



Skill India
कौशल भारत - कुशल भारत

COMPUTER AIDED EMBROIDERY & DESIGNING

NSQF LEVEL- 6



SECTORS - APPAREL

COMPETENCY BASED CURRICULUM

CRAFT INSTRUCTOR TRAINING SCHEME (CITS)



सत्यमेव जयते

GOVERNMENT OF INDIA

Ministry of Skill Development & Entrepreneurship

Directorate General of Training

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

EN-81, Sector-V, Salt Lake City, Kolkata – 700091



Directorate General of Training

COMPUTER AIDED EMBROIDERY & DESIGNING

(Non-Engineering Trade)

SECTOR – APPAREL

(Designed in 2020)

Version: 1.0

CRAFT INSTRUCTOR TRAINING SCHEME (CITS)

NSQF LEVEL - 6

Developed By

Government of India

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CONTENTS

S No.	Topics	Page No.
1.	Course Overview	1
2.	Training System	2
3.	General Information	6
4.	Job Role	8
5.	Learning Outcomes	9
6.	Course Content	10
7.	Assessment Criteria	14
8.	Infrastructure	17
	Annexure I –List of Trade Experts	20

1. COURSE OVERVIEW

The Craft Instructor Training Scheme is operational since inception of the Craftsmen Training Scheme. The first Craft Instructors' Training Institute was established in 1948. Subsequently, 6 more institutes namely, Central Training Institute for Instructors (now called as National Skill Training Institute (NSTI)), NSTI at Ludhiana, Kanpur, Howrah, Mumbai, Chennai and Hyderabad were established in 1960's by DGT. Since then the CITS course is successfully running in all the NSTIs across India as well as in DGT affiliated institutes viz. Institutes for Training of Trainers (IToT). This is a competency based course of one year duration. "Computer Aided Embroidery & Designing" CITS trade is applicable for Instructors of "Computer Aided Embroidery & Designing" Trade.

The main objective of Craft Instructor training programme is to enable Instructors explore different aspects of the techniques in pedagogy and transferring of hands-on skills so as to develop a pool of skilled manpower for industries, also leading to their career growth & benefiting society at large. Thus promoting a holistic learning experience where trainee acquires specialized knowledge, skills & develops attitude towards learning & contributing in vocational training ecosystem.

This course also enables the instructors to develop instructional skills for mentoring the trainees, engaging all trainees in learning process and managing effective utilization of resources. It emphasizes on the importance of collaborative learning & innovative ways of doing things. All trainees will be able to understand and interpret the course content in right perspective, so that they are engaged in & empowered by their learning experiences and above all, ensure quality delivery.

2. TRAINING SYSTEM

2.1 GENERAL

CITS courses are delivered in National Skill Training Institutes (NSTIs) & DGT affiliated institutes viz., Institutes for Training of Trainers (IToT). For detailed guidelines regarding admission on CITS, instructions issued by DGT from time to time are to be observed. Further complete admission details are made available on NIMI web portal <http://www.nimionlineadmission.in>. The course is of one-year duration. It consists of Trade Technology (Professional skills and Professional knowledge), Training Methodology and Engineering Technology/ Soft skills. After successful completion of the training programme, the trainees appear in All India Trade Test for Craft Instructor. The successful trainee is awarded NCIC certificate by DGT.

2.2 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.	Trade Technology	
	Professional Skill (Trade Practical)	640
	Professional Knowledge (Trade Theory)	240
2.	Soft Skills	
	Practical	100
	Theory	100
3.	Training Methodology	
	TM Practical	320
	TM Theory	200
	Total	1600

2.3 PROGRESSION PATHWAYS

- Can join as an Instructor in vocational training Institute/ technical Institute.
- Can join as a supervisor in Industries.
- Run their own Embroidery unit
- Can progress as Digitizer in relevant Industry

2.4 ASSESSMENT & CERTIFICATION

The CITS trainee will be assessed for his/her Instructional skills, knowledge and attitude towards learning throughout the course span and also at the end of the training program.

