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

COMPETENCY BASED CURRICULUM

COMPUTER AIDED EMBROIDERY & DESIGNING

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 4

SECTOR –APPAREL

COMPUTER AIDED EMBROIDERY & DESIGNING

(Non-Engineering Trade)

(Revised in 2019)

Version: 1.2

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL - 4

Developed By

Ministry of Skill Development and Entrepreneurship

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1. COURSE INFORMATION

During the one-year duration of "Computer Aided Embroidery & Designing" 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:-

In this year the trainees will apply safe working practices at work place. They will identify and use embroidery tools, machine and operate with safety precautions. They can Prepare sample basic hand stitches (Temporary & permanent stitch). They will also acquire the skill of prepare sample by both the technique (Hand and Machine). They will able to prepare Indian Dresses, Western Dresses with suitable fabric design using coral draw. They can set up the machine and machine accessories as per requirement and also troubleshoot the machine with proper maintenance procedure. They will also Develop the skill to make computerizes design with the application of software.

The trainees can Setup computerized embroidery machine for transferring the image. They will able to run the computerized embroidery machine for all the digitizing process. They will prepare T-shirt used monogramming & logo design. They can also able to Identify, select and apply the digitizing design and use various techniques e.g. Appliqué work, Sequins work, Taping work, Cording work, Chenille work.

2. TRAINING SYSTEM

2.1 GENERAL

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

'Computer Aided Embroidery & Designing' trade under CTS is one of the popular courses 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 Craftsman and will progress further as Senior Craftsman, Supervisor and can rise up to the level of Manager.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programs in different types of industries leading to a National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming an instructor in ITIs.
- Can join Advanced Diploma (Vocational) courses under DGT as applicable.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of 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
	Total	**1600**

2.4 ASSESSMENT & CERTIFICATION

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

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

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

2.4.1 PASS REGULATION

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

2.4.2 ASSESSMENT GUIDELINE

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

Assessment will be evidence based comprising the following:

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

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

Performance Level	Evidence
(a) Weightage in the range of 60%-75% to be allotted during assessment	
For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices	• Demonstration of good skills and accuracy in the field of work/ assignments. • A fairly good level of neatness and consistency to accomplish job activities. • Occasional support in completing the task/ job.
(b)Weightage in the range of 75%-90% to be allotted during assessment	
For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety	• Good skill levels and accuracy in the field of work/ assignments. • A good level of neatness and consistency to accomplish job activities.

procedures and practices	• Little support in completing the task/job.
(c) Weightage in the range of more than 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 and accuracy in the field of work/ assignments. • A high level of neatness and consistency to accomplish job activities. • Minimal or no support in completing the task/ job.

Embroidery-Machine Operator (Semi-Automatic); tends semiautomatic sewing machine with multiple-sewing heads controlled by pattern chain that embroiders designs on garments or garment parts: Positions garment or part over embroidery hoops arranged in hoop frame, following edges or markings on fabric. Places hoop frame on machine bed and turns thumbscrews to secure frame to machine. Presses button to start machine that sews design onto garment or part and stops, or sews one colour of multiple colour design and stops. When sewing multiple-colour designs, rethreads machine with subsequent colours of thread and starts machine to complete design. Removes hoop frame from machine on completion of design and removes garment or part from hoops.

Embroider, Machine; embroiders various designs on fabric or garments by machines. Selects size and colour of thread and amounts bobbins of thread or machine. Threads needle and passes yarn through carrier of machine. Adjusts machine for thread tension and type of stitch. Presses lever to raise needle and inserts material under it. Guides material or sewing arm of machine in accordance with drawing or outline or guide points of pantograph on enlarged design. Changes thread as required and replace empty bobbins and broken needles. Removes article when embroidering is complete. Cleans and oils machine. May mark outlines of design on material before embroidery is started. May operate machine which embroiders several articles or designs at one time. May be designated as CROCHETING MACHINE OPERATOR if embroiders designs using crocheting machine.

Framer-Computerized Embroidery Machine; is responsible for preparation and setup of the embroidery machine for embroidery and carries out hooping and framing operations. The Framer is also responsible for removal of frame and fabric panel once the embroidery has been completed. While the embroidery is done through the computerized embroidery machine, the Framer needs to monitor the progress, and ensure the required quality of embroidery is achieved.

