

SURFACE ORNAMENTATION TECHNIQUES

NSQF LEVEL- 6



SECTOR- APPAREL

COMPETENCY BASED CURRICULUM

CRAFT INSTRUCTOR TRAINING SCHEME (CITS)



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

SURFACE ORNAMENTATION TECHNIQUES

(Non-Engineering Trade)

SECTOR – APPAREL

(Revised in 2019)

Version 1.1

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Developed By
Government of India
Ministry of Skill Development and Entrepreneurship

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CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE
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1. COURSEOVERVIEW

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. "Surface Ornamentation Techniques" CITS trade is applicable for Instructors of "Surface Ornamentation Techniques" CTS 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.

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 at the end of the year 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 yearly 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 instructional design, implement learning programme and assess learners which demonstrates attainment of reasonable standard of	<ul style="list-style-type: none"> • Demonstration of good skill to establish a rapport with audience, presentation in orderly manner and establish as an expert in the field. • Above average engagement of students

<p>crafts instructorship with little guidance and engage students by demonstrating good attributes of a trainer.</p>	<p>for learning and achievement of goals while undertaking the training on specific topic.</p> <ul style="list-style-type: none"> • 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 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	Surface Ornamentation Techniques (CITS)
Tradecode	DGT/4023
NCO – 2015	2356.0100, 3122.3500,8153.0500, 8153.0600, 8153.0601
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 Costume Designing & Dress Making /Fashion Designing / Fashion Technology/ Apparel Technology / Garment Fabrication Technology from recognized Board / University.</p> <p style="text-align: center;">OR</p> <p>NTC certificate in Surface Ornamentation Techniques (Embroidery) or related trades.</p> <p style="text-align: center;">OR</p> <p>National Apprenticeship Certificate in Surface Ornamentation Techniques (Embroidery) or related trades.</p>
Minimum Age	18 years as on first day of academic session.
Space Norms	120 Sq. m
Power Norms	8 KW
Instructor's Qualification for	
1. Surface Ornamentation Techniques (CITS) Trade	<p>B.Voc /Degree in Fashion Technology /Costume Design & Dress Making from AICTE/ UGC recognized university/ board with two years experience in relevant field.</p> <p style="text-align: center;">OR</p> <p>Diploma (Minimum 2 Years) in Fashion Technology/Costume Design & Dress Making from recognized university/ board 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 the Surface Ornamentation Techniques or related trades with seven years experience in relevant field.</p> <p><u>Essential Qualification:</u> Relevant National Craft Instructor Certificate (NCIC) in Surface Ornamentation Techniques trade, in any of the variants under DGT.</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		Training Methodology	
			Practical	Theory	Practical	Theory
40 Hours	16 Hours	6 Hours	2.5 Hours	2.5 Hours	8 Hours	5 Hours

4. JOB ROLE

Brief Description of Job Roles:

Sewing Machine Operator, General;Stitcher Machine (Textile and Furproducts) operates sewing machine to join pieces of cloth, hosiery fabric, canvas, fur and leather for making garments, bags,upholstery and other textile and fur products. Places spools of required type and colour of thread and winds bobbinson machine. Draws thread under tension spring and through guides into eye of needle. Adjusts tension on thread and sets number of stitches per inch if necessary.Raises pressure foot of machine to admit material to be sewed and lowers pressure foot on material. Starts machine and guides material to be sewed under needle of machine. Observes stitches while sewing. Stops machine, breaks and cuts threads and removes sewed material. Replaces empty spool and bobbin with full ones as and when necessary. Cleans and oils machine. May remove minor faults and assist in repairs and overhauling of sewing machine. May set and attach special gadgets to machine for having special type of stitches. May be designated according to type of machine operated such as *Blind Stitch Machine , Operator; Zig-Zag Machine, Operator; Bar Tacking Machine, Operator; Turning And Pressing Machine Operator; Shoulder Strap, Turning Machine Operator; PostbedMachine Operator; Double Needle, Sewing Machine Operator; Etc.*

Supervisors and Foremen, Tailoringand Dress Making; Supervisor and Foreman, Tailoring and Dress Making supervises and guides ornamental workers engaged in production of readymade garments and ensures standard fittings and finish at reasonable cost. Guides workers in making patterns for cutting, adjusting electrical and special purpose sewing machines, setting, joining and sewing parts, button matching, etc., and ensures standard fittings and finish.