a) The Continuous Assessment (Internal) during the period of training will be done by **Formative Assessment Method** to test competency of instructor with respect to assessment criteria set against each learning outcomes. The training institute has to maintain an individual trainee portfolio in line with assessment guidelines. 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 Method**. The All India Trade Test for awarding National Craft Instructor Certificate will be conducted by DGT as per the guidelines of DGT. The learning outcome and assessment criteria will be the basis for setting question papers for final assessment. The external 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 CRITERIA

Sl. No.	Subject		Marks	Internal Assessment	Full Marks	Pass Marks	
						Exam	Internal Assessment
1.	Trade Technology	Trade Theory	100	40	140	40	24
		Trade Practical	200	60	260	120	36
2.	Soft Skills	Practical	50	25	75	30	15
		Theory	50	25	75	20	15
3.	Training Methodology	TM Practical	200	30	230	120	18
		TM Theory	100	20	120	40	12
Total Marks			700	200	900	370	120

The minimum pass percent for Trade Practical, TM Practical, Soft Skill Practical Examinations and Formative assessment is 60% & for all other subjects is 40%. 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. While assessing, the major factors to be considered are approaches to generate solutions to specific problems by involving standard/non-standard practices.

Due consideration should also 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 of the following:

- Demonstration of Instructional Skills (Lesson Plan, Demonstration Plan)
- Record book/daily diary
- Assessment Sheet
- Progress chart
- Video Recording
- Attendance and punctuality
- Viva-voce
- Practical work done /Models
- Assignments
- 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 be well versed with instructional design, implement learning programme and assess learners which demonstrates attainment of an acceptable standard of crafts instructorship with occasional guidance and engage students by demonstrating good attributes of a trainer.	<ul style="list-style-type: none"> • Demonstration of fairly good skill to establish a rapport with audience, presentation in orderly manner and establish as an expert in the field. • Average engagement of students for learning and achievement of goals while undertaking the training on specific topic. • A fairly good level of competency in expressing each concept in terms the student can relate, draw analogy and summarize the entire lesson. • Occasional support in imparting effective training.
(b) Weightage in the range of 75%-90% to be allotted during assessment	
For performance in this grade, the candidate should be well versed with	<ul style="list-style-type: none"> • Demonstration of good skill to establish a rapport with audience, presentation in

<p>instructional design, implement learning programme and assess learners which demonstrates attainment of a reasonable standard of crafts instructorship with little guidance and engage students by demonstrating good attributes of a trainer.</p>	<p>orderly manner and establish as an expert in the field.</p> <ul style="list-style-type: none"> • Above average engagement of students for learning and achievement of goals while undertaking the training on specific topic. • A good level of competency in expressing each concept in terms the student can relate, draw analogy and summarize the entire lesson. • Little support in imparting effective training.
<p>(c) Weightage in the range of more than 90% to be allotted during assessment</p>	
<p>For performance in this grade, the candidate should be well versed with instructional design, implement learning programme and assess learners which demonstrates attainment of a high standard of crafts instructorship with minimal or no support and engage students by demonstrating good attributes of a trainer.</p>	<ul style="list-style-type: none"> • Demonstration of high skill level to establish a rapport with audience, presentation in orderly manner and establish as an expert in the field. • Good engagement of students for learning and achievement of goals while undertaking the training on specific topic. • A high level of competency in expressing each concept in terms the student can relate, draw analogy and summarize the entire lesson. • Minimal or no support in imparting effective training.

