# SEWING TECHNOLOGY

**NSQF LEVEL- 6**



**SECTOR- APPAREL**

## COMPETENCY BASED CURRICULUM
### CRAFT INSTRUCTOR TRAINING SCHEME (CITS)

# SEWING TECHNOLOGY (CITS)

**(Non-Engineering Trade)**

## SECTOR – APPAREL

**(Revised in 2019)**

**Version 1.1**

## CRAFT INSTRUCTOR TRAINING SCHEME (CITS)

## NSQF LEVEL - 6

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# 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."Sewing Technology" CITS trade is applicable for Instructors of "Sewing Technology" 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

| S 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. | • Demonstration of **fairly good** skill to establish a rapport with audience, presentation in orderly manner and establish as an expert in the field.<br>• Average engagement of students for learning and achievement of goals while undertaking the training on specific topic.<br>• A fairly good level of competency in expressing each concept in terms the student can relate, draw analogy and summarize the entire lesson.<br>• 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 | • Demonstration of **good** skill to establish a rapport with audience, presentation in orderly manner and establish as an expert |

| | |
|---|---|
| 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. | in the field.<br>• Above average engagement of students for learning and achievement of goals while undertaking the training on specific topic.<br>• A *good* level of competency in expressing each concept in terms the student can relate, draw analogy and summarize the entire lesson.<br>• Little support in imparting effective training. |
| **(c) Weightage in the range of more than 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 a *high standard* of crafts instructorship with *minimal or no support* and engage students by demonstrating good attributes of a trainer. | • Demonstration of *high* skill level to establish a rapport with audience, presentation in orderly manner and establish as an expert in the field.<br>• Good engagement of students for learning and achievement of goals while undertaking the training on specific topic.<br>• A *high* level of competency in expressing each concept in terms the student can relate, draw analogy and summarize the entire lesson.<br>• Minimal or no support in imparting effective training. |

## 3. GENERAL INFORMATION

| | |
|---|---|
| **Name of the Trade** | **Sewing Technology (CITS)** |
| **Trade code** | DGT/4011 |
| **NCO – 2015** | 3122.3500, 2356.0100 |
| **NSQF Level** | Level-6 |
| **Duration of Craft Instructor Training** | One Year |
| **Unit Strength (No. Of Student)** | 25 |
| **Entry Qualification** | Degree in Costume Designing & Dress Making /Fashion Designing/ Fashion Technology/ Apparel Technology / Garment Fabrication Technologyfrom recognized Board/ University. <div align="center">**OR**</div> Diploma in Costume Designing & Dress Making /Fashion Designing/Fashion Technology/ Apparel Technology / Garment Fabrication Technologyfrom recognized Board/ University. <div align="center">**OR**</div> National Trade Certificate in the **Sewing Technology** or related trades. <div align="center">**OR**</div> National Apprenticeship Certificate in the **Sewing Technology** or related trades. |
| **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.  **Sewing Technology (CITS) Trade** | B.Voc/Degree in Costume Designing & Dress Making /Fashion Designing/Fashion Technology/ Apparel Technology / Garment Fabrication Technology from AICTE/ UGC recognized Board / University with two years experience in relevant field. <div align="center">**OR**</div> Diploma (Minimum 2 Years) in Costume Designing & Dress Making /Fashion Designing/Fashion Technology/ Apparel Technology/ Garment Fabrication Technology from recognized Board/ University or relevant Advanced Diploma (Vocational) from DGT with five years experience in relevant field. <div align="center">**OR**</div> NTC/ NAC passed in Sewing Technology trade with seven years experience in relevant field. |

|  | | **Essential Qualification:** Relevant National Craft Instructor Certificate (NCIC) in Sewing Technology trade, in any of the variants under DGT. |
|---|---|---|
| 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. <div align="center">OR</div> Diploma in any discipline from recognized board / University with five years experience in training/teaching field. <div align="center">OR</div> NTC/ NAC passed in any trade with seven years experience in training/ teaching field. <br><br>**Essential Qualification:** 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:**

**Supervisors and Foremen, Tailoring and Dress Making;** Supervisor and Foreman, Tailoring and Dress Making supervises and guides 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. Checks work and directs or makes alterations where necessary and keeps machines and equipment in working order. Maintains production register and delivers goods against receipts. May copy or develop new designs to boost sale. May train new entrants. May be designated according to section or work supervised. (Excluded are Garment Designers and Cutters described elsewhere).

