SYLLABUS OF SEMESTER SYSTEM
FOR THE TRADE OF

Computer Aided Embroidery & Designing

Under

Craftsmen Training Scheme (CTS)
(One year/Two Semesters)

Redesigned in
2014

By
Government of India
Ministry of Labour & Employment (DGE&T)

GENERAL INFORMATION

1. **Name of the Trade** **:Computer Aided Embroidery & designing**
2. **NCO Code** **:**
3. **Duration of craftsmen Training** **:** One year (2 Semesters)
4. **Entry Qualification** **:** Passed 10th class Under 10+2 System of examination
5. **Unit Strength** **:** 16 trainees
6. **Space Norms** **:** 64 sq m (4 Sq.m/trainee)
7. **Power Norms** **:** 5KW
8. **Instructor's Qualification** **:** i. NTC/NAC in Embroidery & needle work with three years experience

   Or

   ii. Diploma in Fashion Technology/Costume Design & Dress Making with Two years' Experience

   Or

   iii. Degree in Fashion Technology /Costume Design& Dress Making With one year experience

Desirable Qualification **:** Preference will be given to a candidate

1. With Craft Instructors Training certificate (CITS) in Embroidery & Needle work

Note: Out of two instructors required for the unit 1+1, one must have Degree/Diploma & other must have NTC/NAC qualification

Syllabus for the trade of "**Computer Aided Embroidery &Designing** " under Craftsmen training scheme.
First semester
Semester code No. CAED – 01

Week No.	Trade Practical	Trade Theory
1.	Familiarisation with the present trend of computerised Embroidery by showing samples. Familiarisation with Machine & software Safety Precautions	Familiarisation with the Institute Introduction to the Trade • History and Invention • Today's requirements Job Prospects and objective of the course
2.	Familiarisation & Handling of Tools with Safety Practical Exercises on • Color Wheel • Color Schemes	Knowledge of Trade related Tools & their Importance. Knowledge of Color Wheel and color Schemes

3.	Basic Hand Stitches
	• Temporary
	  • Basting even
	  • Basting uneven
	  • Diagonal
	  • Slip basting
	• Permanent
	  • Running stitch
	  • Hemming stitch
	  • Slip stitch
	  • Run and back stitch
	  • Over casting
	  • Whip stitch
		Knowledge of Hand Embroidery & Stitches

4.	• Computer embroidery knowledge by showing swatch collection made by different machines.	• Different types of Embroidery and Computerized embroidery machine • Computerized embroidery and its importance

5.	• Start and shutdown process of machine.
	• Familiarize with different stitches by running computer embroidery machine.
		• Introduction to computer embroidery stitches
		  • Manual
		  • Run and triple run
		  • Satin
		  • Step/tatami
		  • Piping/contour

6.	• Familiarization with different equipment related to machine. • Familiarization with tools of embroidery machines.	• Introduction of equipment related to computerized embroidery. • Parts of computerized embroidery machine
7-	• Familiarize with personal	• Introduction and function of

8	computer and its parts • Starting a Personal computer and starting software's like paintbrush, coral draw • Mouse practice. • Practice on paint brush. Making designs and colouring	various parts of computer also relate it to computerized embroidery machine. • Basic knowledge of computer
9-10	• Practice on coral draw. • Making designs and colouring on software • Use of scanner.	• Introduction to Corel Draw. Commands like cut, copy, paste and text writing.
11	• Machine operation • How to change needle in details and its tools. • Precautions while changing needle. • Needle control according to design	• Types of Needle and their uses and handling. ✓ Needle precautions ✓ Types of needle ✓ Checking the needle ✓ Selection of needle according to fabric
12	• Load thread on machine. • Winding/installing the bobbin • Bobbin precaution.	Types of Embroidery Threads ✓ Brief knowledge of threads. ✓ Composition ✓ Benefits and disadvantages of different kinds of thread. Difference between upper thread and bobbin thread.
13.	• Use of different fabric on computerized embroidery machine. • Practicing on running machine tension making of upper thread and bobbin thread	Type of Fabrics • How to handle different-different fabrics. • Benefits and disadvantage of heavy and light fabrics.
14		• Details Knowledge of Machine Head, tension point, sensors etc. • Embroidery process • Head working area and stitch formation.
15	• Machine oiling and maintenance • Practice running designs on machine already available in machine. • machine working in simple embroidery and specialized embroidery like sequins, tapping & cording, Chenille etc (videos or photo)	• Maintenance of machines and Safe operating principle
16	• Hooping Practice • Clipping fabric on pantograph. • Placement of design and	• Stabilizers/backing their types and uses • Need of stabilizing fabric

	making origin of design. Practice deigns already installed in machine • Familiarize with backing paper or stabilizing material.	
17-18	• Design input and output methods from software to machine and machine to software. • Operating a machine and loading designs and setting origin.	knowledge of digitizing software and machine keys • Description of software and its need. • How software works (x-axis and Y-axis). • How software designs linked with machine. Introduction of digitizing software like software interface etc.
19-22	Practice of running design with threading, changing needle, loading designs from software to machine etc. ✓ Loading designs from software to UBS- drive. ✓ Loading design to machine ✓ Setting origin. Threading and running designs on fabric.	
23.	Project work	
24-25	Industrial training	
26.	Revision and examination	