3. GENERAL INFORMATION

Name of the Trade	COMPUTER AIDED EMBROIDERY & DESIGNING – CITS
Trade Code	DGT/4048
NCO – 2015	2356.0100
NSQF Level	Level-6
Duration of Craft Instructor Training	One Year
Unit Strength (No. Of Student)	25
Entry Qualification	<p>Degree / Diploma (Minimum 2 Years) in Fashion Technology / Fashion Designing and Technology from recognized Board / University.</p> <p style="text-align: center;">OR</p> <p>National Trade Certificate in Computer Aided Embroidery & Designing trade or related trades.</p> <p style="text-align: center;">OR</p> <p>National Apprenticeship Certificate in Computer Aided Embroidery & Designing trade or related trade.</p>
Minimum Age	18 years as on first day of academic session.
Space Norms	<p>Theory Room - 65 Sq. m</p> <p>Computer Lab - 65 Sq. m</p> <p>Embroidery Lab 120 sq m</p>
Power Norms	8 KW
Instructor's Qualification for	
1. Computer Aided Embroidery & Designing (CITS) Trade	<p>B.Voc /Degree in Fashion Technology/ Fashion Designing and Technology from from AICTE/ UGC recognized Board / University with two years experience in relevant field.</p> <p style="text-align: center;">OR</p> <p>Diploma (Minimum 2 years) in Fashion Technology/ Fashion Designing and Technology from recognized Board / University or relevant Advanced Diploma (Vocational) from DGT with five years experience in relevant field.</p> <p style="text-align: center;">OR</p> <p>NTC/ NAC passed in 'Computer Aided Embroidery & Designing' trade with seven years experience in relevant field.</p> <p><u>Essential Qualification:</u> National Craft Instructor Certificate (NCIC) in 'Computer Aided Embroidery & Designing', in any of the variants under DGT. (Trainees completed National Craft Instructor Certificate in 'Surface Ornamentation Techniques' from the year 2015 to 2020 are also eligible)</p>

2. Soft skills	MBA/ BBA / Any Graduate/ Diploma in any discipline from AICTE/ UGC recognized College/ university with Three years' experience and short term ToT Course in Soft Skills from DGT institutes. (Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above).
3. Training Methodology	B.Voc/ Degree in any discipline from AICTE/ UGC recognized College/ university with two years experience in training/ teaching field. OR Diploma in any discipline from recognized board / University with five years experience in training/teaching field. OR NTC/ NAC passed in any trade with seven years experience in training/ teaching field. <u>Essential Qualification:</u> National Craft Instructor Certificate (NCIC) in any of the variants under DGT / B.Ed /ToT from NITTTR or equivalent.
4. Minimum Age for Instructor	21 Years

Distribution of training on Hourly basis: (Indicative only)						
Total Hrs /week	Trade Practical	Trade Theory	Soft Skills		TM Practical	TM Theory
			Practical	Theory		
40 Hours	16 Hours	6 Hours	2.5 Hours	2.5 Hours	8 Hours	5 Hours

4. JOB ROLE

Manual Training Teacher/Craft Instructor; instructs students in ITIs/Vocational Training Institutes in respective trades as per defined job role. Imparts theoretical instructions for the use of tools & equipment of related trades and related subjects. Demonstrate process and operations related to the trade in the workshop; supervises, assesses and evaluates students in their practical work. Ensures availability & proper functioning of equipment and tools in stores.

Entrepreneur (Computerized Embroidery): Entrepreneur can run business by using Computer Aided Machine Embroidery related knowledge and skills by setting his/ her own unit after searching target market. Can set up the machine with accessories and Produces various designs on fabric or garment by multihead computerised embroidery machine. Identify all necessary supplies required e.g. needle, fabric, stabilizers, and threads etc. Able to manage all the embroidery process for mass production. Able to edit designs and conversions of design. Estimates and fix the cost of embroidered article.

Free Lancer (Embroidery Design Developer): Free Lancer can develop own designs for embroidery irrespective of hand or machine embroidery by using CorelDraw or embroidery digitizing software and share with different embroidery units. Can also develop customised/specialised designs. Able to digitize designs for special embroideries.

Free Lancer (Embroidery Designs by CorelDraw software): Free Lancer can develop own designs for embroidery irrespective of hand or machine embroidery by using coral draw software and share with different embroidery units. Can also develop customised/specialised designs. Uses the CorelDraw tools to create and edit vector art work for embroidery digitizing. Able to use all the tool sets for develop and transforming a small motif to a large design. Scans sketches and artwork and traces bitmaps to convert them to vector graphics.