**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& equipments 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)  3122.3500 – Supervisors and Foremen, Tailoring and Dress Making.
   b)  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. Appraise Drafting, Pattern making, Grading, Draping & Stitching.
2. Demonstrate pattern making using different software tools like Corel draw, Adobe Photoshop etc.
3. Check Drafting of Children Upper body & Lower Body Block.
4. Analyze Ladies Body Block & Trousers Block.
5. Assess Digitizing & Grading of Patterns.
6. Review designing of Skirts, Sleeves, Collars & Developing Patterns with Spec Sheet, Marker Tools & 3 D Tools.
7. Explain Apparel enterprises & Apparel Market requirements.
8. Ensure Quality control & inspection in garment industry.
9. Demonstrate Project Work on design/ development of pattern and garment stitching.
10. Demonstrate different sewing machines, industrial sewing machines and their functions including motorized industrial sewing machine.
11. Illustrate Pattern Making, Cutting, Stitching & finishing of Designer Blouses, Shirt/Safari, Designer Suits etc.
12. Demonstrate Pattern making for special needs of Jacket & Vest coat (Including Lining) etc.
13. Check the measurement, stitching etc. of finished Garments.
14. Demonstrate project on theme garment as per market demand.

## 6. COURSE CONTENT

| | SYLLABUS FOR SEWING TECHNOLOGY – CITS TRADE | | |
|---|---|---|---|
| | **TRADE TECHNOLOGY** | | |
| **Duration** | **Reference Learning Outcome** | **Professional Skills (Trade Practical)** | **Professional Knowledge (Trade Theory)** |
| Practical 16 Hrs<br><br>Theory 06 Hrs | Appraise Drafting, Pattern making, Grading, Draping & Stitching. | 1. Revise the CTS contents.<br>2. Demonstrate Drafting, Pattern making, Grading, Draping & Stitching. | Revision of the CTS contents.<br>Concepts of Drafting, Pattern making, Grading, Draping & Stitching. |
| Practical 64 Hrs<br><br>Theory 24 Hrs | Demonstrate pattern making using different software tools like Corel draw, Adobe Photoshop etc. | 3. Familiarize with the working of computer, Paint and different software like Corel draw, Adobe Photoshop etc. | Trade Knowledge Role of CAD in garment industry.<br>Basic knowledge about various aspects of CAD operations, Paint, Corel draw and Adobe Photoshop, etc.<br>Knowledge about importance of pattern.<br>Safety precautions in garment industry. |
| | | 4. Create patterns with the help of Corel draw, Adobe Photoshop (Latest Software) etc. | Introduction of PDS (Create Pattern, Grade Pattern)<br>Introduction of Marker (Create Layout)<br>Introduction of 3D<br>Introduction of Digitizer (Digitize pattern)<br>Introduction of Plotter (Print Pattern)<br>Scope<br>Importance. |
| | | 5. Software tools for Pattern Making<br>6. Familiarize with menu &Commands –<br>• New Piece<br>• Select Tool<br>• Point marking<br>• Guide line<br>• Delete | Starting of System Software Screen Menu.<br>Details about the Tool Bars Command details. |