Reference NCO-2015:

   (i)   8153.0600 – Embroidery-Machine Operator (Semi-Automatic)
   (ii)   8153.0500 – Embroider, Machine
   (iii) 8153.0701 – Framer-Computerized Embroidery Machine

Name of the Trade	**COMPUTER AIDED EMBROIDERY & DESIGNING**
Trade Code	DGT/1072
NCO - 2015	8153.0600, 8153.0500, 8153.0701
NSQF Level	Level-4
Duration of Craftsmen Training	One Year (1600 Hours)
Entry Qualification	Passed 10th class examination
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	LD, CP, LC, DW, AA, LV, DEAF, HH, AUTISM, ID, SLD
Unit Strength (No. of Student)	24 (There is no separate provision of supernumerary seats)
Space Norms	96 Sq. m
Power Norms	5 KW
Instructors Qualification for:	
(i) Computer Aided Embroidery & Designing Trade	B.Voc/Degree in Textile Designing/ Fashion Technology/ Costume Design & Dress Making from UGC recognized university with one year experience in the relevant field. **OR** Diploma (Minimum 2 years) in Textile Designing/ Fashion Technology/ Costume Design & Dress Making from a recognized board of education or relevant Advanced Diploma (Vocational) from DGT with two-year experience in the relevant field. **OR** NTC/NAC passed in the Trade of "Computer Aided Embroidery & Designing" With three years' experience in the relevant field. **Essential Qualification:** Relevant National Craft Instructor Certificate (NCIC) in any of the variants under DGT. **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.**
(ii) Employability Skill	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience with short term ToT Course in Employability Skills from DGT institutes. (Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above) **OR** Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills from DGT institutes.
(iii) Minimum Age for Instructor	21 Years
List of Tools and Equipment	As per Annexure – I
Distribution of training on hourly basis: (Indicative only)	

Total Hrs./ Week	Trade Practical	Trade Theory	Employability Skills
40 Hours	30 Hours	6 Hours	4 Hours

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. Identify and use embroidery tools, machine and operate following safety precautions.
2. Prepare sample basic hand stitches (Temporary & permanent stitch).
3. Attain the skill to prepare sample by both the technique (Hand and Machine).
4. Embroidery Design the following with suitable fabric design using coral draw software. (Indian Dresses, Western Dresses)
5. Set up the machine and machine accessories as per requirement
6. Identify, select and troubleshoot the machine with proper maintenance procedure
7. Develop the skill to make computerizes design with the application of software.
8. Setup computerized embroidery machine for transferring the image.
9. Run the computerized embroidery machine for all the digitizing process.
10. Prepare T-shirt used monogramming & logo design.
11. Identify, select and apply the digitizing design and use various techniques e.g. Appliqué work, Sequins work, Taping work, Cording work, Chenille work.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Identify and use embroidery tools, machine and operate following safety precautions.	Identify embroidery tools.
	Identify all parts of equipment and their accessories.
	Clean all parts of equipment.
	Plan and operate.
	Identify basic faults and correct.
	Safety and maintenance.
2. Prepare sample basic hand stitches (Temporary & permanent stitch)	Identify and use the embroidery tools with safely.
	Select raw material for Temporary & permanent basic hand stitches.
	Prepare sample of Temporary stitches such as basting even, basting uneven, diagonal, slip basting.
	Prepare sample of permanent stitches such as running, hemming, slip, run & back, over casting.
	Explain difference between Temporary & Permanent stitch
	Sample should be properly finished and pressed.
3. Demonstrate and prepare sample both technique (Hand and Machine).	Identify and use the Pressing and Embroidery tools with safety.
	Select raw material, tools and equipment for tracing method.
	Prepare sample of running, back, satin and cross stitch by hand embroidery technique.
	Prepare sample of same stitches by computerized embroidery machine.
	Explain difference between hand embroidery and machine embroidery.
	Sample should be properly finished and pressed.
4. Embroidery designs the following with suitable fabric design using coral draw software. (Indian Dresses,Western Dresses)	Open the software and do the required page setup for the design.
	Identify and use the suitable tools for designing.
	Sketch the garment with suitable fabric design.
	Follow the designing principal.
	Select the colors and colour combination.
	Apply colour using colour filling tools.
	Save the file in a folder and take the print out of the design using colour printer.

