



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- 3.5



SECTOR – APPAREL



Directorate General of Training

COMPUTER AIDED EMBROIDERY & DESIGNING

(Non-Engineering Trade)

(Revised in March 2023)

Version: 2.0

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL – 3.5

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

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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 variants and 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 Embroiderer and will progress further as Senior Embroiderer, 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)	840
2	Professional Knowledge (Trade Theory)	240
3	Employability Skills	120
	Total	1200

Every year 150 hours of mandatory OJT (on the Training) at nearby industry, not available then group project is mandatory.

On the Job Training (OJT)/ Group Project	150
Optional Courses (10 th / 12 th class certificate along with ITI certification or add on short term courses)	240

Trainees of one-year or two-year trade can also opt for optional courses of up to 240 hours in each year for 10th class /12th class certificate along with ITI certificate or add on short term courses.

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%.

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 some of 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
- Computer based multiple choice question examination
- Practical examination

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 for formative assessment:

Performance Level	Evidence
(a) Marks in the range of 60%-75% to be allotted during assessment	

<p>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</p>	<ul style="list-style-type: none"> • 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.
<p>(b) Marks in the range of 75%-90% to be allotted during assessment</p>	
<p>For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices</p>	<ul style="list-style-type: none"> • Good skill levels and accuracy in the field of work/ assignments. • A good level of neatness and consistency to accomplish job activities. • Little support in completing the task/job.
<p>(c) Marks 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"> • 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.

3. JOB ROLE

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 color of multiple color design and stops. When sewing multiple-color designs, rethreads machine with subsequent colors 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 color 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

Reference NOS:

- i) AMH/N1022
- ii) AMH/N1011
- iii) AMH/N1302
- iv) AMH/N0801
- v) AMH/N9402
- vi) AMH/N1003

4. GENERAL INFORMATION

Name of the Trade	COMPUTER AIDED EMBROIDERY & DESIGNING
NCO - 2015	8153.0600, 8153.0500, 8153.0701
NOS Covered	AMH/N1022, AMH/N1011, AMH/N1302, AMH/N0801, AMH/N1003, AMH/N9402
NSQF Level	Level-3.5
Duration of Craftsmen Training	One Year (1200 Hours+150 hours OJT/Group Project)
Entry Qualification	Passed 10 th class examination
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	LD, CP, LC, DW, AA, LV, DEAF, HH, AUTISM, ID, SLD
Unit Strength (No. of Student)	20 (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	<p>B.Voc/Degree in Textile Designing/ Fashion Technology/ Costume Design & Dress Making from UGC recognized university with one year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>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.</p> <p style="text-align: center;">OR</p> <p>NTC/NAC passed in the Trade of "Computer Aided Embroidery & Designing" With three years' experience in the relevant field.</p> <p><u>Essential Qualification:</u> Relevant Regular/ RPL variant of National Craft Instructor Certificate (NCIC) in any of the variants under DGT.</p>

	NOTE: - Out of two Instructors required for the unit of 2 (1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications. However, both of them must possess NCIC in any of its variants.
(ii) Employability Skill	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience with short term ToT Course in Employability Skills (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
(iii) Minimum Age for Instructor	21 Years
List of Tools and Equipment	As per Annexure – I

5. LEARNING OUTCOME

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

5.1 LEARNING OUTCOMES

1. Identify and use embroidery tools, machine and operate following safety precautions. (NOS: AMH/N1022)
2. Prepare sample basic hand stitches (Temporary & permanent stitch). (NOS: AMH/N1011)
3. Attain the skill to prepare sample by both the technique (Hand and Machine). (NOS: AMH/N1022)
4. Embroidery Design the following with suitable fabric design using coral draw software. (Indian Dresses, Western Dresses) (NOS: AMH/N1302)
5. Set up the machine and machine accessories as per requirement. (NOS: AMH/N0801)
6. Identify, select and troubleshoot the machine with proper maintenance procedure (NOS: AMH/N1003)
7. Develop the skill to make computerizes design with the application of software. (NOS: AMH/N1302)
8. Setup computerized embroidery machine for transferring the image. (NOS: AMH/N9402)
9. Run the computerized embroidery machine for all the digitizing process. (NOS: AMH/N1302)
10. Prepare T-shirt used monogramming & logo design. (NOS: AMH/NO1302)
11. Identify, select and apply the digitizing design and use various techniques e.g. Appliqué work, Sequins work, taping work, Cording work, Chenille work. (NOS: AMH/N1302)

6. ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Identify and use embroidery tools, machine and operate following safety precautions. (NOS: AMH/N102)	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) (NOS: AMH/N1011)	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). (NOS: AMH/N0111)	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) (NOS : AMH/N1302)	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 color combination.
	Apply color using color filling tools.
	Save the file in a folder and take the print out of the design using color printer.

5. Set up the machine and machine accessories as per requirement (NOS: AMH/N0801)	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. (NOS :AMH/N1003)	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 (NOS :AMH/N1302)	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 embroidery machine for transferring the image: (NOS: AMH/N9402)	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. (NOS: AMH/N1302)	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. (NOS:AMH/N1302)	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. (NOS: AMH/N1302)	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.

7. TRADE SYLLABUS

SYLLABUS FOR COMPUTER AIDED EMBROIDERY & DESIGNING TRADE			
DURATION: ONE YEAR			
Duration	Reference Learning Outcome	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
Professional Skill 60Hrs; Professional Knowledge 12Hrs	Identify and use embroidery tools, machine and operate following safety precautions.	<ol style="list-style-type: none"> 1. Familiarization with the present trend of computerized Embroidery by showing samples. 2. Familiarization with Machine & software. 3. Observe Safety Precautions. 4. Machine oiling and maintenance. 	Familiarization with the Institute Introduction to the Trade <ul style="list-style-type: none"> • History and Invention • Today's requirements Job Prospects and objective of the course.
		<ol style="list-style-type: none"> 5. Familiarization & Handling of Tools with Safety Practical Exercises on. <ul style="list-style-type: none"> • Colour Wheel • Colour Schemes 6. Identify the fabric Machine oiling and maintenance. 	Knowledge of Trade related Tools & their Importance. Knowledge of Color Wheel and color Schemes.
Professional Skill 30Hrs; Professional Knowledge 06Hrs	Prepare sample basic hand stitches (Temporary & permanent stitch).	<ol style="list-style-type: none"> 7. Basic Hand Stitches <ul style="list-style-type: none"> • Temporary <ul style="list-style-type: none"> ➤ Basting even ➤ Basting uneven ➤ Diagonal ➤ Slip basting • Permanent <ul style="list-style-type: none"> ➤ Running stitch ➤ Hemming stitch ➤ Slip stitch ➤ Run and back 	Knowledge of Hand Embroidery & Stitches.

		<p>stitch</p> <ul style="list-style-type: none"> ➤ Over casting ➤ Whip stitch ➤ Steam stitch ➤ Satin stitch ➤ Back stitch ➤ Chain stitch ➤ Button hole stitch ➤ French stitch ➤ Mirror stitch 	
<p>Professional Skill 30Hrs; Professional Knowledge 18hrs</p>	<p>Attain the skill to prepare sample by both the technique (Hand and Machine).</p>	<p>8. Start and shutdown process of machine. 9. Familiarize with different stitches by running computer embroidery machine.</p>	<ul style="list-style-type: none"> • Manual • Run and triple run • Satin • Step/tatami • Piping/contour
<p>Professional Skill 150hrs; Professional Knowledge 24hrs</p>	<p>Design the following with suitable fabric design using coral draw software. (Indian Dresses, Western Dresses)</p>	<p>10. Familiarize with personal computer and its parts. 11. Starting a Personal computer and starting software's like paintbrush, coral draw. 12. Use of printer and scanner. 13. Mouse practice. 14. Practice on paint brush. 15. Practice of computer basics 16. Making designs and coloring. 17. Practice on coral draw and different software. 18. Making designs and colouring on software. 19. Use of scanner.</p>	<ul style="list-style-type: none"> • 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, paste and text writing.
<p>Professional Skill 60hrs; Professional Knowledge 24hrs</p>	<p>Set up the machine and machine accessories as per requirement</p>	<p>Machine operation 20. How to change needle in details and its tools. 21. Load thread on machine. 22. Winding/installing the bobbin. 23. Bobbin precaution.</p>	<ul style="list-style-type: none"> • Types of Needle and their uses and handling. <ul style="list-style-type: none"> ➤ Needle precautions ➤ Types of needle ➤ Checking the needle ➤ Selection of needle

