

**Course Curricula**

**for**

**Short Term Courses based on  
Modular Employable Skills (MES)**

**in**

**Khadi Sector**



**DIRECTORATE GENERAL OF EMPLOYMENT AND TRAINING  
MINISTRY OF LABOUR & EMPLOYMENT  
GOVERNMENT OF INDIA**

**Course Curricula for Short Term Courses based on Modular  
Employable Skills (MES) in the Khadi Sector**

**CONTENTS**

1. Background .....	2
2. Frame Work for Skill Development based on Modular Employable Skills .....	2
3. Age of Participants .....	3
4. Curriculum Development Process.....	3
5. Development of Core Competencies .....	3
6. Duration of the Programmes .....	4
7. Pathways to acquire Qualification .....	4
8. Methodology.....	5
9. Instructional Media Packages .....	5
10. Assessment.....	5
11. Certificate .....	5
12. Course Matrix.....	6
13. Module.....	7
14. Cooton and PolyvastraYarn Spinning on New Model Charkha, .....	7
15. Advance Spinning in Cotton & Muslin on New Model Charkha.....	9
16. Advance Spinning in Woolen on New Model Charkha.....	11
17. Advance Spinning in silk on Reeling, Winding & Twisting.....	13
18. Weaving on Plain Weaving on Frame Loom with 2 Pedal & Multi Treadle/Semiautomatic Loom (Cotton & Polyvastra .....	15
19. Advance Weaving –I(Cotton & Polyvastra) Dobby Jacquard Designs .....	17
20. Advance Weaving II(Woollen) .....	20
21. Advance Weaving –(Silk) Dobby Jacquard Designs).....	23
22. List of Expert/Trade Committee Members.....	26

## Skill Development based on Modular Employable Skills (MES)

### Background

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The need for giving emphasis on the Skill Development, especially for the less educated, poor and out of school youth has been highlighted in various forums. The skill level and educational attainment of the work force determines the productivity, income levels as well as the adaptability of the working class in changing environment. Large percentage of population in India is living below poverty line. One of the important causes is lower percentage of skilled persons in the workforce

The skill development at present is taking place mostly in the informal way, i.e. persons acquire skill at the work-place when they help their parents, relatives and employers etc. Such persons do not have a formal certificate and thus earn lower wages and are exploited by employers. They have come through informal system due to socio-economic circumstances of the family and the compulsions of earning a livelihood rather than attending a formal course. While their productivity is low, their contribution to the national GDP cannot be ignored. If the country can create a system of certification which not only recognizes their skills but also provides education and training in a mode that suits their economic compulsions, it will not only benefit the workforce to earn a decent living but also contribute to the national economy by better productivity of this workforce.

Another related problem to be tackled is large number of students drop outs (About 63% of the school students drop out at different stages before reaching Class-X).

### Frame work for Skill Development based on 'Modular Employable Skills (MES)'

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Very few opportunities for skill development are available for the above referred groups (out of school youth & existing workers especially in the informal sector). Most of the existing Skill Development programmes are long term in nature. Poor and less educated persons can not afford long term training programmes due to higher entry qualifications, opportunity cost etc. Therefore, a new frame work for Skill Development for the Informal Sector has been evolved by the DGET to address to the above mentioned problems. The **key features of the new frame work for skill development** are:

- ◇ Demand driven Short term training courses based on modular employable skills decided in consultation with Industry
- ◇ Flexible delivery mechanism (part time, weekends, full time)
- ◇ Different levels of programmes (Foundation level as well as skill upgradation) to meet demands of various target groups
- ◇ Central Government will facilitate and promote training while Vocational Training (VT) Providers under the Govt. and Private Sector will provide training
- ◇ Optimum utilisation of existing infrastructure to make training cost effective.
- ◇ Testing of skills of trainees by independent assessing bodies who would not be involved in conduct of the training programme, to ensure that it is done impartially.
- ◇ Testing & certification of prior learning (skills of persons acquired informally)

The Short Term courses would be based on 'Modular Employable Skills (MES)'.