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5. Set up the machine and machine accessories as per requirement	Identify and use the Pressing and Embroidery tools with safety.
	Decide the features and placement of the design (Border, Spray, Corner, Center, Link, etc) suitable for the part of the garment (Sleeves, Yokes, Cuffs, Neck, etc).
	Draw the design using already installed by following the elements of design.
	Apply suitable colors to the design by following color scheme.
	Press the garment part. Transfer the design on the garment.
	Fix the garment part properly on the embroidery frame.
	Select suitable embroidery stitches for the design.
	Start embroidery and complete the design step by step by applying suitable stitches at the required portions.
	Remove the frame and trim the excess threads.
	Follow the safety instructions throughout the process.
6. Identify, select and troubleshoot the machine with proper maintenance procedure.	Machine oiling and maintenance
	Trouble shoots the machine whenever required.
	Comply with safe operating principal.
	Follow the safety instructions throughout the process.
7. Develop the skill to make computerizes design with the application of software	Select correct needle, Pressing and Embroidery tools with safety.
	Open the software (Embroidery Software) and Select already install Design suitable for a Cushion Cover.
	Digitized and editing stitches.
	Apply suitable colours to the design.
	Decide the placement of the design in the fabric.
	Fix the cushion cover properly on the embroidery frame.
	Select suitable Machine embroidery stitches for the design.
	Do the upper and lower threading of the machine.
	Start embroidery and complete the design step by step by applying suitable stitches at the required portions.
	Remove the frame trim extra thread and press the cushion cover neatly.
	Follow safety precaution
8. Setup computerized	Open the software and do the required design.

	Identify and use the suitable tools for designing.
	Sketch the garment with suitable fabric design.
	Follow the designing principal.
	Select the colors and color combination.
	Apply color using color filling tools.
	Decide the features and placement of the design.
	Fix the pillow cover properly on the embroidery frame.
	Select suitable Machine embroidery stitches for the design.
	Do the upper and lower threading of the machine.
	Start embroidery and complete the design step by step by applying suitable stitches at the required portions.
	Remove the frame trim extra thread and press the pillow cover neatly.
9. Run the computerized embroidery machine for all the digitizing process.	Open the embroidery software and do the required design.
	Identify and use the tools for digitizing.
	Sketch the garment with suitable fabric design.
	Follow the designing principal.
	Select suitable stitches for the design.
	Select the colors and color combination.
	Apply color using color filling tools.
	Decide the features and placement of the design.
	Select correct needles, frame, scissor and thread.
	Fix the bed sheet properly on the embroidery frame.
	Do the upper and lower threading of the machine.
	Start embroidery and complete the design step by step by applying suitable stitches at the required portions.
	Maintain hygiene.
	Maintain safety expects.
	Maintain quality as per requirement.
	Remove the frame trim extra thread and press the bed sheet neatly.
	Produce a estimate and cost sheet.
10. Prepare T-shirt used monogramming & logo design.	Open the embroidery software and do the required design.
	Identify and use the tools for digitizing.
	Sketch the garment with suitable fabric design.
	Follow the designing principal.
	Select suitable stitches for the design.

	Select the colors and color combination.
	Apply color using color filling tools.
	Decide the features and placement of the design.
	Select correct needles, frame, scissor and thread.
	Fix the T- shirt properly on the embroidery frame.
	Do the upper and lower threading of the machine.
	Start embroidery and complete the design step by step by applying suitable stitches at the required portions.
	Maintain hygiene.
	Maintain safety expects.
	Maintain quality as per requirement.
	Remove the frame trim extra thread and press the T- shirt neatly.
	Produce a estimate and cost sheet.
11. Identify, select and apply the digitizing design and use various techniques e.g. Appliqué work, Sequins work, Taping work, Cording work, Chenille work.	Open the embroidery software and do the required design.
	Identify and use the tools for digitizing.
	Sketch the garment with suitable fabric design.
	Follow the designing principal.
	Select suitable stitches for the design.
	Select the colors and color combination.
	Apply color using color filling tools.
	Decide the features and placement of the design.
	Select correct needles, frame, scissor and thread.
	Fix the sari properly on the embroidery frame.
	Do the upper and lower threading of the machine.
	Start embroidery and complete the designs use appliqué, sequins, taping, cording and chenille step by step by applying suitable stitches at the required portions.
	Maintain hygiene.
	Maintain safety expects.
	Maintain quality as per requirement.
	Remove the frame trim extra thread and press the bed sheet neatly.
	Produce a estimate and cost sheet.