Embroidery Digitizer: One who can perform the following functions – Able for transforming pre existing artwork into machine embroidery design file by using Embroidery software, with a series of commands so that embroidery machine can stitch the art work into a finished work. Able to operate the computerised embroidery machine, single head or multi head with accessories and attachments. Able to develop designs by CorelDraw or embroidery digitizing software. Able to run the machine for specialised work like Sequins, cording, chenille, taping & aari work. Able to develop lace work/ cut work with machine.

Reference NCO-2015:

- a) 2356.0100 – Manual Training Teacher/ Craft Instructor.

5. LEARNING OUTCOMES

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

5.1 TRADE TECHNOLOGY

1. Develop embroidery design by using CorelDraw software and embroidery digitizing software on basic level.
2. Demonstrate multi head computerized embroidery machine with proper knowledge about its tools.
3. Set up the machine and machine accessories as per requirement and Demonstrate the threading process according to the fabric type, needles and threads used.
4. Identifying defect and their troubleshooting while making designs on machine.
5. Demonstrate the process of digitizing designs on software for mass production on multi head embroidery machine for industrial work.
6. Demonstrate the digitizing process of specialized embroidery designs and set up the attachments.
7. Prepare different specialized embroidery samples with use of special attachments.
8. Create decorative embroidery designs and run the machine to develop various design.
9. Set up the Computerized Aari Embroidery Machine with proper knowledge about parts, maintenance and capabilities
10. Operate Computerized Aari Embroidery Machine and make Aari embroidery designs with safety.
11. Attain knowledge of placement setting of designs on different articles with machine.

6. COURSE CONTENT

SYLLABUS FOR COMPUTER AIDED EMBROIDERY & DESIGNING (CITS TRADE)			
TRADE TECHNOLOGY			
Duration	Reference Learning Outcome	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
Practical 32 Hrs Theory 12 Hrs	Develop embroidery design by using CorelDraw software and embroidery digitizing software on basic level.	1. Practice of making design in Corel Draw. 2. Practice of making design in embroidery digitizing software.	<ul style="list-style-type: none"> • Knowledge of trade and job prospects • Revision of CTS contents
Practical 16 Hrs Theory 06 Hrs	Demonstrate multi head computerized embroidery machine with proper knowledge about its tools.	3. Identify multi head embroidery machine 4. Recognize Tools and equipment as per requirement 5. Perform Machine oiling and maintenance	<ul style="list-style-type: none"> • Describe Different types of computerized embroidery machine (Domestic and industrial model) • Identify Related tools and their importance • Memorize Importance of machine maintenance • Memorize Safe operating principal
Practical 48 Hrs Theory 18 Hrs	Set up the machine and machine accessories as per requirement and Demonstrate the threading process according to the fabric type, needles and threads used.	6. Practice of Multi head computerized embroidery machine operations <ul style="list-style-type: none"> • Start and shutdown process of machine • Loading thread on machine • Upper thread tension • Winding/installing the bobbin • Changing needle 7. Clipping fabric with stabilizer on pantograph/frame	<ul style="list-style-type: none"> • Describe the Parts of computerized embroidery machine • Recognize machine area and its capabilities • Understand the fabric classification/construction/weight to select the needle and threads accordingly. • Describe handling of different fabrics • Describe Importance of stabilizers/backing material and sprays
Practical 64 Hrs Theory 24 Hrs	Identifying defect and their troubleshooting while making design on machine.	8. Load design to multi head embroidery machine <ul style="list-style-type: none"> • Setting of origin • Familiarization with control panel 	<ul style="list-style-type: none"> • Describe machine operating system/software • Describe Information of design on control panel (display unit)