The **concept for the MES** is :

- Identification of 'minimum skills set' which is sufficient to get an employment in the labour market.
- It allows skills upgradation, multiskilling, multi entry and exit, vertical mobility and life long learning opportunities in a flexible manner.
- It also allows recognition of prior learning (certification of skills acquired informally) effectively.
- The modules in a sector when grouped together could lead to a qualification equivalent to National Trade Certificate or higher.
- Courses could be available from level 1 to level 3 in different vocations depending upon the need of the employer organisations.
- MES would benefit different target groups like :
  - Workers seeking certification of their skills acquired informally
  - workers seeking skill upgradation
  - early school drop-outs and unemployed
  - previously child labour and their family

### **Age of participants**

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The minimum age limit for persons to take part in the scheme is 14 years but there is no upper age limit.

### **Curriculum Development Process**

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Following procedure is used for developing course curricula

- Identification of Employable Skills set in a sector based on division of work in the labour market.
- Development of training modules corresponding to skills set identified so as to provide training for specific & fit for purpose
- Organization of modules in to a Course Matrix indicating vertical and horizontal mobility. The course matrix depicts pictorially relation among various modules, pre requisites for higher level modules and how one can progress from one level to another.
- Development of detailed curriculum and vetting by a trade committee and by the NCVT

(Close involvement of Employers Organizations, State Governments, experts, vocational training providers and other stake holders is ensured at each stages).

### **Development of Core Competencies**

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Possession of proper attitudes is one of the most important attribute of a competent person. Without proper attitudes, the performance of a person gets adversely affected. Hence, systematic efforts will be made to develop attitudes during the training programme.

The trainees deal with men, materials and machines. They handle sophisticated tools and instruments. Positive attitudes have to be developed in the trainees by properly guiding them and setting up examples of good attitudes by demonstrated behaviors and by the environment provided during training.

Some important core competencies to be developed are:

1. Safety consciousness and safe working practices
2. Care of equipment and tools
3. Punctuality, discipline and honesty
4. Concern for quality
5. Respect for rules and regulations
6. Concern for health and hygiene
7. Cordial relationship and Cooperation with co-workers and team Work
8. Positive attitude and behavior
9. Responsibility and accountability
10. Learn continuously
11. Communication Skills
12. Concern for environment and waste disposal

Following competencies should also be developed during level-II and higher courses:

1. Ability for planning, organizing and coordinating
2. Creative thinking, problem solving and decision making
3. Leadership
4. Ability to bear stress
5. Negotiation

### **Duration of the Programmes**

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Time taken to gain the qualification will vary according to the pathway taken and will be kept very flexible for persons with different backgrounds and experience. Duration has been prescribed in hours in the curriculum of individual module, which are based on the content and requirements of a MES Module. However, some persons may take more time than the prescribed time. They should be provided reasonable time to complete the course.

### **Pathways to acquire Qualification:**

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**Access** to the qualification could be through:

- An approved training programme; **Or**
- A combination of an approved training programme plus recognition of prior learning including credit transfer; **Or**
- The recognition of prior learning that provides evidence of the achievement of the competencies for the qualification.

## **Methodology**

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The training methods to be used should be appropriate to the development of competencies. The focus of the programme is on “performing” and not on “Knowing”. Lecturing will be restricted to the minimum necessary and emphasis to be given for ‘hands on training’.

The training methods will be individual centered to make each person a competent one. Opportunities for individual work will be provided. The learning process will be continuously monitored and feedback will be provided on individual basis.

Demonstrations using different models, audio visual aids and equipment will be used intensively.

## **Instructional Media Packages**

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In order to maintain quality of training uniformly all over the country, instructional media packages (IMPs) will be developed by the National Instructional Media Institute (NIMI), Chennai.

## **Assessment**

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DGE&T will appoint assessing bodies to assess the competencies of the trained persons. The assessing body will be an independent agency, which will not be involved in conducting the training programmes. This, in turn, will ensure quality of training and credibility of the scheme. Keeping in view the target of providing training/testing of one million persons through out the country and to avoid monopoly, more than one assessing bodies will be appointed for a sector or an area.