SYLLABUS FOR COMPUTER AIDED EMBROIDERY & DESIGNING TRADE			
DURATION: ONE YEAR			
Duration	**Reference Learning Outcome**	**Professional Skills (Trade Practical) With Indicative Hours**	**Professional Knowledge (Trade Theory)**
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Identify and use embroidery tools, machine and operate following safety precautions.	1. Familiarization with the present trend of computerized Embroidery by showing samples. (10 hrs.) 2. Familiarization with Machine & software. (10 hrs.) 3. Observe Safety Precautions. (10 hrs.)	Familiarization with the Institute Introduction to the Trade • History and Invention • Today's requirements Job Prospects and objective of the course. (06 hrs)
		4. Familiarization & Handling of Tools with Safety Practical Exercises on. (30 hrs.) • Color Wheel • Color Schemes • Identify the fabric	Knowledge of Trade related Tools &their Importance. Knowledge of Color Wheel and color Schemes. (06 hrs)
Professional Skill 30 Hrs; Professional Knowledge 06 Hrs	Prepare sample basic hand stitches (Temporary & permanent stitch).	5. Basic Hand Stitches (30 hrs.) • Temporary ➢ Basting even ➢ Basting uneven ➢ Diagonal ➢ Slip basting • Permanent ➢ Running stitch ➢ Hemming stitch ➢ Slip stitch ➢ Run and back stitch ➢ Over casting	Knowledge of Hand Embroidery & Stitches. (06 hrs)

		➤ Whip stitch	
Professional Skill 90 Hrs; Professional Knowledge 18 Hrs	Attain the skill to prepare sample by both the technique (Hand and Machine).	6. Computer embroidery knowledge by showing swatch collection made by different machines. (15hrs.) 7. Start and shutdown process of machine. (15hrs.) 8. Familiarize with different stitches by running computer embroidery machine. (15hrs.) 9. Traditional embroidery: Making Embroidery samples according to different state on traditional fabric and traditional threads and traditional motif. (15hrs.) 10. Familiarization with different equipment related to machine. (15hrs.) 11. Familiarization with tools of embroidery machines. (15hrs.)	Different types of Embroidery and Computerized embroidery machine. Computerized embroidery and its importance. • Introduction to computer embroidery stitches. • Manual • Run and triple run • Satin • Step/tatami • Piping/contour • Introduction to Traditional Embroidery according to different states • Its origin • Fabric used • Threads used • Traditional motif • Introduction of equipment related to computerized embroidery. • Parts of computerized embroidery machine. (18 hrs)
Professional Skill 120 Hrs; Professional Knowledge 24 Hrs	Design the following with suitable fabric design using coral draw software. (Indian Dresses, Western Dresses)	12. Familiarize with personal computer and its parts. (10 hrs.) 13. Starting a Personal computer and starting software's like paintbrush, coral draw. (20 hrs.) 14. Mouse practice. (05 hrs.) 15. Practice on paint brush. (15 hrs.)	• Introduction and function of various parts of computer also relate it to computerized embroidery machine. • Basic knowledge of computer. • Introduction to Corel Draw. • Commands like cut, copy,

		16. Making designs and colouring. (20 hrs.) 17. Practice on coral draw and different software. (30 hrs.) 18. Making designs and colouring on software. (15 hrs.) 19. Use of scanner. (05 hrs.)	paste and text writing. (24 hrs)
Professional Skill 120 Hrs; Professional Knowledge 24 Hrs	Set up the machine and machine accessories as per requirement	Machine operation 20. How to change needle in details and its tools. (10 hrs.) 21. Precautions while changing needle. (20hrs.) 22. Needle control according to design. (30hrs.)	• Types of Needle and their uses and handling. ➢ Needle precautions ➢ Types of needle ➢ Checking the needle ➢ Selection of needle ➢ according to fabric (12 hrs)
		23. Load thread on machine. (10 hrs.) 24. Winding/installing the bobbin. (10 hrs.) 25. Bobbin precaution. (10 hrs.)	• Types of Embroidery Threads ➢ Brief knowledge of threads. ➢ Composition ➢ Benefits and disadvantages of different kinds of thread. • Difference between upper thread and bobbin thread. (06 hrs)
		26. Use of different fabric on computerized embroidery machine. (10 hrs.) 27. Practicing on running machine tension making of upper thread and bobbin thread. (20 hrs.)	Type of Fabrics • How to handle different-different fabrics. • Benefits and disadvantage of heavy and light fabrics. • Details Knowledge of • Machine Head, tension point, sensors etc.

