



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

**COMPETENCY BASED CURRICULUM**

# FOOTWEAR MAKER

(Duration: One Year)

**CRAFTSMEN TRAINING SCHEME (CTS)**

**NSQF LEVEL- 3**



**SECTOR – LEATHER**



Directorate General of Training

# FOOTWEAR MAKER

(Non-Engineering Trade)

(Revised in 2019)

Version: 1.2

**CRAFTSMEN TRAINING SCHEME (CTS)**

**NSQF LEVEL - 3**

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](http://www.cstaricalcutta.gov.in)

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During the one-year duration of “Footwear Maker” trade, a candidate is trained on Professional Skill, Professional Knowledge and Employability Skill related to job role. In addition to this, a candidate is entrusted to undertake project work, extracurricular activities and on-the-job training to build up confidence. The broad components covered under Professional Skill subject are as below:-

The trainee will learn about safety and environment, use of fire extinguishers, artificial respiratory resuscitation to begin with. They get the idea of trade tools and its standardization. They can identify different human feet and defects of unfit shoes and practice on size system & last. They will be able to prepare different types of men form and computer aided design. They can also identify source of leathers, their characteristics and practice on various components, direction of cutting and sharpening of tools. They will practice various types of leather measurement and cutting by hand and machine. The trainees will also acquire the knowledge of various grinding and stitching practices. The trainee will also acquire the knowledge of designing, pattern cutting and template making of different types of footwear.

The candidate will be able to perform different types of application like closing, skiving, folding and identify types of adhesives & their applications. They can identify different sorting and matching cut components, bottom components. They will be able to prepare toe and counter stiffer, drafting and lasting. They will also prepare and practice insole, sole attaching, sole stitching, welt stitching, bottom filling, heel fixing and finishing. The trainee will prepare different types of shoes applying latest fashion and will be able to identify defects present in the final product. The trainees will perform leather lining and they can calculate material consumed in making footwear. They will be able to apply suitable methods for reduction of wastage. They can test and assess footwear. They will estimate cost of making product and quality assessment of footwear as per BS, DIN or ISO standard.

### 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.

‘Footwear Maker’ trade under CTS is delivered nationwide through a network of ITIs. The course is of one year duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) imparts professional skills and knowledge, while the core area (Employability Skill) imparts requisite core skills, knowledge, and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by DGT which is recognized worldwide.

#### **Candidates broadly need to demonstrate that they are able to:**

- Read and interpret technical parameters/documents, 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 skill, knowledge & employability skills while performing jobs.
- Document the technical parameters 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 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 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 one year: -

S No.	Course Element	Notional Training Hours
1.	Professional Skill (Trade Practical)	1200
2.	Professional Knowledge (Trade Theory)	240
3.	Employability Skills	160
	<b>Total</b>	<b>1600</b>

## 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 an 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](http://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 the basis for setting question papers for final assessment. The examiner during final examination will also check** the 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
<b>(a) Weightage in the range of 60%-75% to be allotted during assessment</b>	
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 practices	<ul style="list-style-type: none"> <li>• Demonstration of good skills and accuracy in the field of work/ assignments.</li> <li>• A fairly good level of neatness and consistency to accomplish job activities.</li> <li>• Occasional support in completing the task/ job.</li> </ul>
<b>(b)Weightage in the range of 75%-90% to be allotted during assessment</b>	
For this grade, a candidate should produce work which demonstrates attainment of a	<ul style="list-style-type: none"> <li>• Good skill levels and accuracy in the field of work/ assignments.</li> </ul>

<p>reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices</p>	<ul style="list-style-type: none"> <li>• A good level of neatness and consistency to accomplish job activities.</li> <li>• Little support in completing the task/job.</li> </ul>
<p>(c) Weightage in the range of more than 90% to be allotted during assessment</p>	
<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"> <li>• High skill levels and accuracy in the field of work/ assignments.</li> <li>• A high level of neatness and consistency to accomplish job activities. Minimal or no support in completing the task/ job.</li> </ul>

**Shoemaker, Orthopaedic;** makes complete footwear, mainly of leather, for customers with foot or leg deformities. Studies drawings and other specifications or takes necessary measurements to make footwear according to customer's need. Selects leather and gets special last made to suit necessity if required. Prepares patterns, chooses materials and cuts out parts by hand as per patterns made. Thins edges of parts of upper by cutting or shaving. Presses and bends parts into shape, glues lining to leather parts and sews them together. Punches eyelet holes and inserts eyelets. Tacks insole to last, pulls upper on to last to give it required shape and checks alignment of toe and heel of upper. Builds up sole where required, folds bottom of upper over edge of insole or built-up middle sole, fixes them together and fixes outer sole to upper. Builds up and fixes heel. Trims and smooths where necessary, applies inked wax stain or paint where required, inserts thin inner sole and gives final finish. May do ornamental nicking. May take plaster casts of deformed leg or foot and prepare drawings. May use prepared uppers with necessary modifications.

**Shoemaker, Hand;** Shoe Maker, General makes complete shoe or other footwear mainly of leather for each individual customer. Takes measurement of customer's feet and studies design of shoe or footwear to be made. Selects and estimates material required for making different components such as upper, lining, sole, etc. Marks leather components with patterns and cuts them with knife (rapi) ensuring accuracy and minimum wastage. Skives leather edges with skiving knife to reduce thickness of different sections to be joined together. Prepares and carefully applies cementing solution by brush at skived portion for joining, taking care not to splash solution on leather surface while joining. Glues lining to leather parts and sews sole, upper and other components by hand or sewing machine. Punches eyelet holes and inserts eyelets in position, for lacing, by hand or machine. Rolls and pulls upper on last, nails it, keeps perfect alignment of toe and heel and shapes it according to pattern by light hammering and stretching. Sorts out twists and applies wax on thread to make it stronger. Stitches sole and other portions using awl and waxes thread. Cuts and prepares heel and attaches it to sole by nailing. Trims and finishes edges of shoe using knife (rapi) and glass piece. Cuts and fixes thin inner-sole with glue. Applies colour or polish and gives finishing touches to shoes. Checks each pair of completed shoe for uniformity rectifies defects if any and puts them on lasts for retention of shape and form. May repair footwear.