|  |  |  |  |
|---|---|---|---|
|  |  | • Move Piece<br>• Save<br>• New<br>• Open<br>• Help<br>• Zoom<br>• Cut<br>• Copy<br>• Paste<br>• Matching Curves (walk Tool)<br>• Mirror Line<br>• Seams<br>• Select & move internals<br>• Inserting Text<br>• Rotate piece<br>• Measuring<br>• Adding fullness<br>• Cut, Join, Build & Trace piece<br>• Fold piece<br>• Insert, Edit, close & cut Dart<br>• Insert Pleat |  |
| Practical 32 Hrs<br><br>Theory 12 Hrs | Check Drafting of Children Upper body & Lower Body Block. | 7. Analyze Drafting of Children Upper body Block<br>8. Analyze Drafting of Children Lower Body Block<br>• Base line - change/Rotate<br>• Adding Fullness<br>• Change corner<br>• Insert Button<br>• Add Notch<br>• Align points, Circle, Arc & Wave<br>• Trace & Trim<br>• Extend, Join & split Contour<br>• Swap segment | Children Size Charts & Bodies Block.<br>Detailing of Tools. |

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|---|---|---|---|
| | | • Demonstration of Cutting, Joining, <br> • Creating lines & Parallels of drafts. | |
| Practical 16 Hrs <br><br> Theory 06 Hrs | Analyze Ladies Body Block & Trousers Block. | 9. Check Ladies Body Block & Trousers Block. | Ladies measurement chart & Ladies Blocks. |
| Practical 32 Hrs <br><br> Theory 12 Hrs | Assess Digitizing & Grading of Patterns. | 10. Assess Digitizing of Pattern <br> • Working with File, Edit, Piece, Design, Tool, View & Help menu. <br> • Designing with darts. <br> • Insertion of Style Lines. | Digitizing - Tools & Importance. |
| | | 11. Assess Grading of Patterns | Grading <br> • Size Table <br> • Grading Table <br> • Grading Menu |
| Practical 80 Hrs <br><br> Theory 30 Hrs | Review designing of Skirts, Sleeves, Collars & Developing Patterns with Spec Sheet, Marker Tools & 3 D Tools. | 12. Examine drafting of Skirt Block Design insertion to the Block. | Designing in Skirts |
| | | 13. Monitor developing of Sleeve Blocks & Insertion of Design Developing Collars. | Designing in Sleeves & Collars. |
| | | 14. Developing Patterns with Spec Sheet. | Spec Sheet Export Import of files Printing & plotting commands X & Y axis. |
| | | 15. Demonstrate Marker Tools, making marker General Tools Information. <br> 16. Piece, all size, Global <br> 17. Placement of pieces <br> 18. Fabric Pattern <br> 19. Measure Tool <br> 20. Plot order <br> 21. Flaw <br> Alignment <br> • Shoot <br> • Flip & Rotate | Marker <br> • Introduction <br> • Knowledge about spreading techniques and equipment. <br> • Marker modes and marker efficiency.. <br> • Knowledge about spreading and material handling. |

| | | | |
|---|---|---|---|
| | | • Auto Nesting<br>• Batch<br>• Merge<br>• Import Export | |
| | | 22. 3 D Tools<br>23. Model Property<br>24. Open, Save & Customize.<br>25. Place cloth, Clear cloth, Single<br>26. Draping, Show & Hide.<br>27. Stitch Property<br>28. 3 D Property | Introduction to 3D<br>Use of 3D<br>Tools of 3D software<br>Draping technique<br>Brief description of Model drawing, draping and grading on dummies. |
| Practical<br>32 Hrs<br><br>Theory<br>12 Hrs | Explain Apparel enterprises & Apparel Market requirements. | 29. Monitor exercise on each topic, collection of samples, survey work in market & industry, Preparation of sample folders & survey reports. | Apparel enterprises<br>Apparel career, consulting, reporting, buying offices, promotion agencies, organization & trade association in apparel industry.<br>Apparel Market<br>Sourcing, market, changing trends in fashions, domestic &international market, primary & secondary market. Retail business, retail management, fashion retailing, departmental stores, chain stores, shopping centers & mall Globalization. |
| Practical<br>32Hrs<br><br>Theory<br>12 Hrs | Ensure Quality control & inspection in garment industry. | Findings<br>30. Identification of defects in fabrics & accessories<br>31. Measurements checking as per Spec. Sheet.<br>32. Preparation of cost Sheet. | Quality control<br>• Introduction<br>• Meaning<br>• Need<br>• Cost of quality control system<br>• Concepts<br>• Identification of critical factor. |
| | | 33. Exercise on various sheets used in garment export house by Quality Controllers. | Inspection<br>• Definition, need, planning place, time , method<br>• Type of Inspection<br>• Stages of inspection<br>• Role of inspector<br>• Benefits of quality control in |