			<p>Define Troubleshooting</p> <ul style="list-style-type: none"> • Needle break, thread break, puckering and bird nesting etc.
<p>Practical 96 Hrs</p> <p>Theory 36 Hrs</p>	<p>Demonstrate the process of digitizing designs on software for mass production on multi head embroidery machine for industrial work.</p>	<p>9. Setting of self-made designs for multi head machine and practice operating machine</p> <ul style="list-style-type: none"> • Repeat set • Stitch control and smooth running of machine <p>10. Practice of making borders and buta designs for running material e.g. saree, suit, bedsheet and duppattas etc.</p>	<ul style="list-style-type: none"> • Define Different digitizing software.
<p>Practical 80 Hrs</p> <p>Theory 30 Hrs</p>	<p>Demonstrate the digitizing process of specialized embroidery designs and set up the attachments.</p>	<p>11. Practice of Digitizing process of specialized embroidery</p> <ul style="list-style-type: none"> • Sequins work • Cording work • Chenille work • Taping work • Aari embroidery work 	<ul style="list-style-type: none"> • Describe specialized embroidery with suitable needle, designs, fabric, thread, stabilizers and other material etc.
<p>Practical 64 Hrs</p> <p>Theory 24 Hrs</p>	<p>Prepare different specialized embroidery samples with use of special attachments.</p>	<p>12. Practice of making samples using attachments with safety</p> <p>13. Practice of handling special attachments with precautions.</p>	<ul style="list-style-type: none"> • Describe different machine attachments • Describe Maintenance of machine attachments
<p>Practical 112 Hrs</p> <p>Theory 42 Hrs</p>	<p>Create decorative embroidery designs and run machine to develop various designs.</p>	<p>14. Practice of Digitizing process of decorative embroideries with complex design editing</p> <ul style="list-style-type: none"> • Lace work • Cutwork • Develop new fill patterns 	<p>Describe types of decorative embroideries</p> <ul style="list-style-type: none"> • Lace work • Cutwork • Develop new fill patterns
<p>Practical 16 Hrs</p> <p>Theory 06 Hrs</p>	<p>Set up the Computerized Aari Embroidery Machine with proper knowledge about parts, maintenance and capabilities.</p>	<p>15. Recognise the Aari Embroidery Machine</p> <p>16. Identify Different part of Aari Embroidery Machine</p> <p>17. Practice of Machine oiling and maintenance</p>	<ul style="list-style-type: none"> • Describe machine operating system/software • Describe computerized Aari embroidery machine • Describe Parts of machine • Work Area and capabilities of machine
<p>Practical 64 Hrs</p>	<p>Operate Computerized Aari Embroidery</p>	<p>18. Practice of Computerized Aari Embroidery Machine</p>	<p>Describe computerized Aari embroidery with suitable needle,</p>

<p>Theory 24 Hrs</p>	<p>Machine and make Aari embroidery designs with safety.</p>	<p>operations</p> <ul style="list-style-type: none"> • Start and shutdown process of machine • Loading thread on machine • Upper thread tension • Winding/installing the bobbin • Changing needle <p>19. practice of machine operations on Aari embroidery designs</p>	<p>thread, stabilizer and design etc.</p>
<p>Practical 48 Hrs</p> <p>Theory 18 Hrs</p>	<p>Attain knowledge of placement setting of designs on different articles with machine.</p>	<p>20. Placement of designs on different made-up and garments</p> <p>21. Costing of prepared article during the session.</p> <p>Garments/Designs prepared during the session may be checked as per quality aspects and a report may be prepared for the same</p>	<ul style="list-style-type: none"> • Define the Standard size charts of made-ups and garments • Name the Types of design settings • Describe Importance of design specification sheet • Define Estimation and costing of articles • Describe Quality control and quality assurance.

Each trainee shall prepare a Garment/Made Up showing different embroidery skills learnt during the session as a project.

Note:

1. *Trainees Tool kit may be treated as consumables in respect of trainees actually completing the course of one year duration.*
2. *Experts from the Industry may be called for special lectures and demo's as and when required.*
3. *Periodical training of trainers for upgrading/updating their knowledge base, training skills and vision to form the career path of their trainees should be mandatory. This training shall also include discussion on changes in course material whenever they happen.*
4. *The trainers will have the liberty to choose the sequence of contents of the course material to be taught by way of planning weekly/ monthly schedules well in advance, so utilization/practice on machinery at maximum level can be attained.*
5. *With the ever evolving technology, the specification of tools and equipment keep changing rapidly. Whenever tools and equipment are to be procured, the purchase committee should ensure to go for latest version of equipment instead of sticking to what is specified in syllabus, which normally are outdated.*
6. *There should be a provision for up gradation of the software whenever upgraded version of software is launched by the company irrespective of life / validity of the software in use.*
7. *After the final examinations, each trainee will be required to go for a minimum 15 days ON THE JOB TRAINING after completion of which, the trainee will be required to submit copy of the certificate to the Institute.*