**Reference NCO-2015:**

- (i) 7536.0200 – Shoemaker, Orthopaedic
- (ii) 7536.0100 – Shoemaker, Hand

## 4. GENERAL INFORMATION

<b>Name of the Trade</b>	<b>FOOTWEAR MAKER</b>
<b>Trade Code</b>	DGT/1091
<b>NCO - 2015</b>	7536.0200, 7536.0100
<b>NSQF Level</b>	Level-3
<b>Duration of Craftsmen Training</b>	One Year (1600 Hours)
<b>Entry Qualification</b>	Passed 8 <sup>th</sup> Class Examination
<b>Minimum Age</b>	14 years as on first day of academic session.
<b>Eligibility for PwD</b>	LD, CP, LC, DW, AA, LV, DEAF, HH, AUTISM, ID, SLD
<b>Unit Strength (No. of Student)</b>	20 (There is no separate provision of supernumerary seats)
<b>Space Norms</b>	72 Sq. m
<b>Power Norms</b>	4 KW
<b>Instructors Qualification for:</b>	
<b>(i) Footwear Maker Trade</b>	<p>B.Voc/Degree in Leather Technology from UGC recognized university with one year experience in the relevant field.</p> <p style="text-align: center;"><b>OR</b></p> <p>Three year Diploma in Leather Technology from a recognized board of education or relevant Advanced Diploma (Vocational) from DGT with two-year experience in the relevant field.</p> <p style="text-align: center;"><b>OR</b></p> <p>NTC/ NAC passed in the trade of “Footwear Maker” with three-year experience in the relevant field.</p> <p><b>Essential Qualification:</b> Relevant National Craft Instructor Certificate (NCIC) in any of the variants under DGT.</p> <p><b>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.</b></p>
<b>(ii) Employability Skill</b>	<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;"><b>OR</b></p>

	Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills from DGT institutes.		
<b>(iii) Minimum Age for Instructor</b>	21 Years		
<b>List of Tools and Equipment</b>	As per Annexure – I		
<b>Distribution of training on hourly basis: (Indicative only)</b>			
<b>Total Hrs./ Week</b>	<b>Trade Practical</b>	<b>Trade Theory</b>	<b>Employability Skills</b>
40 Hours	30 Hours	6 Hours	4 Hours

## 5. LEARNING OUTCOME

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*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)

1. Assist in exigencies and carryout elementary first aid during emergencies following safety precautions.
2. Identify different human foot and defects of unfit shoes & practice on size system & last.
3. Prepare different types of mean form and computer aided design.
4. Identify and use of different tools and equipments and perform various process. (Soaking, fleshing, draining and sammying, splitting, buffing etc.)
5. Care and maintenance of tools equipments and machines observing safety precautions.
6. Identify source of leathers, their characteristics and practice on various component direction of cutting & sharpening of tools.
7. Perform various types of leather measurement and Cutting by hand & machine.
8. Carryout various grinding & stitching methods.
9. Identify, operate, troubleshoot & maintain different equipment used in footwear making.
10. Designing, pattern cutting and template making of different types of footwear.
11. Apply method of Economical cutting of components and Stitch by hand and machine to produce footwear.
12. Perform different types of application like closing, skiving, folding and identify different types of adhesives & their application.
13. Identify different sorting & matching cut components, bottom components, prepare toe & counter stiffer, drafting & lasting.
14. Identify various types of moulding machine their parts and section.
15. Prepare &perform insole making, drafting, lasting, sole attaching, sole stitching, welt stitching, bottom filling, heal fixing & finishing.
16. Prepare different type of boots applying latest fashion and check defects of finished products.
17. Calculate material consumption and reduction of wastage, Testing of footwear and their assessment.
18. Calculate cost of production and quality assessment of footwear products.

## 6. ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Assist in exigencies and carryout elementary first aid during emergencies following safety precautions.	Identify different types of fire fighting equipments and training of first aid methods.
	Perform first aid treatment.
	Identify of safety signs for danger, warning caution and safety measure.
	Follow precaution measures while a fitting jobs.
2. Identify different human foot and defects of unfit shoes & practice on size system & last.	Identify functions of bones, arches, joints ligament problems
	Conduct measurement of foot (infant to adult) according to various sizing systems.
	Identify Biometry and biomechanics of human foot and leg.
	Measure Wooden last based on material, design, size and uses
	Measure body weight distribution over different segments of feet during different phase of walking
3. Prepare different types of mean form and computer aided design.	Make and understand different types of computers and aided design.
	Perform area measurement of patterns and leather based on metric system.
	Prepare different types of mean forms.
	Perform different types of Pattern cutting.
4. Identify and use of different tools and equipments and perform various process. (soaking, fleshing, draining and sammying, splitting, buffing etc.)	Identify Tools, equipment and machinery used in leather processing and product making.
	Differentiate leather and non- leather fabrics used for shoe making.
	Identify sequence of pertaining operations, the chemicals used and their purposes.
	Select tanning process based on the final properties needed for upper and sole.
	Choose post tanning chemicals based on the final performance properties for upper and lining
	Perform Finishing of leather depending upon the grain quality.