		24. Precautions while changing needle.	<ul style="list-style-type: none"> ➤ according to fabric <p>Types of Embroidery Threads</p> <ul style="list-style-type: none"> ➤ Brief knowledge of threads. <p>Composition</p> <ul style="list-style-type: none"> ➤ Benefits and disadvantages of different kinds of thread. • Difference between upper thread and bobbin thread.
		25. Use of different fabric on computerized embroidery machine. 26. Practicing on running machine tension making of upper thread and bobbin thread.	<p>Type of Fabrics</p> <ul style="list-style-type: none"> • 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.
Professional Skill 30hrs; Professional Knowledge 06hrs	Identify, select and troubleshoot the machine with proper maintenance procedure	27. Practice running designs on machine already available in machine.	<ul style="list-style-type: none"> • Maintenance of machines and Safe operating principle.
Professional Skill 60hrs; Professional Knowledge 30Hrs	Develop the skill to make computerizes design with the application of software.	<p>Hooping Practice</p> <p>28. Clipping fabric on pantograph.</p> <p>29. Placement of design and making origin of design.</p> <p>30. Familiarize with backing paper or stabilizing material.</p> <p>31. Operating a machine and</p>	<ul style="list-style-type: none"> • Stabilizers/backing their types and uses. • Need of stabilizing fabric. <p>Knowledge of digitizing software and machine keys.</p> <ul style="list-style-type: none"> • Description of software and its need. • How software works (x-

		loading designs and setting origin.	<p>axis and Y-axis).</p> <ul style="list-style-type: none"> • How software designs linked with machine. • Introduction of digitizing software like software interface etc.
Professional Skill 30hrs; Professional Knowledge 12hrs	Setup computerized embroidery machine for transferring the image.	32. Transferring of Images and ketches in software design Related to paintbrush and coral draw with the software.	<ul style="list-style-type: none"> • Use of scanner with digitizing software. • Importance of scanner.
Professional Skill 270Hrs; Professional Knowledge 72Hrs	Run the computerized embroidery machine for all the digitizing process.	<p>Software digitizing</p> <p>33. Type of stitches.</p> <p>34. Digitization process and all commands in software.</p> <p>35. Stitch control and smooth running of machine as per digitizing.</p> <p>Machine designs functions and tools.</p> <p>36. Resize design with machine. Flip, rotate etc. Uses of m/c Control Panel(COD)</p> <p>37. Move to particular point.</p>	<p>Detailed study of digitizing procession software.</p> <ul style="list-style-type: none"> • 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. • Setting of design on different articles • Placement specification like with printing.
Professional Skill 60Hrs; Professional Knowledge 12Hrs	Prepare T-shirt used monogramming & logo design.	<p>38. Operating machine on self-made design.</p> <p>39. Monogramming and logo making on designs.</p>	Knowledge of Monogram & Logo.

<p>Professional Skill 60Hrs; Professional Knowledge 24Hrs</p>	<p>Identify, select and apply the digitizing design and use various techniques e.g. Appliqué work, Sequins work, taping work, Cording work, Chenille work</p>	<p>40. Appliqué/patching. 41. Making embroidery samples on garments:</p> <ul style="list-style-type: none"> • Dresses neckline • Patch embroidery • Chania choli • Logo designing • Blouse • Kurtas • Indo western <p>42. Machine working in simple embroidery and specialized embroidery like sequins, tapping& cording, Chenilleetc (videos or photo).</p>	<p>Advance techniques in Machine Embroidery.</p> <p>Detailed knowledge of special Attachments on Operating machine on self-made design.</p> <ul style="list-style-type: none"> • How to handle these attachments • Knowledge of changing guides for sequins and cording tapping device.
<p>Examination</p>			