First semester

Semester code No. CAED – 02

Week No.	Trade Practical	Trade Theory
1.	Revision of work done in Semester 1	
2.	• Transferring of Images and sketches in software design Related to paintbrush and coral draw with the software • Joining big images	• Use of scanner with digitizing software. • Importance of scanner
3-15	Software digitizing • 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. • 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.
16-17	Machine designs functions and tools. • Resize design with machine • Flip, rotate etc. • Move to particular point. • Placement information and	Setting of design on different articles • Placement specification like with printing.

	origin making	
18-19	• Operating machine on self-made design. • Monogramming and logo making on designs.	Knowledge of Monogram & Logo
20	• Digitizing Chemical lace designs. • Appliqué/patching. • Using Two Fabrics, patch works. • Chemical laces	Advance techniques in Machine Embroidery
21-22	Advance Digitizing • Digitizing of Sequins • Digitizing of Taping & cording • Digitizing of Chenille. Precautions in Handling these special attachments.	• Detailed knowledge of special Attachments on Operating machine on self-made design. • How to handle these attachments • Knowledge of changing guides for sequins and cording tapping device.
23	Project work	
24-25	Industrial training	
26	Revision and examination	

TRADE : Surface Ornamentation Techniques(Embroidery)

LIST OF TOOLS & EQUIPMENT

Sl. No.	Name of the Article	Quantity (Number)
A.	**TRAINEES' TOOL KIT FOR 16 TRAINEES + 1 Instructor**	
1.	Measuring Tape 150 cm	17
2.	Seam Ripper	17
3.	Thimble	17
4.	Thread cutter	17
5.	Color plate	17
6.	Color brush no. 00,1, 2.	17 each
7.	Scale plastic 12"	17
8.	Compass	17
B.	**Machine Laboratory**	
9.	Computerized embroidery machine (multi needle) with necessary attachments/accessories	01
10.	Trade related software	04
11.	Coral draw software	04
12.	Computer system with UPS, Operating system, Antivirus and Internet (Latest Configuration)	08
13.	Printer	01
14.	Scanner	01
15.	Automatic Sewing Machine	01
16.	Automatic Electric Press	01
17.	Air Conditioner Unit split 2 Ton capacity with Stabilizer	02
18.	Dummy	02
19.	Carpet (Size as per requirement)	01
20.	Frames/hoops	01 set
21.	Pinking scissors	01
22.	Appliqué scissors	04
23.	Cutting scissors	04
24.	Hangers	
C.	**Theory Room**	
25.	Single desks for trainees with arrangements of keeping Books etc.	16
26.	Revolving Chairs without arms	16
27.	Faculty Table & Chair set	01
28.	Computer set with UPS & multimedia projector	01
29.	White Magnetic Board with Felt board & accessories	01
30.	Display Board	02
31.	Storage Almirah	01
32.	Book Shelf	01
33.	A/C unit split type 2 TR capacity with Stabilizer	As per requirement

Note:

- The quantity of hand Tools may be suitably increased as per the number of supernumeries admitted in a unit.
- Trainees Tool kit may be treated as consumables in respect of trainees actually completing the course of one year (both the semesters) duration.

Note:

1. Due to the rapid changes in the technologies frequent Modernization of equipments and technologies is necessary.
2. Training Programme for Staff should be organized in the new fields added in the curriculum for the proper implementation of the same.
3. Experts from the Industry may be called for special lectures and demo's as and when required.

Trade testing and certification:

After Completion of the course a trainee will be awarded NCVT certificate of Computer aided embroidery & Designing under CTS .

Further Learning Pathways:

On successful completion of the course trainees can opt for –

- higher qualification under CITS (Surface ornamentation Technology(Embroidery))
- Following MES courses to improve their skill areas –
    - Fashion Accessories Designer
    - Apparel ornamentalist
    - Traditional embroidery
    - Zardosi work
    - Batik Printing specialist
    - Tie & Dye Specialist
    - Block Printer