5. Care and maintenance of tools equipments and machines observing safety precautions.	Identify different tools and their maintenance procedure.
	Identify different types of machines and their safety precautions.
	Study the construction operation and use of machines.
	Identify different parts, section and its function of machines.
	Identify and carry out maintenance and preventive maintenance of machines.
6. Identify source of leathers, their characteristics and practice on various component direction of cutting & sharpening of tools.	Identify sources of different types of upper leathers with their characteristics.
	Verify properties of different types of coated fabrics.
	Demonstrate holding of various tools and sharpening of scissors and knives
	Maintain and perform servicing of precision measuring instruments.
	Perform component cutting from suitable areas.
7. Perform various types of leather measurement and Cutting by hand & machine.	Identify different parts of a shoe and cut components by hand or by using clicking press.
	Sort leather by identifying common defects.
	Identify different parts of leather cutting machines and perform maintenance/preventive maintenance.
	Overhaul check, fault find, repair various types of machines.
	Measure the leather hide and skins by applying different methods.
8. Carryout various grinding & stitching methods.	Perform different types of stitching to join the upper and bottom part of shoes by using proper size of needles.
	Identify and select different types of grinding materials used in leather & rubber.
	Identify different types& size of needle and machines.
9. Identify, operate, troubleshoot & maintain different equipment used in footwear making.	Operate/ Maintain/Troubleshoot various footwear machines.
	Identify the tools and equipments to perform the job with due care and safety.
	Identify various input and output sockets and connectors of the given machines.
	Identify major section of panel board/ components/ parts of machines.
	Dismantle the given machines and find major sections.

	Identify front panel control & indicators of machines.
	Select and verify characteristic of machines.
	Check the speed of response machines.
10. Designing, pattern cutting and template making of different types of footwear.	Draw sketches of different basic styles of footwear.
	Perform pattern cutting and template making for different types of footwear.
	Identify of basic design of different types of shoes.
	Construct and design of different types of boot and safety shoes.
	Construct and design of different type styles/fashion shoes.
11. Apply method of Economical cutting of components and Stitch by hand and machine to produce footwear.	Identify different parts of the shoe components viz. upper, lining, insole, stiffener etc. and perform economical cutting of these components.
	Identify different types of clicking of upper components and linings.
	Prepare and practice of economical cutting of shoes and top pieces.
	Identify different parts of components upper lining, tootles, stiffeners, and sock lining, etc.
12. Perform different types of application like closing, skiving, folding and identify different types of adhesives & their application.	Perform skiving/ folding/closing etc. for making upper
	Identify different types of adhesives with their application.
	Prepare different types edge treatment.
	Identify color marking the edge of the component and stamping machine using a metal foil.
	Prepare Surface and demonstrate roughening of the surfaces.
13. Identify different sorting & matching cut components, bottom components, prepare toe & counter stiffer, drafting & lasting.	Sort and match cut components of footwear.
	Prepare toe and counter stiffeners.
	Prepare& perform different types of drafting and lasting.
	Prepare welted construction and operation for lasting the upper.
14. Identify various types of moulding machine their parts and section.	Identify various moulding machines used in footwear making along with their parts and section.
	Check the accuracy precession sensitivity of molding machines.

	Check the speed of response molding machines.
	Identify and carry out maintenance and preventive maintenance.
15. Prepare & perform Insole making, drafting, lasting, sole attaching, sole stitching, welt stitching, bottom filling, heal fixing & finishing.	Perform Drafting, lasting, sole attaching, sole stitching, welt stitching, bottom filling, heal fixing and finishing of shoe.
	Prepare manufacture of molded shoes and back part molding.
	Prepare toe puff attachment and toe puff conditioning.
	Identify various part and section of pulling and toe lasting machine.
	Identify various parts and section of sole stitching machine.
	Select and verify characteristics of universal testing machine.
16. Prepare different type of boots applying latest fashion and check defects of finished products.	Prepare different types of shoes applying latest fashion.
	Identify defects present in the final product and perform suitable finishing.
	Identify and repair boots and shoes half soling, healing, residing.
	Construct industrial and winter boots and design different sizes with safety features.
	Check manufacturing defect on the shoes using test method by machine.
17. Calculate material consumption and reduction of wastage, Testing of footwear and their assessment.	Calculate leather, lining and other materials consumed in making footwear.
	Select suitable methods for reduction of wastes.
	Test and assess footwear.
	Identify length and thickness of the raw material sheet.
	Identify construction of materials and reduction of wastage.
18. Calculate cost of production and quality assessment of footwear products.	Calculate cost of making product.
	Perform Quality assessment of footwear as per BS, DIN or ISO standards
	Identify testing equipments and test methods developed for different styles and design of footwear.
	Test and assess quality.

## 7. TRADE SYLLABUS

<b>SYLLABUS FOR FOOTWEAR MAKER TRADE</b>			
<b>DURATION: ONE YEAR</b>			
<b>Duration</b>	<b>Reference Learning Outcome</b>	<b>Professional Skills (Trade Practical) With Indicative Hours</b>	<b>Professional Knowledge (Trade Theory)</b>
Professional Skill 90 Hrs;  Professional Knowledge 18 Hrs	Assist in exigencies and carryout elementary first aid during emergencies following safety precautions.	<ol style="list-style-type: none"> <li>1. Introduction of trade skill and work application. (04hrs.)</li> <li>2. Familiarization with the institute and safety attitude development of the trainee by the educating them to use personal protective equipments. (04hrs.)</li> <li>3. Safe disposal of waste materials like cotton waste, grinding materials and leather cutting by hand machine. (06hrs.)</li> <li>4. Hazard identification and avoidance. (04hrs.)</li> <li>5. Preventive measures for electrical accidents &amp; steps to be taken in such accidents. (04hrs.)</li> <li>6. Importance of trade training, list of tools &amp; machinery used in the trade. (04hrs.)</li> <li>7. Safe use of tools and equipments used in the trade. (04hrs.)</li> </ol>	<p>Familiarization with the working of Industrial training Institute system.</p> <p>Importance of safety and precautions to be taken in the industry and shop floor.</p> <p>Introduction to First Aid.</p> <p>Importance of housekeeping &amp; good shop floor practices.</p> <p>Occupational Safety and Health:</p> <p>Health, Safety and Environment guidelines, legislations &amp; regulations as applicable.(06 Hrs)</p>
		<ol style="list-style-type: none"> <li>8. Familiarization with the Institute. (03hrs.)</li> <li>9. Make the trainees familiar with the shop discipline, layout of the shop. (04hrs.)</li> </ol>	<p>Introduction to the trade.</p> <p>Importance of the trade in the development of the industrial economy of the country.</p> <p>Knowledge of General Safety,</p>