Manual Training Teacher/Craft Instructor; instructs students in ITIs/VocationalTraining 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.

Reference NCO 2015:

- a) 2356.0100-Manual Training Teacher/Craft Instructor
- b) 3122.3500 - Supervisors and Foremen, Tailoring and dress making
- c) 8153.0500 – Embroider, Machine
- d) 8153.0600 – Embroidery – Machine Operator (Semi Automatic)
- e) 8153.0601 - Embroidery Machine Operator (ZigZag Machine) /AMH/Q0801

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. Design & Demonstrate the sample of basic hand stitches and traditional embroidery using various types of colour & design.
2. Design & Demonstrate sample of Indian Traditional Embroideries, appliqué work & traditional needle craft with the knowledge of their origin & history.
3. Demonstrate the variety of different traditional designs made by Basic Embroidery stitches (contemporary stitches).
4. Recognize the significance of surface embellishment techniques as value addition with the use of different painting, printing and needle craft techniques.
5. Analyze the process of Drawing, creating & placing free hand designs of various types of motifs.
6. Evaluate the design with variations of Basic Embroidery stitches using Zig-Zag Machine with the help of brief knowledge of its precautions.
7. Experiment with Aari Embroidery machine to develop design variation in Aari using appropriate needle & thread according to fabric.
8. Demonstrate Computerized Embroidery machine with proper knowledge about its tools & precautions.
9. Demonstrate the process of digitizing on Software with detail knowledge about machine regarding area and its capabilities.
10. Arrange & Demonstrate specialized Embroidery on machine to develop design variation using sequins, cording etc.

6. COURSE CONTENT

SYLLABUS FOR SURFACE ORNAMENTATION TECHNIQUES– CITSTRADE			
TRADE TECHNOLOGY			
Duration	Reference Learning Outcome	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
Practical 16 Hrs Theory 06 Hrs	Design & Demonstrate the sample of basic hand stitches and traditional embroidery using various types of colour & design.	1. Practice of Hand Embroidery stitches, colors & setting of designs	<ul style="list-style-type: none"> • Introduction of Embroidery. • Introduction of hand embroidery stitches. • Introduction of colors & setting of designs. • Introduction of Traditional Embroidery • Different types of fabrics
Practical 144 Hrs Theory 54 Hrs	Design & Demonstrate sample of Indian Traditional Embroideries, appliqué work & traditional needle craft with the knowledge of their origin & history.	2. Develop Samples of the following with variety of designs -	Knowledge of Traditional Embroidery Origin, types and Characteristics of the following -
		<ul style="list-style-type: none"> • Kantha of Bengal • Phulkari of Punjab • ChikanKari of Lucknow 	<ul style="list-style-type: none"> • Kantha of Bengal • Phulkari of Punjab • Chikankari of Lucknow
		<ul style="list-style-type: none"> • Kashida of Kashmir • Kasuti of Karnataka Kutch • Kathiyawar of Gujrat 	<ul style="list-style-type: none"> • Kashida of Kashmir • KasutiofKarnataka • Kutch Kathiyawar of Gujarat
Practical 80 Hrs Theory 30 Hrs	Demonstrate the variety of different traditional designs made by Basic Embroidery stitches (contemporary stitches).	Hand Aari 3. Develop designs & finish with the following stitches <ul style="list-style-type: none"> • Chain Stitch • Sequin work • Variations of Shade work • Satin work 	Variety of different traditional designs. Safety precautions while working with designs.
		4. Design development with chainstitch Design	