SYLLABUS FOR CORE SKILLS

1. Soft Skills (Common for all Non-Engineering CITS trades) (100 Hrs + 100Hrs)
2. Training Methodology (Common for all trades) (320Hrs + 200Hrs)

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

7. ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Develop embroidery design by using CorelDraw software and embroidery digitizing software on basic level.	Develop designs in CorelDraw software and embroidery digitizing software
	Follow the designing principal.
	Maintain quality as per requirement.
2. Demonstrate multi head computerized embroidery machine with proper knowledge about its tools.	Identify the embroidery tools
	Use the tool with safely.
	Handle tools and equipment with safe practical exercise.
	Explain the difference between single head and multi head embroidery machine.
	Practice of Machine oiling and maintenance on regular basis.
3. Set up the machine and machine accessories as per requirement and Demonstrate the threading process according to the fabric type, needles and threads used.	Identify the parts of multi head computerized embroidery machine.
	Perform start and shutdown process of machine.
	Identify defect of needle.
	Identify and use tools to remove the needle with safety precautions.
	Select needle according to the fabric.
	Fix needle in correct position and place.
	Wind bobbin with correct tension of thread.
	Identify machine part to install the bobbin case.
	Check the thread tension of bobbin case and clean if needed.
	Install bobbin case in machine with precautions.
	Identify upper thread path of machine.
	Identify and use tools to load thread on to the machine and follow the thread path.
Follow the safety instructions throughout the process.	
4. Identifying defect and their troubleshooting while making design on machine.	Open the software (Embroidery Software) and Select Design according to requirement.
	Load design to multi head embroidery machine.
	Select correct design, needle, frame and stabilizer.
	Do upper and lower threading of the machine.
	Select colors and color combination.
	Decide placement of the design in the fabric. Fix fabric with appropriate stabilizer properly in the embroidery

	frame/pantograph.
	Set the origin of design.
	Check all things before start.
	Run machine and start embroidery.
	Monitor and complete the design.
	Use control unit/panel whenever required.
	Trouble shoots the machine whenever required.
	Remove the frame trim extra thread and press the embroidered fabric neatly.
	Maintain hygiene.
	Working area should be clean and clutter free.
	Follow safety instructions throughout the process.
5. Demonstrate the process of digitizing designs on software for mass production on multi head embroidery machine for industrial work.	Open digitizing software and do required design such as border and butas etc.
	Perform digitizing process using all commands in software.
	Set repeats of butas and borders designs for running material like bedsheet, suits, saree and duppattas etc.
	Prepare design for production of suit/saree.
	Follow designing principle.
	Select suitable stitches for the design.
	Apply suitable colors to the design by following color scheme.
	Run design on multi head embroidery machine and produce running material such as suit, saree and dupattas etc.
	Maintain sequence of all elements of designs.
	Designs should run smoothly on machine.
	Maintain quality as per requirement.
	Follow safety instructions throughout the process.
6. Demonstrate the digitizing process of specialized embroidery designs and set up the attachments.	Perform digitizing process of specialized embroideries such as sequins work, cording work, taping work, chenille work and Aari work.
	Set up special attachments according to the requirements.
	Designs should run smoothly on machine.
	Maintain quality as per requirement.
	Follow safety instructions throughout the process.
7. Prepare different specialized embroidery samples with use of special attachments.	Run machine on specialized embroideries such as sequins work, cording work, taping work, chenille work
	Handle special attachments with safe practical exercise.
	Designs should run smoothly on machine.
	Maintain quality as per requirement.
	Follow the safety instructions throughout the process.