		<p>10. Identify different types of hand tools. (04hrs.)</p> <p>11. Selection of proper tools for operation and precautions in operation. (03 hrs.)</p> <p>12. Care and maintenance of trade tools. (04hrs.)</p> <p>13. Identify layout of the machinery, tool &amp; equipment, etc. installed in the shop. (05hrs.)</p> <p>14. Practice different types of tools specification, size and symbol while working in fitting job. (04 hrs.)</p> <p>15. Type of practical training to be followed, maintenance and handling of tools and equipment of the section. (03 hrs.)</p>	<p>Occupational health and hygiene.</p> <p>Recreational and medical facilities and extracurricular activities of the Institute (All necessary guidance to be provided to the new comers to become familiar with the working of the Industrial Training Institute system including stores procedures). (06 Hrs)</p>
		<p>16. Practice on safety precautions including fire fighting equipments, Accidents, First Aid practice and treatment. (10hrs.)</p> <p>17. First aid method and basic training. (05 hrs.)</p> <p>18. Identification of safety signs for danger, warning caution &amp; personal safety message. (06hrs.)</p> <p>19. Use fire extinguishers. (04 hrs.)</p> <p>20. Practice and understand precaution to be followed while working in fitting jobs. (05hrs.)</p>	<p>Knowledge of Safety precautions. Elementary First Aid and treatment. Knowledge of fire fighting appliances.(06 Hrs)</p>
Professional	Identify different	21. Identify function of bones,	Anatomy of Human foot:-

<p>Skill 60 Hrs; Professional Knowledge 12 Hrs</p>	<p>human foot and defects of unfit shoes &amp; practice on size system &amp; last.</p>	<p>Arches, Joints ligament problems in human. (05 hrs.) 22. Practice Measurement of human foot. (03 hrs.) 23. Identify biometry of human foot and leg. (04 hrs.) 24. Identify biomechanics of human foot and leg. (04 hrs.) 25. Identify different types of systems and fitting system. (04hrs.) 26. Identify size system by foot length and foot width system. (05hrs.) 27. Identify different types of sizes and inch(infant to adult boys and girls). (05hrs.)</p>	<p>Name of bones, Arches, Joints ligament, problems in human and measurement of human foot.(06 Hrs)</p>
		<p>28. Practice on wooden last and measurement on the basis of material, design, size and uses. (07hrs.) 29. Identify human foot and last. (04 hrs.) 30. Materials used for last manufacture wooden, metal and plastic. (05 hrs.) 31. Identify different types of human foot and last. (07hrs.) 32. Measure body weight distribution (o/o) over different segments of feet during different phases of walking. (07hrs.)</p>	<p>Wooden last &amp; its measures:- Classification on basis of material, design, size and uses.(06 Hrs)</p>
<p>Professional Skill 30 Hrs;</p>	<p>Prepare different types of mean</p>	<p>33. Familiarization on measurement of foot and</p>	<p>Measurement - its principles and connections as applicable</p>

<p>Professional Knowledge 06 Hrs</p>	<p>form and computer aided design.</p>	<p>assessing of size, making of "Mean" form and standards. (04hrs.) 34. Perform pattern cutting. (08hrs.) 35. Make different types of process mean form, bottom shape or insole shape, slotted form, shell form shoe standard for men. (10hrs.) 36. Make computer aided design. (08hrs.)</p>	<p>to footwear -Importance of metric system of measurement, Area measurement of leather. Area measurement of patterns, weights and measures.(06Hrs)</p>
<p>Professional Skill 60 Hrs; Professional Knowledge 12 Hrs</p>	<p>Identify and use of different tools and equipments and perform various process.(soaking, fleshing, draining and sammying, splitting, buffing etc.)</p>	<p>37. Identification and application of different hand tools used in the shop indenting of tools from store. (12hrs.) 38. Identify different types of footwear raw-materials – leather and synthetic or artificial leather. (06hrs.) 39. Process of soaking, fleshing and unhairing, demining, bating, picking and tanning. (14hrs.) 40. Processes of draining and sammying, splitting, retanning/ dyeing/ fat liquoring, draining and setting, drying conditioning staking draying and flattening buffing. (14hrs.) 41. Perform leather finishing, aniline finish, semi aniline finish, resin finish, cellulose/ lacquer finishes. (14hrs.)</p>	<p>Hand tools used by a trainee in the section, their kinds, uses, names and function, process of holding. Machines employed in general footwear makers' shops, their nomenclature and description, operational principles and use.(12Hrs)</p>
<p>Professional</p>	<p>Care and</p>	<p>42. Care and maintenance of</p>	<p>Common hand tools used by a</p>

<p>Skill 30 Hrs; Professional Knowledge 06 Hrs)</p>	<p>maintenance of tools equipments and machines observing safety precautions.</p>	<p>hand tools and machines. Safety precautions. (06hrs.) 43. Its importance, cleanliness of the shops. (03hrs.) 44. Service and calibrate various types of machines/ instruments. (06 hrs.) 45. Identify and carry out maintenance and preventive maintenance of different machines. (06 hrs.) 46. Study the construction operation and use of machines/ instruments. (05hrs.) 47. Identify different parts/ section its function &amp; operation of machines/ instruments. (04hrs.)</p>	<p>Footwear maker. Their kinds, uses and materials from which they are made. Their names and functions.(06 Hrs)</p>
<p>Professional Skill 60 Hrs; Professional Knowledge 12 Hrs</p>	<p>Identify source of leathers, their characteristics and practice on various component direction of cutting &amp; sharpening of tools.</p>	<p>48. Practice Sharpening of tools, scissors, knives and other cutting tools. (4hrs.) 49. Identify and apply various method and process of holding the tools. (06hrs.) 50. Identify Sources of leather and their characteristic – calf leather, hides L, kid L, Goat skins L, Sheep skin. (10hrs.) 51. Verify properties of Different types of coated fabrics – PVC coated fabrics, direct coating, transfer coating, Polyurethane coated fabrics. (12hrs.) 52. Carry out maintenance,</p>	<p>Specification of different tools used in footwear manufacture - their nomenclature and description. Sharpening of tools and scissors, knives, awls by hand and machines.(12Hrs)</p>