			• Embroidery process • Head working area and stitch formation. (06 hrs)
Professional Skill 30 Hrs; Professional Knowledge 06 Hrs	Identify, select and troubleshoot the machine with proper maintenance procedure	28. Machine oiling and maintenance. (05 hrs.) 29. Practice running designs on machine already available in machine. (10 hrs.) 30. Machine working in simple embroidery and specialized embroidery like sequins, tapping& cording, Chenille etc (videos or photo). (15 hrs.)	• Maintenance of machines and Safe operating principle. (06 hrs)
Professional Skill 150 Hrs; Professional Knowledge 30Hrs	Develop the skill to make computerizes design with the application of software.	Hooping Practice 31. Clipping fabric on pantograph. (05 hrs.) 32. Placement of design and making origin of design. (10 hrs.) 33. Practice deigns already installed in machine. (05 hrs.) 34. Familiarize with backing paper or stabilizing material. (10 hrs.)	• Stabilizers/backing their types and uses. • Need of stabilizing fabric. (06 hrs)
		35. Design input and output methods from software to machine and machine to software. (20 hrs.) 36. Operating a machine and loading designs and setting origin. (20 hrs.) 37. Practice of running design with threading, changing needle, loading designs from software to machine etc. (50 hrs.)	• Knowledge of digitizing software and machine keys. • Description of software and its need. • How software works (x-axis and Y-axis). • How software designs linked with machine. • Introduction of digitizing software like software

		- Loading designs from software to UBS- drive. - Loading design to machine - Setting origin. 38. Threading and running designs on fabric.(30 hrs.)	interface etc. (24 hrs)
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Setup computerized embroidery machine for transferring the image.	39. Transferring of Images and sketches in software design Related to paintbrush and coral draw with the software. (40 hrs.) 40. Joining big images. (20 hrs.)	- Use of scanner with digitizing software. - Importance of scanner. (12 hrs)
Professional Skill 360Hrs; Professional Knowledge 72Hrs	Run the computerized embroidery machine for all the digitizing process.	Software digitizing 41. Type of stitches. (30 hrs.) 42. Digitization process and all commands in software. (120 hrs.) 43. Stitch control and smooth running of machine as per digitizing. (70 hrs.) 44. Limitation of software. (50 hrs.) 45. Benefits of using software.(30 hrs.)	Detailed study of digitizing procession software. - Learn different stitches with examples on machine. - Making design on software. - Loading digitized designs in machine by students - Information of design on LCD (Liquid Crystal display) - Details knowledge of machine regarding Area and its capabilities. (60 hrs)
		Machine designs functions and tools. 46. Resize design with machine. Flip, rotate etc. (20 hrs.) 47. Move to particular point. (20 hrs.)	Setting of design on different articles Placement specification like with printing. (12 hrs)

		48. Placement information and origin making. (20 hrs.)	
Professional Skill 60 Hrs; Professional Knowledge 12 Hrs	Prepare T-shirt used monogramming &logo design.	49. Operating machine on self-made design. (20 hrs.) 50. Monogramming and logo making on designs. (40 hrs.)	Knowledge of Monogram & Logo. (12 hrs)
Professional Skill 120 Hrs; Professional Knowledge 24 Hrs	Identify, select and apply the digitizing design and use various techniques e.g. Appliqué work, Sequins work, Taping work, Cording work, Chenille work.	51. Digitizing Chemical lace designs. (10 hrs.) 52. Appliqué/patching. (10 hrs.) 53. Using Two Fabrics, patch works. (05 hrs.) 54. Chemical laces (05 hrs.)	Advance techniques in Machine Embroidery. (06 hrs)

		55. Advance Digitizing. (10 hrs.)
		56. Digitizing of Sequins. (10 hrs.)
		57. Digitizing of Taping & cording. (10 hrs.)
		58. Digitizing of Chenille. (10 hrs.)
		59. Precautions in handling these special attachments. (10 hrs.)
		60. Making embroidery samples on garments: (10 hrs.)
		    • Dresses neckline
		    • Patch embroidery
		    • Chanya choli
		    • Logo designing
		    • Blouse
		    • Kurtas
		    • Indo western
			Detailed knowledge of special Attachments on Operating machine on self-made design.
			• How to handle these attachments
			• Knowledge of changing guides for sequins and cording tapping device. (18 hrs)

SYLLABUS FOR CORE SKILLS
1. Employability Skills (Common for all CTS trades) (160Hrs.)