8. Create decorative embroidery designs and run the machine to develop various designs.	Perform digitizing process of decorative embroideries such as FSL work and cut work.
	Create new fill patterns.
	Do editing wherever required.
	Designs should run smoothly on machine.
	Maintain quality as per requirement.
	Follow safety instructions throughout the process.
9. Set up the Computerized Aari Embroidery Machine with proper knowledge about parts, maintenance and capabilities.	Identify parts of computerized Aari embroidery machine.
	Oiling and maintenance of machine.
10. Operate Computerized Aari embroidery Machine and make Aari embroidery designs with safety.	Select design for Aari embroidery
	Load design on to the Aari machine.
	Run machine and Prepare garment/article using different embroidery stitches and suitable colour scheme.
	Trouble shoots the machine whenever required.
	Designs should run smoothly on machine.
	Follow safety instructions throughout the process.
	Maintain quality as per requirement.
	Working area should be clean.
11. Attain knowledge of placement setting of designs on different articles with machine.	Select design for a garment/article.
	Decide placement of design.
	Setting of design according to requirement.
	Explain different types of settings of design.
	Prepare costing of given embroidered products.
	Produce an estimate and cost sheet.

8. INFRASTRUCTURE

LIST OF TOOLS AND EQUIPMENT FOR COMPUTER AIDED EMBROIDERY & DESIGNING - CITS			
For batch of 25 candidates			
S No.	Name of the Tool & Equipment	Specification	Quantity
A. TRAINEES TOOL KIT (consumable item)			
1.	Measuring Tape	150 cm	26 (25+1) Nos.
2.	Seam Ripper		26 (25+1) Nos.
3.	Thimble		26 (25+1) Nos.
4.	Thread cutter		26 (25+1) Nos.
5.	Scale plastic	12"	26 (25+1) Nos.
6.	Eraser, Pencil, Sharpner		26 (25+1) Nos.
7.	Water erasable marking Pen		26 (25+1) Nos.
B. THEORY ROOM			
8.	Single desks for trainees with arrangements of keeping Books etc.		25 Nos.
9.	Revolving Chairs without arms		25 Nos.
10.	Faculty Table & Chair set		01 No.
11.	Desktop computer with UPS	CPU: 64 Bit, i7 or latest processor, Speed: 3 GHz or Higher. RAM:-8 GB DDR-III or Higher, Nvidia Graphics Card 2GB 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 softwares.	01 No.
12.	Computer Table and Chair		01 No.
13.	Multimedia Projector with accessories		01 No.
14.	White Magnetic Board with Felt board & accessories		01 No.
15.	Display Board		01 No.
16.	Notice board		01 No.

17.	Storage Almira		01 No.
18.	Book Shelf		01 No.
19.	A/C unit split type with Stabilizer	2 TR capacity	As per requirement
C. MACHINE LAB			
20.	Multi Head Computerized Embroidery Machine with necessary attachments (Sequins, Cording, Taping, Beads Etc.) Accessories ,Hoops and UPS	Minimum 4 head	01 No.
21.	Computerized Aari Embroidery Machine with UPS	Minimum 2 head	01 No.
22.	Single head multi needle computerized embroidery machine with accessories and UPS		01 No.
23.	Single Needle Lock Stitch Industrial Sewing Machine with necessary attachments (Zip Fixing, Picot, Gathering Foot etc.)		01 No.
24.	Over Lock Machine	3 Thread	1 No.
25.	Scissors	25 cm	5 No.
26.	Pinking Shears		5 No.
27.	Steam Iron		01 No.
28.	Pressing Stand (Metal)		1 No.
29.	Cutting Tables		02 No.
30.	Pigeon Hole Almira 10 Lockers & Separate Locking Arrangements For Trainees		2 Nos.
31.	Locks For Above Pigeon Hole		20 Nos.
32.	Chair/Stool For Sewing Machines		2 No.
	Almira		2 No.
33.	Thread Storage Box/stand		2 Nos.
34.	A/C unit split type with Stabilizer	2 TR capacity	As per requirement
35.	Display Board		01 No.
36.	Notice board		01 No.
37.	Mannequins	lady	02 Nos.
38.	Garment steamer		1 no.
39.	Laptop	Processor-i7 or above, Ram - 8GB or above, Graphics 2 GB or above 1 TB Hard disk 15.6	01 No. for each faculty