		<p>servicing and tolerances precession measuring instruments. (06hrs.)</p> <p>53. Perform quality thickness are obtained in uniform colours in a wide range. (06hrs.)</p> <p>54. Practice on various supplied in rolls, multiplayer cutting using a beam clicking press is feasible. (08hrs.)</p> <p>55. Prepare and practice on various component direction of cutting. (08 hrs.)</p>	
<p>Professional Skill 60 Hrs;  Professional Knowledge 12 Hrs</p>	<p>Perform various types of leather measurement and Cutting by hand &amp; machine.</p>	<p>56. Identify different parts, its function and operation of leather cutting machines. (03hrs.)</p> <p>57. Identify the machine /instrument specifications. (03hrs.)</p> <p>58. Carry out maintenance and preventive maintenance. (08hrs.)</p> <p>59. Overhaul, check, fault find, repair various type manual and auto machines/ instruments used in leather cutting or clicking. (08hrs.)</p> <p>60. Identify different parts of shoe, as components viz. uppers, linings, insoles, soles etc. (03hrs.)</p> <p>61. Practice various clicking core cutting methods viz manual, press cutting, hand clicking, machine clicking,</p>	<p>Stores such as Leather, rubber soles, substitute materials such as synthetic rubber, polyvinyl cloth, polyurethane, thermoplastic rubber.(12Hrs)</p>

		<p>cutting knives and press knives. (08hrs.)</p> <p>62. Practice on Leather Cutting by hand and machine. (05hrs.)</p> <p>63. Measure the leather-hides and skins by applying different methods. (06hrs.)</p> <p>64. Check the defect in hide and skins &amp; common defects in hide and skins. (08hrs.)</p> <p>65. Select and verify leather sorting. (03hrs.)</p> <p>66. Draw a sketch of free hand drawing tools and block diagram of machine. (05hrs.)</p>	
<p>Professional Skill 60 Hrs;</p> <p>Professional Knowledge 12 Hrs</p>	<p>Carryout various Grinding &amp; stitching methods.</p>	<p>67. Practice of using grinding materials. (05hrs.)</p> <p>68. Practice Stitching of different types. (05hrs.)</p> <p>69. Identify &amp; select Different type of grinding material used in leather / rubber. (08hrs.)</p> <p>70. Perform grinding using various grinding materials. (08hrs.)</p> <p>71. Identify different types and size of needle. (02 hrs.)</p> <p>72. Draw the sketch of free hand drawing in different needle size. (07hrs.)</p> <p>73. Practice and identify different types of stitching. (05 hrs.)</p> <p>74. Stitch different part of upper and upper to bottom</p>	<p>Various grinding materials and uses. Choice and purchase of raw materials and sources of supply. Fabric and coated fabrics. Types of stitching threads (cotton, nylon, polyester)(12Hrs)</p>

		<p>part using different stitching methods. (10 hrs.)</p> <p>75. Carryout different stitching of hand and machine stitch. (10 hrs.)</p>	
<p>Professional Skill 60 Hrs;</p> <p>Professional Knowledge 12 Hrs</p>	<p>Identify, operate, troubleshoot &amp; maintain different equipment used in footwear making.</p>	<p>76. General maintenance of machines - Brief idea about minor routine maintenance and safety aspect and study of different leather. (10hrs.)</p> <p>77. Identify various types of instrument/machine contraction. (05 hrs.)</p> <p>78. Identify various parts and section. (05 hrs.)</p> <p>79. Check the accuracy precession, sensitivity of machines. (10hrs.)</p> <p>80. Check the speed of response machines. (05hrs.)</p> <p>81. Select and verify characteristics of machines. (05hrs.)</p> <p>82. Service and maintenance of machines. (10hrs.)</p> <p>83. Study the construction, operation of the machine. (05hrs.)</p> <p>84. Identify and carry out maintenance and preventive maintenance. (10hrs.)</p>	<p>Leather - its different sections, their suitability for different purposes, upper leathers skins and defects of leather.(12 Hrs)</p>
<p>Professional Skill 60 Hrs;</p> <p>Professional Knowledge</p>	<p>Designing, pattern cutting and template making of different types</p>	<p>85. Practice on designing, pattern cutting and template making for different types of footwear such as sports shoe,</p>	<p>Lasts and their types and standard dimension their variations for different purposes and adaptation for orthopedic work. Lasts and</p>

12 Hrs	of footwear.	<p>walking shoe, running shoe, track shoe, field shoe, and safety shoe. (20hrs.)</p> <p>86. Basic design of different types of chuppal, sandal, oxford, derby, mocca pin, casual, monk ghille, mute court shoe, school choe. (10hrs.)</p> <p>87. Construct and design of track shoe, winter boot and safety shoe. (10hrs.)</p> <p>88. Draw a free sketch of all types of styles/ fashion shoes ladies, gents and baby shoe. (8hrs.)</p> <p>89. Construct and design of different types styles/ fashion shoes. (12hrs.)</p>	plates. Lasts for deformed feet.(12Hrs)
Professional Skill 60 Hrs;  Professional Knowledge 12 Hrs	Apply method of Economical cutting of components and Stitch by hand and machine to produce footwear.	<p>90. Clicking - Economical cutting of upper components and linings. (07hrs.)</p> <p>91. Stitching leather by hand and machine. (10hrs.)</p> <p>92. Identify different types of clicking or cutting. (07hrs.)</p> <p>93. Prepare and practice of economical cutting of upper components and linings. (10hrs.)</p> <p>94. Draw the free hand sketch with measurement clicking or cutting manual or machine cutting. (10hrs.)</p> <p>95. Identify different parts of components of shoe upper linings. (03 hrs.)</p> <p>96. Identify different parts of</p>	Types of clicking - its purpose, its advantage, machines for effective clicking.(12Hrs)