| | | | garment industry<br>• Quality assurance system<br>• Statistical quality control process<br>• TQM. |
|---|---|---|---|
| Practical 32 Hrs<br><br>Theory 12 Hrs | Demonstrate Project Work on design/ development of pattern and garment stitching. | Trainees will design/ develop pattern and stitch garments on the basis of skills developed under CTS & CITS and present the same. Selection of the projects will be according to the need of the industries as well as the choice & interest of the trainees. | Various pattern development and garment stitching. |
| Practical 64 Hrs<br><br>Theory 24 Hrs | Demonstrate different sewing Machines and their functions including motorized industrial sewing machine. | 34. Revise different sewing machines, their working, stitches, seams, sewing needles, working aids etc. | Introduction & scope of Apparel Industry, sewing machines, their models, parts and their functions. |
| | | 35. Demonstrate samples on motorized industrial sewing machine. | • Technical Terms & their use in the trade<br>• Safety during work<br>• First Aid<br>• First Aid Box<br>• Fusing Technology |
| | | 36. Machinery & Equipment Basic Sewing machines for<br>• General Sewing<br>• Over locking<br>• Safety Stitching<br>• Blind Stitching<br>• Button Holes<br>• Bar Tacking<br>• Button Sewing<br>• Double Needle<br>• Zigzag machine | Sewing Technology<br>• Components of Sewing<br>• Stitches & Seams<br>• Feed System<br>• Pressure Foot<br>• Throat Plate<br>• Feed Dog<br>• Needles<br>• Threads<br>• Types of Motor & Belt |
| Practical 144Hrs<br><br>Theory 54 Hrs | Illustrate Pattern Making, Cutting, Stitching & finishing of Designer Blouses, Shirt/Safari, Designer Suits etc. | 37. Show Pattern Making, Cutting, Stitching & finishing of Designer Blouses as per Fashion. | • Estimation of cloth for<br>• Different width<br>• Different Size<br>• Different Fabric Pattern<br>• Cutting Technology<br>• Drafting of Ladies Blouse |
| | | 38. Explain Pattern Making, | Drafting and Pattern Making of |

| | | | |
|---|---|---|---|
| | | Cutting, Stitching & finishing of Shirt/Safari Shirt/Pathani Shirt as per Fashion. | Shirt/Safari Shirt/ Pathani Shirt<br>• Special Sewing Machines<br>• Work Aids<br>• Machine Beds<br>• Machine Tables<br>• Work Chairs<br>• Machine Attachments |
| | | 39. Demonstrate Cutting, Stitching & Finishing of following<br>• T Shirt<br>• Safari Shirt<br>• Pathani Suit | Drafting & Pattern Making of<br>• Shirt<br>• Bush shirt<br>• T Shirt<br>• Safari Shirt<br>• Pathani Shirt |
| | | 40. Show Pattern Making, Cutting, Stitching & finishing of Designer Suits according to latest trend & innovated idea. | Drafting of Ladies Shirt<br>Trimmings & Accessories<br>Estimation of Material for different width, size & Texture<br>Garniture for a garment<br>Costing of Garment |
| | | 41. Explain Cutting, Stitching & Finishing of anyone -<br>• Shorts<br>• American(Two Piece Trouser) | Drafting & Pattern Making of<br>• Shorts<br>• English/One piece Trousers<br>• American/Two Piece Trousers<br>• Jeans |
| Practical 48Hrs<br><br>Theory 18 Hrs | Demonstrate Pattern Making for special needs of Jacket & Vest coat (Including Lining) etc. | 42. Demonstrate Pattern Making for special Needs -<br>• Deformed figures<br>• Abnormal figures | Balance of Garment according to Structure of Human Body & its importance<br>Deformed Figure |
| | | 43. Show Pattern Making of Jacket & Vest coat (Including Lining) | Drafting of Nehru Jacket & Vest Coat various style. |
| | | 44. Explain Pattern Making of -<br>• Single Breast<br>• Double Breast<br>• Sherwani/ Achakan | Drafting of Coat -<br>• Single Breast<br>• Double Breast<br>• Sherwani /Achakan |
| Practical 16 Hrs<br><br>Theory 06 Hrs | Check the measurement, stitching etc. of finished Garments. | 45. Check Garments in respect of-<br>• Measurements<br>• Stitching<br>• Stains<br>• Defects | Accessories for Jackets & Coats.<br>Inspection of Garments<br>Finishing of Garments |
| Practical | Demonstrate project | Each trainee will work on a | Scope of applying themes while |