## **Certificate**

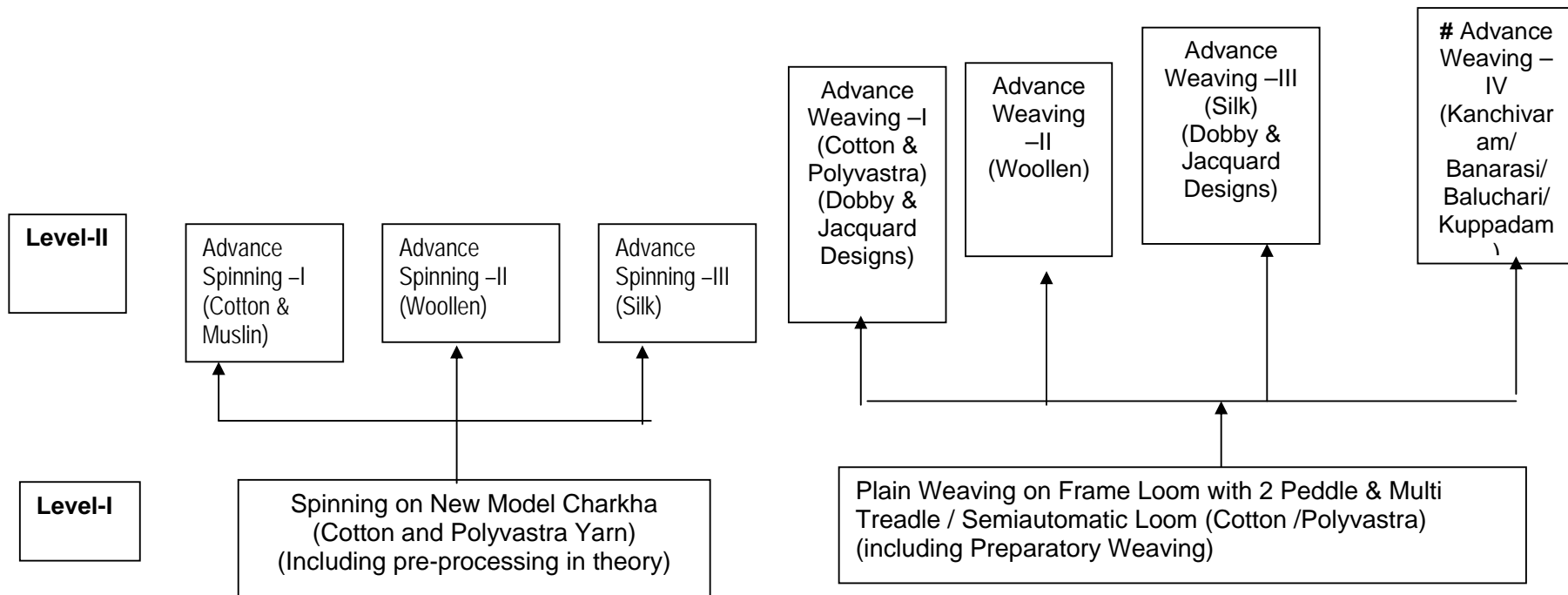
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Successful persons will be awarded certificates issued by National Council for Vocational Training (NCVT).

## Course Matrix

# Khadi Sector

# Under Development



## MODULES

### Spinning on New Model Charkha (Cotton and Polyvastra Yarn)

NAME	:	Spinning on New Model Charkha (Cotton and Polyvastra Yarn)
Sector	:	Khadi
CODE	:	KHA101
Entry Qualification	:	V STD & 14 years of age
Terminal competency	:	After completing the training the person would be able to spin cotton and poly yarn on New Model Charkha.
Duration	:	150 hours [25 working days and six hours per day. 50 hours theory and 100 hours practical]
CONTENTS	:	

Practical Competencies	Underpinning Knowledge (Theory)
1. Safety precautions (use of various equipments in safe manner)	1 Process involved in spinning Blow-room – carding – drawing – roving – spinning - Brief information.
2. Ergonomics of plying of roving belni and charkha	2 Natural & manmade -Particularly cotton & polyester Physical characteristics
3. Familiarization with tools and equipments	3 Information about cotton to cloth and Garment - How it is produced - Pictorial presentation.
4. Piecing of broken end, Tying of mala thread (with appropriate tension for spindle drive)	4 What is yarn – Definition of yarn count
5. Maintenance of charkha & roving belni like cleaning, oiling, greasing	5 Type of charkhas used in khadi sector – Detailed information.
6. Winding – preparation of different packages – hank, cone etc.	6 Health & Hygiene
7. One-day field visit to a reputed khadi institution(s) having good spinning and weaving and fabric conversion facilities and sales outlet.	7 Communication skills, discipline, morality, attitude, etc