		<p>components of sole, sole heel, top pieces, tooling, stiffeners and sock lining. (10 hrs.)</p> <p>97. Prepare and practice of different types stitching by hand/ machines. (03 hrs.)</p>	
<p>Professional Skill 90 Hrs;</p> <p>Professional Knowledge 18 Hrs</p>	<p>Perform different types of application like closing, skiving, folding and identify types of adhesives &amp; their application.</p>	<p>98. Closing, skiving and application of different adhesives, folding of upper and assembling of upper and lining components. (20hrs.)</p> <p>99. Prepare application such as Natural rubber solution, Rubber latex, Polyurethane adhesives, Neoprene adhesive, hot melt adhesives, etc. hardener for adhesives, preparation and application, Backing up their leather. (25hrs.)</p> <p>100. Identify of marking essential of colour marking the edge of the component, nicks on the edge of the clicking knife and stamping machine using a metal foil. (15hrs.)</p> <p>101. Prepare different types edge treatment. (08hrs.)</p> <p>102. Prepare different types of adhesives and backing up their leather. (08 hrs.)</p> <p>103. Surface preparation consists of sourcing the surfaces using emery</p>	<p>Knowledge of edges, seams and their treatment. Seam strength, stitches used in closing upper ornamentation. Adhesives used in footwear, their names and description, different types of adhesives and their application such as Natural rubber solution, Rubber latex, Polyurethane adhesives, Neoprene adhesive, hot melt adhesives, etc. hardener for adhesives, preparation and application, Backing up their leather.(18Hrs)</p>

		<p>paper/ cloth. (03 hrs.)</p> <p>104. Prepare and practice roughening of the surfaces using size of the wire brush. (02 hrs.)</p> <p>105. Prepare by upper stitching machines – like post bed sewing machine and cylinder bed sewing machine, zigzag sewing machine. (09 hrs.)</p>	
<p>Professional Skill 90 Hrs;</p> <p>Professional Knowledge 18 Hrs</p>	<p>Identify different sorting&amp; matching cut components, bottom components, prepare toe &amp; counter stiffer, drafting &amp; lasting.</p>	<p>106. Cutting bottom components economically, insole attachment and feathering. (20hrs.)</p> <p>107. Preparation of toe and counter stiffeners. (08 hrs.)</p> <p>108. Prepare drafting and lasting(08 hrs.)</p> <p>109. Identify sorting and matching – cut components according to quality. (10 hrs.)</p> <p>110. Prepare lasting the upper roughening and attachment of soles to upper. (15hrs.)</p> <p>111. Draw the free hand sketch of casting down and force casting. (06hrs.)</p> <p>112. Prepare flat lasting, string lasting and force lasting the upper. (15hrs.)</p> <p>113. Prepare welted construction and veldtschoen construction operations for lasting the</p>	<p>Sorting and matching cut components according to quality. Economic layout and utilization of different sections for bottom components.(18Hrs)</p>

		upper. (08 hrs.)	
Professional Skill 60 Hrs;  Professional Knowledge 12 Hrs	Identify various types of molding machine their parts and section.	<p>114. General maintenance of moulding machine and safety. (15hrs.)</p> <p>115. Identify various types of molding machine and their used. (06hrs.)</p> <p>116. Identify various parts and section of moulding machine. (15hrs.)</p> <p>117. Check the accuracy precession sensitivity of molding machines. (05hrs.)</p> <p>118. Check the speed of response molding machines. (04hrs.)</p> <p>119. Identify and carry out maintenance and preventive maintenance. (15hrs.)</p>	<p>Direct vulcanizing process and direct injection process. Functions of Moulded machine. Synthetic toe – Puff and Stiffeners, methods of their applications and types of solvent used for the purpose. Feathering – Preparation of stiffeners.(12Hrs)</p>
Professional Skill 150 Hrs;  Professional Knowledge 30 Hrs	Prepare & perform insole making, drafting, lasting, sole attaching, sole stitching, welt stitching, bottom filling, heal fixing & finishing.	<p>120. Welt stitching – Bottom filling, sole attaching and stitching, Heel fixing. (15hrs.)</p> <p>121. Finishing, single sole stitching and cemented method of construction. (12hrs.)</p> <p>122. Prepare basic block diagram of about Moulding Machine.(04hrs.)</p> <p>123. Prepare manufacture of molded shoes. (08 hrs.)</p> <p>124. Practice on Insole preparation, drafting,</p>	<p>Insole preparation, drafting, lasting, sole attaching, sole stitching, welt stitching, bottom filling, heal fixing, finishing.(18Hrs)</p>

		<p>lasting, sole attaching, sole stitching, welt stitching, bottom filling, heal fixing, finishing. (14 hrs.)</p> <p>125. Prepare Backpart moulding. (04 hrs.)</p> <p>126. Practice toe puff attachment (fusing press) and toe puff conditioning. (7hrs.)</p> <p>127. Prepare and practice attach insole to the last bottom and pulling over toe laster. (04 hrs.)</p> <p>128. Identify various parts and section of pulling and toe lasting machine. (04 hrs.)</p> <p>129. Check the accuracy precession of pulling and toe lasting machine. (05hrs.)</p> <p>130. Identify and carry out maintenance and preventive maintenance. (08 hrs.)</p> <p>131. Identify various parts and section of sole stitching machine. (05 hrs.)</p>	
		<p>132. Finishing of shoes &amp; other articles. (06 hrs.)</p> <p>133. Practice on Marks and blemishes – their character and process of removal. (06hrs.)</p> <p>134. Prepare bottom finishing (leather soles and heels). (06hrs.)</p> <p>135. Prepare positioned edge set and formations edge</p>	<p>Waxes and polishes used in finishing –their names and application. Marks and blemishes – their character and process of removal.(12Hrs)</p>