| 32 Hrs<br><br>Theory<br>12 Hrs | on theme garment as per market demand. | theme and select garment as per market demand and develop the same with innovative ideas and creativity. | stitching garments. Existing themes for preparing garments. |
|---|---|---|---|
| | | | |

| **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. Appraise Drafting, Pattern making, Grading, Draping & Stitching. | Demonstrate Drafting. |
| | Show Pattern making. |
| | Demonstrate Grading. |
| | Illustrate Draping & Stitching. |
| | |
| 2. Demonstrate pattern making using different software tools like Corel draw, Adobe Photoshop etc. | Familiarize with various aspects of CAD operations. |
| | Explore different softwares like Paint, Corel draw and Adobe Photoshop etc. |
| | Create patterns with the help of Corel draw, Adobe Photoshop (Latest Software) etc. |
| | Point out Safety precautions in garment industry. |
| | Create Pattern, Grade Pattern by PDS. |
| | Create Layout by Marker. |
| | Digitize pattern by Digitizer. |
| | Print Pattern by Plotter. |
| | Select & demonstrate various Software tools for Pattern Making. |
| | |
| 3. Check Drafting of Children Upper body & Lower Body Block. | Review Drafting of Children Upper body Block. |
| | Check Drafting of Children Lower Body Block. |
| | Change/Rotate Base line, add Fullness, change corner, Insert Button, Add Notch, Align points, Circle, Arc & Wave. |
| | Trace & Trim, Extend, Join & split Contour. |
| | Swap segment. |
| | Demonstrate Cutting, Joining. |
| | Create lines & Parallels of drafts. |
| | |
| 4. Analyze Ladies Body Block & Trousers Block. | Check Ladies Body Block. |
| | Analyze Trousers Block. |
| | Show Ladies measurement. |
| | Monitor Chart & Ladies Blocks. |
| | |
| 5. Assess Digitizing & Grading of Patterns. | Assess Digitizing of Pattern. |
| | Explore File, Edit, Piece, Design, Tool, View & Help menu. |
| | Design with darts. |
| | Insert Style Lines. |
| | Assess Grading of Patterns. |