**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>Sl. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	6 / 8 - spindle new model Charkha for cotton and polyvastra spinning.	25 Nos.
2.	4 Spindle Flyers	5 Nos.
3.	Tools and equipments	
	Screw drivers	6
	Spanners	2 sets
	Hammers	2
	Oil cans	10
	Files	2
	Knife	2
	Scissors	2
	Box spanners	2
	Brushes	10
	Small mats	30
	Small cartons	30
	Pressure gauge	2
	Grease pot, etc	2
4.	Weighing balance	5 kg weighing 1 set.
5.	Wooden table	1 no.
6	Important Spare parts	Travellers, apron, mala threads, rubber cots

## Advance Spinning –I (Cotton & Muslin)

NAME	:	Advance Spinning – I ( Cotton & Muslin )
Sector	:	Khadi
CODE	:	KHA204
Entry Qualification	:	VIIIth STD & 14 years of age + MES Modules on Cotton and Polyvastra Yarn Spinning on New Model Charkha.(KHA101)
Terminal competency	:	After completing the training the person would be able to manage the Cotton & Muslin yarn spinning centre of New Model Charkha unit(s).
Duration	:	420 hours [ 70 working days and six hours per day]

<b>Practical Competencies</b>	<b>Underpinning Knowledge (Theory)</b>
<ol style="list-style-type: none"> <li>1 Safety precautions (use of various equipments in safe manner)</li> <li>2 Ergonomics of plying of roving belni and charkha</li> <li>3 Familiarization with tools and equipments</li> <li>4 Piecing of broken end, Tying of mala thread (with appropriate tension for spindle drive)</li> <li>5 Maintenance of charkha &amp; roving belni like cleaning, oiling, greasing</li> <li>6 Winding – preparation of different packages – hank, cone etc.</li> <li>7 One-day field visit to a reputed cotton &amp; muslin khadi producing institution(s) having good spinning and weaving and fabric conversion facilities and sales outlet and one-day visit to Central Sliver Plant of KVIC.</li> </ol>	<ol style="list-style-type: none"> <li>1 Processes involved in spinning – i.e. Blow room – carding – combing – Drawing – roving – spinning – Brief information about each process</li> <li>2 Natural &amp; Man-made fibres – particularly different varieties of cotton – deshi, medium staple, longer staple cotton and polyester etc. – Physical characteristics and chemical properties etc.</li> <li>3 Information about cotton &amp; muslin production. (Yarn – cloth and garment etc.) – Pictorial presentation as well as theoretical study.</li> <li>4 Study about cotton &amp; muslin charkha –               <ul style="list-style-type: none"> <li>➤ Top rollers &amp; aprons – rubber cots, shore hardness, life and its effect on yarn quality.</li> <li>➤ Study about rings, travellers and spindle used in cotton / muslin charkha.</li> </ul> </li> <li>5 Spinning methodology – Drafting, Twisting and winding.</li> <li>6 What is yarn – Definition of yarn – Yarn numbering in Metric system – Yarn count, strength and CSP (count strength product) and other useful parameters – their corresponding standards etc.</li> <li>7 Simple calculations to find out draft, twist, delivery, spindle speed and theoretical production from the cotton &amp; muslin charkha driving mechanism.</li> <li>8 Type of charkhas used in khadi sector for cotton and muslin spinning – Detailed information.</li> <li>9 Health &amp; Hygiene</li> <li>10 Communication skills, discipline, morality, attitude, etc</li> </ol>

**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>Sl. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	6 and 8 cotton and muslin new model Charkha	25 Nos.
2.	Flyers	5 Nos.
3.	Tool kit	1 complete set
4.	Weighing balance	5 kg capacity
5.	Lea strength tester	1 No.
6.	Yarn twist tester	1 No.
5.	Spindle mala thread	1 Kg.
6.	Big / thick mala thread	1 Kg.
7.	Wooden table	1 No.
8.	Engine oil and grease	1 ltr. and 500 gms.
9.	Important Spare parts	Travellers, apron, mala threads, top roller rubber cots

## Advance Spinning – II (Woolen)

NAME	:	Advance Spinning – II ( Woolen)
Sector	:	Khadi
CODE	:	KHA203
Entry Qualification	:	VIIIth STD & 14 years of age + MES Modules on Cotton and Polyvastra Yarn Spinning on New Model Charkha(KHA101).
Terminal competency	:	After completing the training the person would be able to manage the woolen yarn spinning centre of New Model Charkha unit(s)
Duration	:	420 hours [70 working days and six hours per day]