SYLLABUS FOR CORE SKILLS

1. Employability Skills (Common for all CTS trades) (120 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/dgt.gov.in)
/dgt.gov.in

List of Tools & Equipment			
COMPUTER AIDED EMBROIDERY & DESIGNING (for batch of 20 Candidates)			
S No.	Name of the Tools and Equipment	Specification	Quantity
A. TRAINEES TOOL KIT (consumable item)			
1.	Measuring Tape	150 cm	21 (20+1) Nos.
2.	Seam Ripper		21 (20+1) Nos.
3.	Thimble		21 (20+1) Nos.
4.	Thread cutter		21 (20+1) Nos.
5.	Color plate		21 (20+1) Nos.
6.	Color brush	No. 00,1, 2	21 (20+1) Nos. each
7.	Scale plastic	12"	21 (20+1) Nos.
8.	Compass		21 (20+1) Nos.
9.	Embroidery Ring	Size 4" 6"	21 (20+1) Nos. each
10.	Water erasable marking pen		21 (20+1) Nos. each
11.	Cotton fabric	As required (max.10 mtr.)	21 (20+1) Nos.
12.	Water color		21 (20+1) Nos.
13.	Eraser, Pencil, Sharpener		21 (20+1) Nos.
B. MACHINE LABORATORY			
14.	Hangers	Hangers	21 (20+1) Nos.
15.	Machine attachments and accessories		As required
16.	Over lock machine	3 thread	1 No.
17.	Chair/ Stool for swing machine		2 Nos.
18.	Garment steamer		1 No.
19.	Pressing stand (metal)		1 No.
20.	Thread storage cabinet		2 Nos.
21.	Cutting table		2 Nos.
22.	Single Head Computerized embroidery machine (multi needle)		4 Nos.

	with UPS		
23.	Trade related software Like wilcom, wings, Corel draw etc.		1 Nos. for each system 20+1
24.	Desktop Computer with UPS	CPU: 32/64 Bit i3/i5/i7 or latest processor, Speed: 3 GHz or Higher. RAM: - 4 GB DDR-III or Higher, Wi-Fi Enabled. Network Card: Integrated Gigabit Ethernet, with USB Mouse, USB Keyboard and Monitor (Min. 17 Inch Licensed Operating System and Antivirus compatible with trade related software.	21 (20+1) Nos.
25.	Laptop		1 No.
26.	Lan connectivity		As required
27.	Multi-functional A3 size color printer Latest with trolley		1 No.
28.	Faculty Table & Chair set		1 No.
29.	Automatic Sewing Machine (with necessary attachments (zip fixing, plot gathering foot etc.)		1 No.
30.	Computer table and chair		As required
31.	Automatic Electric Press		2 Nos.
32.	Air Conditioner		As required
33.	Dummy		2 Nos.
34.	Carpet	Size as required	1 No.
35.	Frames/hoops		1 set
36.	Pinking scissors		5 Nos.
37.	Appliqué scissors		4 Nos.
38.	Cutting scissors		20 Nos.
39.	Trainees lockers (10 lockers)		2 Unit
40.	Chair/ Stool for sewing machine		As required
C. THEORY ROOM			
41.	Desks and chairs for trainees with arrangements of keeping book etc.	chair with desk	20 Nos.
42.	Faculty Table & Chair set		1 No.
43.	Computer set with UPS &		1 No.



	multimedia projector		
44.	White Magnetic Board with Felt board & accessories		1 No.
45.	Smart / interactive board		1 No.
46.	Display Board		2 Nos.
47.	Storage Almira		3 Nos.
48.	Book Shelf		1 No.
49.	Air Conditioner	2 TR capacity with Stabilizer	As required
50.	Notice board		1 No.

Note: -

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

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

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

List of Expert members participated for finalizing the course curriculum of Computer Aided Embroidery and Designing.			
SNo.	Name & Designation Sh/Mr/Ms	Organization	Remarks
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

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