| | | Grade Size Table, Grading Table, Grading Menu. |
|---|---|---|
| | | |
| 6. | Review designing of Skirts, Sleeves, Collars & Developing Patterns with Spec Sheet, Marker Tools & 3D Tools. | Examine drafting of Skirt Block Design. |
| | | Insert to the Block. |
| | | Design Skirts. |
| | | Monitor developing of Sleeve Blocks. |
| | | Insert Design Developing Collars. |
| | | Developing Patterns with Spec Sheet. |
| | | Demonstrate Marker Tools &3D Tools. |
| | | |
| 7. | Explain Apparel enterprises & Apparel Market requirements. | Monitor exercise on Apparel enterprises & Apparel Market requirements. |
| | | Plan collection of samples, survey work in market & industry. |
| | | Monitor preparation of sample folders & survey reports. |
| | | |
| 8. | Ensure Quality control & inspection in garment industry. | Identify defects in fabrics & accessories. |
| | | Check measurements as perSpec. Sheet. |
| | | Prepare cost Sheet. |
| | | Exercise on various sheets used in garment export house by Quality Controllers. |
| | | |
| 9. | Demonstrate Project Work on design/ development of pattern and garment stitching. | Demonstrate Project Work on design of pattern and garment stitching. |
| | | Demonstrate Project Work on development of pattern and garment stitching. |
| | | |
| 10. | Demonstrate different sewing machines, industrial sewing machine and their functions including motorized industrial sewing machine. | Demonstrate different sewing machines, their working, stitches, seams, sewing needles, working aids etc. |
| | | Monitor samples on motorized industrial sewing machine. |
| | | Demonstrate Basic Sewing machines for General Sewing, Over locking, Safety Stitching etc. |
| | | |
| 11. | Illustrate Pattern Making, Cutting, Stitching & finishing of Designer Blouses, Shirt/Safari, Designer Suits etc. | Estimate cloth for Different width, Different Size & Different Fabric Pattern. |
| | | Show Pattern Making, Cutting, Stitching & finishing of Designer Blouses as per Fashion. |
| | | Explain Pattern Making, Cutting, Stitching & finishing of Shirt/Safari Shirt/Pathani Shirt as per Fashion. |
| | | Demonstrate Cutting, Stitching & Finishing of T Shirt, Safari Shirt, Pathani Suit. |
| | | Show Pattern Making, Cutting, Stitching & finishing of Designer |

| | |
|---|---|
| | Suits according to latest trend & innovated idea. |
| | Explain Cutting, Stitching & Finishing of Shorts, American (Two Piece Trousers). |
| | |
| 12. Demonstrate Pattern making for special needs of Jacket & Vest coat (Including Lining) etc. | Demonstrate Pattern Making for special needs for Deformed figures, Abnormal figures etc. |
| | Show Pattern Making of Jacket & Vest coat (Including Lining). |
| | Explain Pattern Making of  Single Breast, Double Breast Sherwani/Achakan etc. |
| | |
| 13. Check the measurement, stitching etc. of finished Garments. | Check Measurements of finished garments. |
| | Analyze Stitching, Stains, and Defects of finished Garments. |
| | Inspect Garments. |
| | |
| 14. Demonstrate project on theme garment as per market demand. | Select garment based on a theme for project. |
| | Choose garment as per market demand for project. |
| | Develop the project with innovative ideas and creativity. |
| | |

## 8. INFRASTRUCTURE

| SI. No. | Name of the Tool & Equipment | Specification | Quantity |
|---|---|---|---|
| LIST OF TOOLS AND EQUIPMENT FOR SEWING TECHNOLOGY - CITS | | |
| For batch of 25 candidates | | |
| A. Computer Laboratory | | |
| 1. | 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. | 26 Nos. |
| 2. | Pattern Making software | | 26 Nos. |
| 3. | UPS | | As required |
| 4. | Server system (Latest Configuration) with software | | 01 No. |
| 5. | LAN Connectivity & Internet facility to the computers | | As per requirement |
| 6. | CAD-Pattern Making Software(3D) C Draw Latest Version | | 05 each |
| 7. | CAD-Fashion Design Software(Fashion Studio) | | 05 Nos. |
| 8. | Antivirus Software | | 26 Nos. |
| 9. | Laser Printer color | A4 | 01 No. |
| 10. | Colored laser Printer | A3 | 01 No. |
| 11. | Scanner | | 01 No. |
| 12. | Computer Table for server | | 01 No. |
| 13. | Printer Table | | 02 Ns. |
| 14. | Table for Scanner | | 01 Ns. |
| 15. | White Magnetic Board with Felt board & accessories | | 01 No. |
| 16. | Digitizer | | 01 No. |
| 17. | Plotter | | 01 No. |
| 18. | Display Board | | 02 Nos. |
| 19. | Storage Almirah ( Size as per requirement) | | 02 Nos. |
| 20. | Air Conditioner | 2 Ton capacity with Stabilizer | As per requirement |
| 21. | Wall Clock | | 01 No. |
| 22. | Modular Workstation with chair | | 25 Nos. |