<b>Practical Competencies</b>	<b>Underpinning Knowledge (Theory)</b>
1. Safety precautions (use of various equipments in safe manner)	1. Processes involved in spinning – i.e. scouring – carding – combing – Gill box (drawing) – roving (bobbiner machine) – spinning – Brief information about each process.
2. Ergonomics of plying of roving belni and charkha	2. Grading of wool
3. Familiarization with tools and equipments	3. Natural & Man-made fibres – a. particularly different varieties of wool – deshi, merino, cross breed etc and acrylic, polyester etc. – Wool fibre structure, Physical characteristics and chemical properties etc.
4. Piecing of broken end, Tying of mala thread (with appropriate tension for spindle drive)	4. Information about wool production. (Yarn – cloth and garment etc.) – Pictorial presentation as well as theoretical study.
5. Maintenance of charkha & roving belni like cleaning, oiling, greasing	5. Study about woolen charkha –
6. Winding – preparation of different packages – hank, cone etc.	6. Top rollers & aprons – rubber cots, shore hardness, life and its effect on yarn quality.
7. One-day field visit to a reputed wool khadi producing institution(s) having good spinning and weaving and fabric conversion facilities and sales outlet and one day visit to nearby woolen manufacturing industry.	7. Study about rings, travellers and spindle used in woolen charkha.
	8. Spinning methodology – Drafting, Twisting and winding.
	9. What is yarn – Definition of yarn – Yarn numbering in Metric system – Yarn count, strength and CSP (count strength product) and other useful parameters – their corresponding standards etc.
	10. Simple calculations to find out draft, twist, delivery, spindle speed and theoretical production from the wool charkha driving mechanism.
	11. Type of charkhas used in khadi sector for wool spinning – Detailed information.
	12. Health & Hygiene
	13. Communication skills, discipline morality,

**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>Sl. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	6 spindle new model Charkha	25 Nos.
2.	Flyers	5 Nos.
3.	Tool kit	1 complete set
4.	Weighing balance	5 kg capacity
5.	Lea strength tester	1 No.
6.	Yarn twist tester	1 No.
5.	Spindle mala thread	1 Kg.
6.	Big / thick mala thread	1 Kg.
7.	Wooden table	1 No.
8.	Engine oil and grease	1 ltr. and 500 gms.
9.	Important Spare parts	Travellers, apron, mala threads, top roller rubber cots

### Advance Spinning – III (Silk)

NAME	:	Advance Spinning - III ( Silk)
Sector	:	Khadi
CODE	:	KHA205
Entry Qualification	:	VIIIth STD & 14 years of age + MES Modules on Cotton and Polyvastra Yarn Spinning on New Model Charkha(KHA101).
Terminal competency	:	After completing the training the person would be able to manage the silk yarn reeling & twisting centre.
Duration	:	420 hours [ 70 working days and six hours per day. ]

Practical Competencies	Underpinning Knowledge (Theory)
1 Safety precautions (use of various equipments in safe manner)	1 Brief introduction to sericulture – rearing of silk worms and production of cocoons.
2 Practice for manual reeling and operating winding and twisting machines	2 Processes involved in reeling – i.e. grading & selection of cocoons, sorting of cocoons, boiling, hand reeling, re-reeling – winding on bobbins, twisting – Detailed information about each process.
3 Familiarization with tools and equipments	3 Brief about spun silk
4 Piecing of broken end in winding and twisting with hand knotter, Tying/stitching of tape in twisting machine (with appropriate tension for spindle drive)	4 Natural & Man-made fibres – 5 particularly different varieties of silk – mulberry, tussur, endi, muga etc and cotton, polyester etc. – Physical characteristics and chemical properties, renditta etc.
5 Maintenance of reeling, winding and twisting machine like cleaning, oiling, greasing	6 Information about silk production. (Yarn – cloth and garment etc.) – Pictorial presentation as well as theoretical study.
6 Winding – preparation of hank	7 What is yarn – Definition of yarn – Yarn numbering in denier system – Yarn count, strength and other useful parameters – their corresponding standards etc.
7 Twisting - 2 ply 3 ply 4 ply etc	8 Simple calculations to find denier, twist, delivery, spindle speed and theoretical production for silk reeling, winding and twisting machines.
8 Warping – preparation of warp in sectional warping machine.	9 Type of reeling, winding and twisting machines used in khadi sector for silk yarn production – Detailed information.
9 Weft preparation – winding on pirns.	10 Health & Hygiene
10 One-day field visit to a reputed silk khadi producing institution(s) having good reeling, twisting and weaving and fabric conversion facilities and sales outlet.	11 Communication skills, discipline, morality, attitude, etc