		<p>inking. (05hrs.)</p> <p>136. Prepare upper finishing, repair and shoe dressing. (07hrs.)</p> <p>137. Check the accuracy of product shoes. (06hrs.)</p> <p>138. Practice test methods using the universal testing machine. (06hrs.)</p> <p>139. Select and verify characteristics of universal testing machine. (08hrs.)</p> <p>140. Identify various parts and section of universal testing machine. (10hrs.)</p>	
<p>Professional Skill 60 Hrs;</p> <p>Professional Knowledge 12 Hrs</p>	<p>Prepare different type of boots applying latest fashion and check defects of finished products.</p>	<p>141. Construct and making of shoes of latest fashion. (10hrs.)</p> <p>142. Identify and repairing of boots and shoes, half soling, healing, resoling. (06hrs.)</p> <p>143. Construct and design making different sizes safety boots, industrial boots and winter boots. (10 hrs.)</p> <p>144. Construct and design different sizes of styles/ fashion shoes (child &amp; adults) (10hrs.)</p> <p>145. Construct and design different sizes of shoes and sports/ athletic shoes (child &amp; adults) (05 hrs.)</p> <p>146. Check manufacturer defect on the shoes of test method by machine. (06hrs.)</p>	<p>Wastage – its proportions and limits.</p> <p>Waste cutting and their utilization.</p> <p>Commercial calculations &amp; theory of industrial boot.(12Hrs)</p>

		<p>147. Identify various scuff damage, adhesive and solvent taints are to be rectified. (05hrs.)</p> <p>148. Identify various damage and defects on the shoe to be rectified. (08hrs.)</p>	
<p>Professional Skill 60 Hrs;</p> <p>Professional Knowledge 12 Hrs</p>	<p>Calculate material consumption and reduction of wastage, Testing of footwear and their assessment.</p>	<p>149. Exercise on calculation of material consumption, Reduction of wastage. (8 hrs.)</p> <p>150. Preparation of cost sheets for finished footwear. (5 hrs.)</p> <p>151. Identify length and thickness of the raw-materials sheet. (05 hrs.)</p> <p>152. Prepare the graded exercise can do one sheet. (06 hrs.)</p> <p>153. Draw the sketch as per exercise. (05 hrs.)</p> <p>154. Calculate total length and no of pieces requires for exercise. (8 hrs.)</p> <p>155. Prepare for construction of materials and reduction of wastage. (06 hrs.)</p> <p>156. Prepare and roll of Quality control. (05 hrs.)</p> <p>157. Inspection of footwear. (06 hrs.)</p> <p>158. Testing of footwear and their assessment. (06 hrs.)</p>	<p>Costing of footwear – Costing method of materials by weight and area.</p> <p>Marketing of finished goods.(12Hrs)</p>
<p>Professional Skill 60 Hrs;</p> <p>Professional Knowledge</p>	<p>Calculate cost of production and quality assessment of footwear</p>	<p>159. Practice on costs of finished products and their selling prices, Overhead costs and their distribution. (15hrs.)</p>	<p>Knowledge of costs of finished products and their selling prices. Overhead costs and their distribution.(12Hrs)</p>

12 Hrs	products.	<p>160. Identify testing equipments and test methods (developed for different styles and designs of footwear). (12hrs.)</p> <p>161. Testing and quality assessment. (07hrs.)</p> <p>162. Shoe and allied trades research association. (06 hrs.)</p> <p>163. Specification of British standards (BS), German standard (DIN), and International standard (ISO) are widely used. (10hrs.)</p> <p>164. Require minimum any shoe industry of a testing laboratory are specified. (10hrs.)</p>	
<p><b>Project work/ Industrial visit</b></p> <p><b>Broad Areas:</b></p> <ol style="list-style-type: none"> <li>Prepare different types of edge treatment.</li> <li>Surface preparation consists of sourcing the surfaces.</li> <li>Identify sorting and matching, cut components according to quality.</li> <li>Identify various parts and section of molding machine.</li> <li>Construct and making shoes safety boots and industrial boots.</li> <li>Training on entrepreneur development so that enable the trainees to start his own small scale Industries.</li> </ol>			

## **SYLLABUS FOR CORE SKILLS**

1. Employability Skills (Common for all CTS trades) (160 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](http://www.bharatskills.gov.in)

<b>List of Tools &amp; Equipment</b>			
<b>FOOTWEAR MAKER (for batch of 20 Candidates)</b>			
<b>S No.</b>	<b>Name of the Tools and Equipment</b>	<b>Specification</b>	<b>Quantity</b>
<b>A. TRAINEES TOOL KIT</b>			
1.	Wooden Clamps		20+1 Nos.
2.	Awls Welt Stitching		20+1 Nos.
3.	Awls Sole Stitching		20+1 Nos.
4.	Pricking awls		20+1 Nos.
5.	Scissors		20+1 Nos.
6.	Knives rampees		20+1 Nos.
7.	Pinchers		20+1 Nos.
8.	Compasses		20+1 Nos.
9.	Measuring tapes		20+1 Nos.
10.	Shoe hammers		20+1 Nos.
11.	Kit boxes	375 x 250 x 200 mm.	20+1 Nos.
12.	Stone slabs. (Marble/cuddappa)		20+1 Nos.
13.	Size tape shoe makers		20+1 Nos.
14.	Wooden blocks		20+1 Nos.
15.	Wooden lags		20+1 Nos.
16.	Iron (for part waist)		20+1 Nos.
17.	Iron lasts three lags		5 Nos
18.	Iron (for part waist)		6 Nos.
19.	Fudge wheels		5 Nos
20.	Sole decorating wheels		5 Nos
21.	Edge setters		12 Nos.
22.	Shoe maker's knives		20+1 Nos.
23.	Punches of sizes and designs		20+1 Nos.
24.	Wooden / PVC lasts	sizes 5 to 10 (Gents)	20+1 Nos.
25.	Wooden / PVC lasts boys	sizes 1 to 4	12 Pairs
26.	Wooden / PVC lasts children	sizes 4 to 13	20+1 Nos.
27.	Wooden / PVC lasts	ladies size 2 to 7	15 Pairs
28.	Adhesives containers		20+1 Nos.
29.	Stove / Heater	1000 Watts	3 Nos.
30.	Enamel basin		5 Nos

31.	Polishing brushes		5 Nos
32.	Oil stone	25 x 50 x 150 mm	7 Nos.
33.	Micrometer	0-25	7 Nos.
34.	Spring Divider		20+1 Nos.
35.	Indenting Scissors		20+1 Nos.
36.	Wooden Lags		20+1 Nos.
37.	Glass Plate	( 3mm-5mm thick ) 750mm x 500mm	1 No.