| 23. | LCD Projector | | 01 No. |
|---|---|---|---|
| 24. | Vacuum Cleaner | | 01 No. |
| 25. | Trainer's Table & Chair | | 01 set |
| 26. | Laptop For Faculty (with latest configuration) | | 01 set |
| **B. Theory Room** | | | |
| 27. | Single desks for trainees with arrangements of keeping Books etc. | | 25 Nos. |
| 28. | Chairs without arms | | 25 Nos. |
| 29. | Faculty Table & Chair set | | 01 No. |
| 30. | Computer set with UPS & multimedia projector | 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. |
| 31. | White Magnetic Board with Felt board & accessories | | 01 No. |
| 32. | Display Board | | 02 Nos. |
| 33. | Storage Almirah | | 01 No. |
| 34. | Book Shelf | | 01No. |
| **C. Drafting/Cutting /Sewing Room Tools & Equipment** | | | |
| 35. | Scissors | 25 cm | 26 Nos. |
| 36. | Pinking Shears | | 05 Nos. |
| 37. | Tailors Square | | 26 Nos. |
| 38. | Leg Shaper | | 26Nos. |
| 39. | Garment Hangers | | 25 Nos. |
| 40. | Screw Driver Set | | 04 Nos. |
| 41. | Cart chop | | 02 Nos. |
| 42. | Table Sharpener | | 04 Nos. |
| 43. | Pressing Table | | 05 Nos. |
| 44. | Blanket for padding of Pressing Table | | 05 Nos. |
| 45. | Rubber mat | Size as per requirement | 05 Nos. |
| 46. | Sprayer | | 05 Nos. |
| 47. | Waste Bin | Big / Small | 13 Nos. |
| 48. | Pattern Punch | | 26 Nos. |
| 49. | Pattern Notcher | | 26 Nos. |
| 50. | Pattern Hanging Stand | | 04 Nos. |
| 51. | Water Tub | 60 cm dia. | 01 No. |
| 52. | Stand for hanging dresses | | 05 Nos. |

| 53. | Trial room | 3 side mirrors of size 150 cm X 60 cm each with arrangements of hanging Dresses | 01 No. |
|---|---|---|---|
| 54. | Electric Automatic steam press | | 02 Nos. |
| 55. | Electric automatic iron | | 03 Nos. |
| 56. | Sewing Machine - | Single Needle Lock stitch Industrial model | 26 Nos. |
| 57. | Over Lock Machine | 3 Thread | 01 No. |
| 58. | Over lock Machine | 5 Thread | 01 No. |
| 59. | Blind Stitching Machine | | 01 No. |
| 60. | Button Hole Machine | | 01 No. |
| 61. | Bar Tacking Machine | | 01 No. |
| 62. | Safety Stitch Machine | | 01 No. |
| 63. | Pick Glass | | 05 Nos. |
| 64. | Zig Zag Multi Purpose Machine | | 01 No. |
| 65. | Machine attachments | | As per requirement |
| 66. | Chairs | low back rest or stools forthe machines (one for each machine) | 27 Nos. |
| 67. | Drafting Table | | 10 Nos. |
| 68. | Display board | covered with glass or acrylic sheet 120X90cm | 02 Nos. |
| 69. | Instructor Table | | 01 No. |
| 70. | Instructor Chair | | 02 Nos. |
| 71. | Steel Almirah | 195 X 90 X 60 cm | 02 Nos. |
| 72. | Pigeon hole Almirah | 10 lockers & separate locking arrangements for trainees | 02 Nos. |
| 73. | Locks for above pigeon hole | | 25 Nos. |
| 74. | Wall Clock | | 03 Nos. |
| 75. | Calculator Desk Type | | 01 No. |
| 76. | White Board with accessories (size as per requirement) | | 02 Nos. |
| 77. | Dummy (Lady) | | 02 Nos. |
| 78. | Mannequins(lady) | | 02 Nos. |
| 79. | Mannequins(Kids) | | 02 Nos. |
| 80. | Mannequins(Gents) | | 02 Nos. |
| **D. TRAINEES' TOOL KIT FOR 25 TRAINEES + 1 Instructor(consumable)** | | | |
| 81. | Measuring Tape | 150 cm | 26 Nos. |
| 82. | Seam Ripper | | 26 Nos. |
| 83. | Thimble | | 26 Nos. |
| 84. | Drafting Card Scales | (set of six scales) | 26 Nos. |
| 85. | Tailors Square - | Plastic | 26 Nos. |
| 86. | French Curve | Set of six | 26 sets |