		development with Mirror&Dabka work Knotted & Shade work.	
Practical 48 Hrs Theory 18 Hrs	Recognize the significance of surface embellishment techniques as value addition with the use of different painting, printing and needle craft techniques.	5. Sample development on Fabric embellishment Techniques with contemporary latest style and trend <ul style="list-style-type: none"> • Tie and dye • Batik • Stencil Printing • Block printing • Hand Painting • Patch work • Quilting work • Spray printing • Impression printing <ol style="list-style-type: none"> 1. Vegetable impression 2. Leaf impression 3. Thread impression 	Fabric embellishment Techniques <ul style="list-style-type: none"> • Tie and dye • Batik • Stencil Printing • Block printing • Hand Painting • Patch work • Quilting work • Spray printing • Impression printing <ol style="list-style-type: none"> 1. Vegetable impression 2. Leaf impression 3. Thread impression
Practical 16 Hrs Theory 06 Hrs	Analyze the process of Drawing, creating & placing free hand designs of various types of motifs.	6. Practice of Free Hand Drawing of various types of motifs. 7. Natural, Geometrical, Stylized, Ornamental, Floral, Abstract.Practice Repeat techniques Of Motifs 8. Plain, Vertical, Horizontal, Diagonal, Dominating, Gradation, Contrast repeat of motif.	Sources & Inspiration of Design Elements - Brief idea about motifs. Types of motif. Repeat techniques of Motifs.
Practical 80 Hrs Theory 30 Hrs	Evaluate the design with variations of Basic Embroidery stitches using Zig-Zag Machine with the help of brief knowledge of its precautions.	Zig -Zag Embroidery Machine 9. Frame fitting and its precautions Practice of running Zig-Zag Machine Sample making of- <ul style="list-style-type: none"> • Running Stitch • Satin Stitch • Shade work • Cording Stitch • Back Stitch • Types of Scallops • Variations of all above 	Introduction To Zig-Zag Machine. How to set the machine for embroidery- <ul style="list-style-type: none"> • Threading a Machine • Winding a Bobbin • Parts &their Functions • Defects and Remedies

		stitches	
Practical 96 Hrs Theory 36 Hrs	Experiment with Aari Embroidery machine to develop design variation in Aari using appropriate needle & thread according to fabric.	Aari Machine Embroidery 10. Set the machine for embroidery How to handle or operate machine <ul style="list-style-type: none"> • Practicing different line • Straight • Vertical • Horizontal • Curve • Practice on printed fabric • Practice of moss Stitch 	<ul style="list-style-type: none"> • Safety at work • Introduction of Machine • Parts of Machine • Tools and their uses • Care and Maintenance of machines • Merits & Demerits of Aari Machine • Selection of needle & Thread according to fabric
Practical 32 Hrs Theory 12 Hrs	Demonstrate Computerized Embroidery machine with proper knowledge about its tools & precautions.	Computerized Embroidery 11. Machine operation 12. Change needle in details and its tools. 13. Precautions while changing needle. 14. Needle control according to design 15. Transfer the design on the fabric by selecting suitable transferring types.	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 according to fabric
		16. Load thread on machine. 17. Winding/installing the bobbin 18. Bobbin precaution 19. Machine oiling and maintenance.	Types of Embroidery Threads <ul style="list-style-type: none"> • Brief knowledge of threads • Difference between upper thread and bobbin thread. • Maintenance of machines and Safe operating principle.
Practical 96 Hrs Theory 36 Hrs	Demonstrate the process of digitizing on Software with detail knowledge about machine regarding area and its capabilities.	20. Software digitizing <ul style="list-style-type: none"> • Type of stitches • Digitization process and all • Commands in software. • Stitch control and smooth running of machine as per digitizing. • Limitation of software. • Benefits of using software 	Detailed study of digitizing process on software. <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