**TOOLS AND EQUIPMENT FOR BATCH OF 20 TRAINEES.**

<b>Sl. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	Reeling machine	Pilot machine with minimum no. of heads say 20 heads
2.	Winding machine	Pilot machine with minimum no. of heads say 20 heads
3.	Twisting machine	Pilot machine with minimum no. of heads say 20 heads
4.	Rack	For bobbin storage
4.	Weighing balance	Knowles balance to measure denier and 5 kg capacity digital balance
6.	Yarn twist tester	1 No.
5.	Spindle tape	Required quantity
7.	Wooden table	1 No.
8.	Engine oil and grease	1 ltr. and 500 gms.
9.	Important Spare parts	Bobbins, spindle tape, traveller, reeling drum etc

**Weaving on Frame Loom with 2 Pedal & Multi Treadle / Semiautomatic Loom  
(Cotton and Polyvastra) ( including reparatory Weaving)**

NAME	:	Plain Weaving on Frame Loom with 2 Pedal & Multi Treadle / Semiautomatic Loom (Cotton and Polyvastra )(including preparatory Weaving)
Sector	:	Khadi
CODE	:	KHA102
Entry Qualification	:	V STD & 14 years of age
Terminal competency	:	After completing the training the person would be able to weave the cloth on Plain Weaving on Frame Loom with 2 Pedal & Multi Treadle / Semiautomatic Loom
Duration	:	720 hours [120 working days and six hours per day ]

<b>Practical Competencies</b>	<b>Underpinning Knowledge (Theory)</b>
1 Safety precautions (use of various equipments in safe manner)	1 History and important of Khadi
2 Ergonomics of plying of frame looms, semiautomatic looms	2 Natural fibres used in Khadi.
3 Familiarization with tools and equipments	3 Quality of a good yarn.
4 Yarn sorting.	4 Count of yarn.
5 Yarn wetting.	5 Importance of Twist in yarn
6 Yarn sizing.	6 Raw materials and its importance in Yarn sizing and various methods of sizing.
7 Yarn winding for warp making.	7 Warp making.
8 Warp making	8 Denting, Drafting.
9 Denting & Drafting.	9 Importance of 5 wheel take-up motion.
10 Pirn winding.	10 Importance of Shuttles in weaving
11 Plain weaving	11 Quality of cloth/Cloth testing/ texture.
12 Cloth testing	12 Health & Hygiene
13 One day visit in khadi institution(s) having good spinning and weaving and fabric conversion facilities and sales outlet.	13 Communication skills, discipline, morality, attitude, etc

**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>SLNO</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	Rattas	25 nos
2.	Creel Stand with Warping Drum, bobbins, Pirn bobbins	2nos, 1000 bobbins, 500 Pirn bobbins
3.	5Wheel Take-up motion Looms	25nos
4	Yarn wetting Tank	Constructed tank
5	Yarn Boiling vessels and big Sterling spoons	
6	Buckets, Mugs, Vessels etc	
7	Long Bamboos	
8	Reed Hooks	25 nos
9	Reeds	25 nos
10	Heels set,( Threads )or Steel Heels With Frame	4 sets 4X 25 nos
11	Plain shuttles	50 nos
12	Small Pots	25 nos
13	Almirahas( Cabin model)	With 25 Draws
14	Tools kit	
15	Weighing balance	5 kg weighing 1 set.
16.	Cloth testing table (Wooden,Big)	1 no .
17	Important Spare parts kit	
18	Spindle Mala (Thread)	500gm
19	Big/Thick Mala (Thread)	5kg
20	Engine oil and Grease	1ltr. 500 gm
21	Counting Glass	2nos

