Sq. m.(For Engineering Drawing)

2) Infrastructure:

Painter (General)

Sl. No.	Name of the Equipment	Quantity
1.	Computer (PC) with latest configurations and Internet connection with standard operating system and standard word processor and worksheet software	10 Nos.
2.	UPS - 500VA	10 Nos.
3.	Scanner cum Printer	1 No.
4.	Computer Tables	10 Nos.
5.	Computer Chairs	20 Nos.
6.	LCD Projector	1 No.
7.	White Board 1200mm x 900mm	1 No.
Note: - Above Tools & Equipments not required, if Computer LAB is available in the institute.		

ANNEXURE-II

FORMAT FOR INTERNAL ASSESSMENT

Name & Address of the Assessor :			**Year of Enrollment :**
Name & Address of ITI (Govt./Pvt.) :			**Date of Assessment :**
Name & Address of the Industry :			**Assessment location: Industry / ITI**
Trade Name :	**Semester:**		**Duration of the Trade/course:**
Learning Outcome:			

Sl. No	**Candidate Name**	**Father's/Mother's Name**	Safety consciousness (15)	Workplace hygiene (5)	Attendance/ Punctuality (10)	Ability to follow Manuals/ Written instructions (5)	Application of Knowledge (10)	Skills to handle tools & equipment (10)	Economical use of materials (5)	Speed in doing work (10)	Quality in workmanship (15)	VIVA (15)	**Total internal assessment Marks**	**Result (Y/N)**
Maximum Marks (Total 100 Marks)			**15**	**5**	**10**	**5**	**10**	**10**	**5**	**10**	**15**	**15**		
1														
2														