			<p>LCD (Liquid Crystal display)</p> <ul style="list-style-type: none"> • Details knowledge of machine regarding Area and its capabilities.
<p>Practical 32 Hrs</p> <p>Theory 12 Hrs</p>	<p>Arrange & Demonstrate specialized Embroidery on machine to develop design variation using sequins, cording etc.</p>	<p>21. Machine working in simple embroidery and specialized embroidery like</p> <ul style="list-style-type: none"> • sequins, • beads, • stones, • Zari thread, • metallic thread, • tapping & cording, • Chenille etc. 	<p>Maintenance of machines and Safe operating principle</p>

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 OUTCOME	ASSESSMENT CRITERIA
TRADE TECHNOLOGY	
1. Design & Demonstrate the sample of basic hand stitches and traditional embroidery using various types of colour & design.	Evaluate the Introduction of Embroidery.
	Demonstrate sample of hand embroidery stitches.
	Select the colors & setting of designs.
	Develop sample of Traditional Embroidery.
2. Design & Demonstrate sample of Indian Traditional Embroideries, appliqué work & traditional needle craft with the knowledge of their origin & history.	Explain the Origin of Traditional Embroidery.
	Demonstrate the Types and Characteristics of Traditional Embroidery.
	Develop the design on handkerchief with Kantha of Bengal Phulkari of Punjab, Chikankari of Lucknow, Kashida of Kashmir, Kasuti of Karnataka, Kutch Kathiyawar of Gujarat, Zardozi work, Chamba Rumal of Himachal.
	Identify the correct motif to develop the design and correct the problem traced.
	Evaluate Traditional Embroideries on various garments.
3. Demonstrate the variety of different traditional designs made by Basic Embroidery stitches (contemporary stitches).	Identify the correct motif to develop the design of traditional embroidery by Basic Embroidery stitches.
	Demonstrate appropriate contemporary stitches embroidery for the design.
	Select suitable raw materials for the design development.
	Develop the design with chain Stitch, Mirror & Dabka work Knotted & Shade work.
4. Recognize the significance of surface embellishment techniques as value addition with the use of different painting, printing and needle craft techniques.	Identify proper fabric to embellish the surface with various Techniques.
	Select the place of the design in the fabric.
	Demonstrate the process and complete the design step by step by applying proper technique at the required portions.
	Select suitable colours to the design.
	Demonstrate safety instructions throughout the process.
5. Analyze the process of	Demonstrate free hand drawing design with various types of motifs.

Drawing, creating & placing free hand designs of various types of motifs.	Analyze the appropriate color for the design.
	Demonstrate repeat techniques Of Motifs.
	Demonstrate Drawing & placing free hand design on handkerchief with Natural, Geometrical, Stylized, Ornamental, Floral, Abstract motif.
6. Evaluate the design with variations of Basic Embroidery stitches using Zig-Zag Machine with the help of brief knowledge of its precautions.	Compare the different parts of the zig zag machine.
	Demonstrate & Prepare to set the machine for embroidery.
	Test of Fit the frames & Describe functions of zig zag machine embroidery parts.
	Identify and correct the defects of the zig zag machine.
7. Experiment with Aari Embroidery machine to develop design variation in Aari using appropriate needle & thread according to fabric.	Distinguish the different parts of the Aari Embroidery machine.
	Select suitable needle & Thread According to fabric.
	Demonstrate & Prepare to set the machine for embroidery.
	Explain How to handle or operate machine to Practice different lines to create design.
	Explain the process of Care and Maintenance of machines.
8. Demonstrate Computerized Embroidery machine with proper knowledge about its tools & precautions.	Describe about various types of needle & their functions with Precautions & control according to design.
	Recognize the appropriate Embroidery Threads.
	Explain the process of Load thread on machine. Winding/ installing the bobbin precaution.
	Evaluate the placement of the design in the fabric.
	Enlarge/ reduce the design according to the requirements.
	Transfer the design on the fabric by selecting suitable transferring types.
	Develop suitable embroidery stitches for the design.
	Demonstrate embroidery and complete the design step by step by applying suitable stitches at the required portions.
	Explain safety instructions throughout the process.
9. Demonstrate the process of digitizing on Software with detail knowledge about machine regarding area and its capabilities.	Explain detail knowledge of machine regarding Area and its capabilities.
	Explain Digitization process and all commands in software.
	Demonstrate the Types of stitches using Software digitizing.
	Demonstrate the process of Stitch control and smooth running of machine as per digitizing.