| 87. | Thread Cutter | | 26 Nos. |
|---|---|---|---|
| 88. | Scale plastic | 24" | 26 Nos. |
| 89. | Paper Cutter | | 26 Nos. |
| 90. | Loop Turner | | 26 Nos. |
| 91. | Drafting Pins(set) | | 26 Nos. |
| 92. | Draping Pins | | 26 pkt. |
| 93. | Draping Fabric Muslin | | 5 m. |
| 94. | Muslin for Sewing Practice | | 3 m. |
| | | | |

## 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.

| S No. | Name & Designation Sh./Mr./Ms. | Organization | Remarks |
|---|---|---|---|
| | **List of Expert Members participated/ contributed for finalizing the course curriculum of Sewing Technology (CITS) trade** | | |
| 1. | S. Venkatesh, Head HR & Admin | Raymond | Member |
| 2. | Sanjeev Mohanty Managing Director | Bennetton India Pvt. Ltd., Gurgaon | Member |
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| 4. | Dr. Darlie Koshy Director General and CEO | IAM & ATDC Apparel Export Promotion Council Gurgaon | Chairman |
| 5. | Arindam Das | National Institute of Fasion Technology, New Delhi | Member |
| 6. | Dr. Kushal Sen Professor | D/o Textile Technology IIT Delhi | Member |
| 7. | Bhatacharya. G HOD Textiles Department | Institute for Textile Technology, CHOUDWAR | Member |
| 8. | Poonam Thakur Professor & Academic Head | NIIFT, Mohali | Member |
| 9. | L.N. Meena, Lecturer | Arya Bhatt Polytechnic, Delhi | Member |
| 10. | PrabhasKashyap , General Manager- Planning & Production Co-ordination | Gokaldas Export Ltd., Bangalore | Member |
| 11. | Bishwanath Ganguly | Madura Fashion & Retail, Aditya Birla Centre for Retail Excellence (A B C R E) | Member |
| 12. | K.N. Chatterjee, HOD Fashion and Apparel Engineering | THE TECHNOLOGICAL INST. OF TEXTILE &SCIENCES, Bhiwani, Haryana, INDIA-127021. | Member |
| 13. | Tapas Kumar Adhikari, Sr. Manager | Reliance Industries Ltd. | Member |
| 14. | Vikas Verma, Asst. Vice President | Welspun India Ltd. | Member |

| 15. | NavjotWalia, Vice President | Maral Overseas Ltd., Noida | Member |
|-----|------------------------------|-----------------------------|--------|
| 16. | Rajeev Mehani, Vice President | Vardhaman Textiles | Member |
| **Mentor** | | | |
| 17. | R.P. Dhingra, Director (P) | DGE&T | Mentor |
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| 19. | Subhankar Bhowmik, DPA Gr. B | NIMI, Chennai | NIMI Representative |
| 20. | Rajendra Kumar, JDT(WT) | DGE&T | Member |
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| 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 |