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

Computer Aided Embroidery & Designing

	List of Tools & Equipment		
	COMPUTER AIDED EMBROIDERY & DESIGNING (for batch of 24 Candidates)		
S No.	**Name of the Tools and Equipment**	**Specification**	**Quantity**
A. TRAINEES TOOL KIT (consumable item)			
1.	Measuring Tape	150 cm	25 (24+1) Nos.
2.	Seam Ripper		25 (24+1) Nos.
3.	Thimble		25 (24+1) Nos.
4.	Thread cutter		25 (24+1) Nos.
5.	Color plate		25 (24+1) Nos.
6.	Color brush	No. 00,1, 2	25 (24+1) Nos. each
7.	Scale plastic	12"	25 (24+1) Nos.
8.	Compass		25 (24+1) Nos.
9.	Hangers	Wooden hangers	25 (24+1) Nos.
10.	Embroidery Ring	Size 1,2,3,4,5,6,7	25 (24+1) Nos. each
11.	Stencil	Different shapes and design, Numerical and alphabets,	25 (24+1) Nos. each
12.	Pick glass		25 (24+1) Nos.
13.	Water colour		25 (24+1) Nos.
14.	Eraser, Pencil, Sharpner		25 (24+1) Nos.
B. MACHINE LABORATORY			
15.	Single Head Computerized embroidery machine (multi needle) with UPS		4 Nos.
16.	Trade related software		4 Nos.
17.	Coral draw software		4 Nos.
18.	Desktop Computer	CPU: 32/64 Bit i3/i5/i7 or latest processor, Speed: 3 GHz or Higher. RAM:-4 GB DDR-III or Higher, Wi-Fi Enabled. Network Card: Integrated Gigabit Ethernet, with USB Mouse, USB Keyboard and Monitor (Min. 17 Inch.	10 Nos.

Computer Aided Embroidery & Designing

No.	Item	Specification	Quantity
		Licensed Operating System and Antivirus compatible with trade related software.	
19.	UPS		As required
20.	Printer		1 No.
21.	Scanner		1 No.
22.	Automatic Sewing Machine		2 Nos.
23.	Round table with step for embroidery machines		12 Nos.
24.	Automatic Electric Press		1 No.
25.	Air Conditioner		As required
26.	Dummy		2 Nos.
27.	Carpet	Size as per requirement	1 No.
28.	Frames/hoops		1 set
29.	Pinking scissors		5 Nos.
30.	Appliqué scissors		4 No.
31.	Cutting scissors		24 Nos.
32.	Trainees lockers (10 lockers)		2 Unit
33.	Wall clock		1 No.
34.	Calculator		1 No.
C. THEORY ROOM			
35.	Single desks for trainees with arrangements of keeping Books etc.	chair with desk	24 Nos.
36.	Faculty Table & Chair set		1 No.
37.	Computer set with UPS & multimedia projector		1 No.
38.	White Magnetic Board with Felt board & accessories		1 No.
39.	Display Board		2 Nos.
40.	Storage Almirah		3 Nos.
41.	Book Shelf		1 No.
42.	A/C unit split type	2 TR capacity with Stabilizer	As per required

Note: -
1. *Internet facility is desired to be provided in the class room.*

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

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SNo.	Name & Designation Sh/Mr/Ms	Organization	Remarks
	List of Expert members participated for finalizing the course curriculum of Computer Aided Embroidery and Designing.		
1.	S.A. Pandav, Regional Dy. Director	DET, Gujarat	Chairman
2.	L.K. Mukherjee, DDT	CSTARI, Kolkata	Co-ordinator
3.	Neha K. Shah, Principal	ITI- Gorwa, Gujarat	Member
4.	Chetan Chavda, Fashion Designer	Vibgyor Vintage, Vadodara	Member
5.	Dr. Tasnim N. Shikh, Associate Professor	M.S. University of Baroda, Gujarat	Member
6.	Bhanupriya P. Pandya, Associate Professor	JD Institute, Vadodara	Member
7.	Amit S. Shrivastava, Fashion Designer	Abstract , Vadodara	Member
8.	P. J. Masih, Principal	ITI, Ghoghamba	Member
9.	Khushi R. Parikh,	ITI, Gorwa (Mahila)	Member
10.	P.K. Bairagi, TO	CSTARI, Kolkata	Member

Computer Aided Embroidery & Designing*

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