	Explain the Limitation of software & benefits of using software.
	Demonstrate Information of design on LCD (Liquid Crystal display).
10. Arrange & Demonstrate specialized Embroidery on machine to develop design variation using sequins, cording etc.	Evaluate the scope of application of machineAari art.
	Demonstrate handling or operating machine to form different lines to create design.
	Explain & demonstrate design development using special raw materials.

8. INFRASTRUCTURE

LIST OF TOOLS AND EQUIPMENT			
SURFACE ORNAMENTATION TECHNIQUES - CITS			
S No.	Name of the Tools& Equipment	Specification	Quantity
A. TRAINEES TOOL KIT			
1.	Measuring Tape	150 cm	26 Nos.
2.	Seam Ripper		26 Nos.
3.	Thimble		26 Nos.
4.	Wooden Circular Frame	4",8" and 12"	26 each
5.	Thread cutter		26 Nos.
6.	Scale plastic	12"	26 Nos.
7.	Compass		26 Nos.
8.	Hand Aari Needle (Set of Three)		26 Nos.
9.	Cotton Fabric		2 m
B. THEORY ROOM			
10.	Single desks for trainees with arrangements of keeping Books etc.		25 Nos.
11.	Revolving Chairs without arms		25Nos.
12.	Faculty Table & Chair set		01 No.
13.	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. Licensed Operating System and Antivirus compatible with trade related software.	01 No.
14.	White Magnetic Board with Felt board & accessories		01 No.
15.	Display Board		02 Nos.
16.	Storage Almirah		01 No.
17.	Book Shelf		01 No.
18.	A/C unit with Stabilizer		As per requirement
C. HAND WORK LABORATORY			
19.	Low seated chair		26 Nos.
20.	Carpet (Size as required)		01 No.
21.	Hand Aada (Sizes as per requirement)		04 set
22.	Air Conditioner		As per requirement

23.	Pliers		04 Nos.
24.	Embroidery Scissors		13 Nos.
25.	Display Board		02 Nos.
26.	Table (for faculty)		01 No.
27.	Chair		02 Nos.
28.	Almirah		01 No.
29.	Vacuum cleaner		01 No.
30.	Automatic press		02 Nos.
31.	Pressing pad		01 No.
32.	Pigeon hole Almirah 10 lockers & separate locking arrangements for trainees		02 Nos.
33.	Locks for above pigeon hole		16 Nos.
34.	Tracing Table		02 Nos.
35.	Display board		02 Nos.
36.	Notice board		01 No.
37.	Table (for faculty)		01 No.
38.	Chair		02 Nos.
D. TIE & DYE AND BATIK LABORATORY			
39.	Block printing Table		01 No.
40.	Gas Stove With Cylinder(new connection with security)		02 Nos.
41.	Utensils For Coloring (Assorted Size)		03 Nos.
42.	Plastic Tub (assorted sizes)		06 Nos.
43.	Wooden Spatula		06 Nos.
44.	Table Spoons		12 Nos.
45.	Work Station		03 Nos.
46.	Sink With water inlet and outlet		01 No.
47.	Fire Extinguisher		02 Nos.
48.	Trainer's Table And Chair		01 No.
49.	Block Printing Color Trays		06 Nos.
50.	Wooden Blocks of Different Designs(assorted design assorted sizes)		100 Nos.
51.	Wax Heater For Batik		03 Nos.
E. MACHINERY WORK LABORATORY			
52.	Zig-zag Embroidery machine complete set		25 Nos.
53.	Stitching Machine (Motorized)		01 No.
54.	Over lock Machine	3 thread	01 No.
55.	Aari Machine		05 Nos.
56.	Computerized embroidery machine (Industrial Model) complete set		01 No.
57.	Digitizing Software		02 Nos.
58.	Computer Set		02 Nos.
59.	Computer Table Chair set		02 Nos.
60.	Revolving chair for machines		25 Nos.