### B. GENERAL MACHINERY

38.	Sewing machine cylinder bed		4 Nos.
39.	Sewing machine industrial type flat bed		20 Nos.
40.	Upper leather skiving machine		1 No.
41.	Punching and eyeleting devices		1 No.
42.	Combined finishing machine		1 No.
43.	Sewing Machine Double Needle Flat Bed		1 No.
44.	Sewing Machine Post Bed		1 No.
45.	Hydraulic Clicking Machine		1 No.
46.	Stamping / Stampica Machine		1 No.
47.	Air Stuck : Pneumatic Cementing Press Machine		1 No.
48.	Manual Sole Pressing Machine		1 No.
49.	Clicker Machine		1 No.
50.	Skive Machine		1 No.
51.	Decorating Machine		1 No.

### C. SHOP FLOOR FURNITURE

52.	Almirah		2 Nos.
53.	Trainee (Footwear) work bench		20 Nos.
54.	Show case		1 No.
55.	Work bench for clicking		10 Nos.
56.	Instructor's desk and chair		1 Set
57.	Durries	200 x 250 mm	2 Nos.
58.	First Aid Box		1 No.
59.	Black Board with Easel		1 No.
60.	Stools and desk for trainee		1 No. each
61.	Work Table with vice guard		1 No. each

**Note: -**

1. All the tools and equipment are to be procured as per BIS specification.
2. 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 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.

<b>List of Expert Members participated/ contributed for finalizing the course curriculum of Footwear Maker trade.</b>			
<b>S No.</b>	<b>Name &amp; Designation Sh/Mr./Ms</b>	<b>Organization</b>	<b>Remarks</b>
1.	Deepankar Mallick	Director of Training, DGE&T, New Delhi	Chairman
2.	Sukhdev Singh, Joint Director	ATI- Kanpur	Member
3.	P.N. Yadav, Dy. Director	ATI- Kanpur	Member
4.	S.K. Singh, Principal	Government. Leather Institute Kanpur	Member
5.	Irsad Mirza, Proprietor	Mirza International, Kanpur	Member
6.	D.N. Swami, Lecturer	Govt. Leather Institute Kanpur	Member
7.	Naresh Kumar, Lecturer	Govt. Leather Institute Kanpur	Member
8.	H.S. Nigam, V.I.	ATI Kanpur	Member
9.	P.K. Bhattachyara, Scientist	Central Leather	Member
10.	Suman Chatterjee, lecturer	H.B.T.I. Kanpur	Member
11.	Col. S. Haque, Principal	Mirza Foundation	Member
12.	Suresh Kumar, Technician	Mirza Foundation	Member
13.	Suhail Ahmad, Supervisor	Mirza Foundation	Member
14.	Satish Kumar, Senior supervisor	International Ltd.	Member
15.	Abhinandan Kumar, Scientist In Charge	CSIR-Central Leather Research Institute, Ahmedabad	Member
<b>List of members attended the Workshop to finalize the syllabi of existing CTS into NSQF compliance</b>			
1.	S.A. Pandav, Regional Dy. Director	DET, Gujarat	Chairman
2.	L.K. Mukherjee, Deputy Director of Training	CSTARI, Kolkata-91	Member
3.	Ashoke Rarhi, Deputy Director of Training	ATI-EPI, Dehradun	Member

4.	N. Nath, Assistant Director of Training	CSTARI, Kolkata-91	Member
5.	S. Srinivasu, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
6.	Sharanappa, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
7.	Ramakrishne Gowda, Assistant Director of Training	FTI, Bangalore	Member
8.	Goutam Das Modak, Assistant Director of Trg./Principal	RVTI, Kolkata-91	Member
9.	Venketesh. Ch., Principal	Govt. ITI, Dollygunj, Andaman & Nicobar Island	Member
10.	A.K. Ghate, Training Officer	ATI, Mumbai	Member
11.	V.B. Zumbre, Training Officer	ATI, Mumbai	Member
12.	P.M. Radhakrishnapillai, Training Officer	CTI, Chennai-32	Member
13.	A. Jayaraman, Training officer	CTI Chennai-32,	Member
14.	S. Bandyopadhyay, Training Officer	ATI, Kanpur	Member
15.	Suriya Kumari .K, Training Officer	RVTI, Kolkata-91	Member
16.	R.K. Bhattacharyya, Training Officer	RVTI, Trivandrum	Member
17.	Vijay Kumar, Training Officer	ATI, Ludhiana	Member
18.	Anil Kumar, Training Officer	ATI, Ludhiana	Member
19.	Sunil M.K. Training Officer	ATI, Kolkata	Member
20.	Devender, Training Officer	ATI, Kolkata	Member
21.	R. N. Manna, Training Officer	CSTARI, Kolkata-91	Member
22.	Mrs. S. Das, Training Officer	CSTARI, Kolkata-91	Member
23.	P.K. Bairagi, Training Officer	CSTARI, Kolkata-91	Co-ordinator
24.	Jyoti Balwani, Training Officer	RVTI, Kolkata-91	Member
25.	Pragna H. Ravat, Training Officer	RVTI, Kolkata-91	Member
26.	Sarbojit Neogi, Vocational Instructor	RVTI, Kolkata-91	Member
27.	Nilotpal Saha, Vocational Instructor	I.T.I., Berhampore, Murshidabad, (W.B.)	Member
28.	Vijay Kumar, Data Entry Operator	RVTI, Kolkata-91	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