		inch screen	
D. COMPUTER LAB TOOLS & EQUIPMENT			
40.	Desktop computer with UPS	CPU: 64 Bit, i7 or latest processor, Speed: 3 GHz or Higher. RAM:-8 GB DDR-III or Higher, Nvidia Graphics Card 2GB 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.	25+1 Nos.
41.	Trade Related Software like Wilcom, Wings, CorelDraw etc.		1 each. for each system 25+1
42.	Computer Tables & Chairs		25+1 Nos.
43.	Projector With Accessories		01 No.
44.	A3 Size laserjetColour Printer		01 No.
45.	A3 colour Scanner (minimum 1200), flatbed		01 No.
46.	Printer Table		01 No.
47.	Scanner Table		01 No.
48.	Hard Disk	2 TB	01 No.
49.	Book Shelf		01 No.
50.	Notice Boards		01 No.
51.	Display Boards		01 No.
52.	Faculty Table & Chair		01 No.
53.	Almirah		01 No.
54.	A/C Unit Split Type With Stabilizer		As per requirement
55.	LAN Connectivity		As per requirement
Note: -			
1. Internet facility is desired to be provided in the class room.			

ANNEXURE – I

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.

List of members participated/ contributed for finalizing the course curriculum of Computer Aided Embroidery & Designing (CITS) trade			
S No.	Name & Designation Sh /Mr./Ms	Organization	Remarks
Members from NSTI			
1.	Sathya Shankar BP, Director	DGT	Chairman
2.	D Shanthi, DDT	NSTI, Bengaluru	Member
3.	Ramesh Babu, TO	NSTI, Trichy	Member
4.	Kanchan Nair, TO	NSTI, Mumbai	Member
5.	Sonu Ghiya, TO	NSTI, Jaipur	Member
6.	Dr Vandana Jarolia, TO	NSTI, Indore	Member
7.	Bhagya Shree, TO	NSTI, Indore	Member
8.	Divya, TO	NSTI, Bengaluru	Member
9.	Chitra, TO	DGT, HQ	Member
10.	Varsha, TO	NSTI, Bengaluru	Member
11.	Kavita Sharma, VI	NSTI, Noida	Member
Members as Data Expert, CSTARI and NIMI			
12.	C. S. Murthy, JDT	CSTARI, Kolkata	Member
13.	Priya, ADT	RDSDE, Bengaluru	Member
14.	S. Bandyopadhyay, TO	CSTARI, Kolkata	Member
15.	R. N. Manna, TO	CSTARI, Kolkata	Member
16.	S Bhowmick, AM	NIMI, Chennai	Member
17.	P.K. Bairagi, TO	CSTARI, Kolkata	Coordinator
Members from State ITI s			
18.	Ms Indira, B M	Govt ITI, Bengaluru, Karnataka	Member
19.	Ms Renuka Devi, ATO	Govt ITI, Cuddalore, Tamilnadu	Member
20.	Mr Jagdish Prasad Yadav, Junior Instructor	ITI, Jaipur, Rajasthan	Member
21.	Ms Rukhsar Anjum,	BV Fatima, Private ITI, Bengaluru	Member
Members from Industry			

22.	Satheesh Kumar, DGM	Aravind Life Style Brands Ltd, Bengaluru	Member
23.	Ms Nagamani S, GM,	Shahi Exports, Bengaluru	Member
24.	Aseem Kumar, General Secretary	Garment Export Association , Rajasthan	Member
25.	Ms Abha Rasotgi, Retd TO	DGT	Member
26.	Ms Nidhi Rawat, Dy, PMA Head	NRO, Min Of Rural Dev	Member
27.	Mr Bhupender Singh	Creative Arts, Panipat, Haryana	Member
Members from SSC			
28.	Ms Smritee Dwivedee, Director, Operations	AMHSSC	Member