61.	Air Conditioner		As required
62.	Pliers		04 Nos.
63.	Display Board		02 Nos.
64.	Table (for faculty)		01 No.
65.	Chair		02 Nos.
66.	Almirah		01 No.
67.	Vacuum cleaner		01 No.
68.	Automatic press		02 Nos.
69.	Pressing pad		01 No.
70.	Pigeon hole Almirah 10 lockers & separate locking arrangements for trainees		02 Nos.
71.	Locks for above pigeon hole		16 Nos.
72.	Scissors		10 Nos.
73.	Pinking Shears		02 Nos.
74.	Cutting Table		02 Nos.
75.	Pressing Stand/Table		02 Nos.
76.	Mannequins(lady)		02 Nos.

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 Expert Members participated/ contributed for finalizing the course curriculum of Surface Ornamentation Techniques (CITS) trade			
SNo.	Name & Designation Sh./Mr./Ms.	Organization	Remarks
1.	S. Venkatesh,	Head HR & Admin Raymond	Member
2.	Sanjeev Mohanty	Bennetton India Pvt. Ltd.,	Member
3.	Animesh Saxena	Udyog Vihar Industries	Member
4.	Dr.Darlie Koshy	IAM & ATDC Apparel Export Promotion Council	Chairman
5.	Arindam Das	National Institute of Fasion Technology, New Delhi	Member
6.	Dr. Kushal Sen	D/o Textile Technology	Member
7.	Bhattacharya. G	Institute for Textile	Member
8.	Ms. Poonam Thakur	NIIFT, Mohali	Member
9.	L.N. Meena, Lecturer	Arya Bhatt Polytechnic,	Member
10.	Prabhas Kashyap ,	Gokaldas Export Ltd.,	Member
11.	BishwanathGanguly	Madura Fashion & Retail, Aditya Birla Centre for Retail Excellence	Member
12.	K.N. Chatterjee, HOD Fashion and Apparel Engineering	The Technological Institute of Textile & Sciences, Bhiwani, Haryana	Member
13.	Tapas Kumar Adhikari, Sr. Manager	Reliance Industries Ltd.	Member
14.	Vikas Verma, Asst. Vice President	Welspun India Ltd.	Member
15.	Navjot Walia, Vice President	Maral Overseas Ltd., Noida	Member
16.	Rajeev Mehani, Vice President	Vardhaman Textiles	Member
17.	R.P. Dhingra, Director (P)	DGE&T	Mentor
18.	Haradhan Das, TO	CSTARI, Kolkata	Member
19.	Subhankar Bhowmik, DPA Gr. B	NIMI, Chennai	NIMI Representa tive
20.	Rajendra Kumar, JDT(WT)	DGE&T	Member
21.	D. Shanthi, ADT	RVTI, Trivendrum	Member

22.	Abha Rastogi, TO	RVTI, Panipat	Member
23.	Chitra, TO	RVTI, Panipat	Member
24.	Rinku Soni, TO	RVTI, Jaipur	Member
25.	Babita, TO	NVTI, Noida	Member
26.	Bhagyashree, TO	RVTI, Indore	Member
27.	L. R. Ramesh Babu, TO	RVTI, Trivendrum	Member
28.	S.S. Meena, TO	NVTI, Noida	Member
29.	Bhavin Kumar M. Solanki	ITI, Jambughoda, Gujarat	Member
30.	Divya, TO	RVTI, Bangalore	Member