**Advance Weaving – I (Cotton/Polyvastra)( Dobby Jacquard Designs)**

NAME	:	Advance Weaving – I (Cotton/Polyvastra) (Dobby Jacquard Designs)
Sector	:	Khadi
CODE:		KHA208
Entry Qualification	:	VIII th STD & 14 years of age + MES Modules on Plain Weaving on frame loom 2 peddles & Multi Treadle/Semiautomatic Loom (Cotton and Polyvastra)(Including Preparatory Weaving. (KHA102)
TERMINAL COMPETENCY	:	After completion of the course the Trained person would be able to manage the Khadi weaving production centre as Supervisor.
DURATION	:	480 Hrs. [150 working days and 6 Hrs per day]
CONTENT:		

<b>Practical Competencies</b>	<b>Underpinning Knowledge (Theory)</b>
1 Safety precautions (use of various equipments in safe manner)	1. Khadi vis-à-vis Textile Industry. 2. Khadi (Fabrics) Production 3. Brief on khadi yarn production: 4.
2 Ergonomics of plying of frame loom	5. Hand Spinning 6. Type of Yarn used in Khadi (Cotton/ Polyvastra)
3 Familiarization with tools and equipments	7. Count range of Khadi Yarn 8. Characteristics of Khadi Yarn 9. Hank winding (reeling) 10.
4 Yarn sorting (count wise)	11. Weaving Preparatory: - 12.
5 Yarn wetting process	13. Sizing 14. Yarn sizing. 15. Material used in size solution 16. Sizing process 17. Weft preparation 18. Pirn winding 19. Warp preparation
6 Yarn sizing (by hand & hank sizing machine)	20. Winding of Yarn on Bobbin, cone, etc., 21. Warping –using sectional warping machine. 22. Sectional warping methods 23. Warp beam preparation 24.
7 Yarn winding as D.F. bobbin, core, etc.	25. Loom: -
8 Sectional warping	
9 Denting & Drafting.	
10 Pirn winding	

<p>11 Plain weaving, different types of knots.</p> <p>12 Cloth testing – ends, picks, mending cloth defects, etc.</p>	<p>26.</p> <p>27. Description of looms and functions of its parts including semi-automatic loom –</p> <p>28. Working of different types of primary, secondary and auxiliary motions of weaving.</p> <p>29. Loom timings</p> <p>30. Elementary weaves and weaving the same with different types of yarns for various end uses.</p> <p>31. Development of designs on 'Point' paper.</p> <p>32. Extra warp and extra weft weaving.</p> <p>33. Knowledge of Jala, dobby and jacquard weaving</p> <p>34. Weaving calculations including costing of the fabrics</p> <p>35.</p> <p>36. General:</p> <p>37.</p> <p>38. Usual defects in khadi cloths</p> <p>39. Care to be taken while weaving</p> <p>40. Counting ends &amp; picks, mending defects</p>
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**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>Sr. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	Rattas (for pirn preparation)	25 Nos.
2.	Creel Stand with Warping Drum (wooden), D.F. bobbins, Pirn bobbins	2 Nos., 1000 bobbins, 500 Pirn bobbins
3.	5 Wheel Take-up motion frame looms	25 Nos.
4	Yarn wetting Tank	Area as required
5	Yarn Boiling vessels and big Stirring sticks	As required
6	Buckets, Mugs, Vessels etc	As required
7	Hydro extractor	2 Nos.
8	Reed Hooks	25 Nos
9	Reeds	25 Nos
10	Cotton healds set or Steel wire healds with frame	4 sets 4 X 25 Nos.
11	Plain shuttles	50 Nos.
12	Small Pots	25 Nos.
13	Almirahas (Cabin model) for trainees	With 25 Draws
14	Tools kit	One kit
15	Weighing balance	5 kg weighing balances digital type.
16.	Cloth testing table (Wooden, Big)	1 No.
17	Important Spare parts kit	As required
18	Spindle Mala (Thread)	500 gms.
19	Big/Thick Mala (Thread)	5 kg
20	Engine oil and Grease	1 ltr. & 500 gms.
21	Counting Glass – 1"	25 Nos

## Advance Weaving – II (Woollen)

NAME	:	Advance Weaving – II (Woollen)
Sector CODE:	:	Khadi KHA206
Entry Qualification	:	VIII th STD & 14 years of age + MES Modules on Plain Weaving on frame loom 2 peddles & Multi Treadle/Semiautomatic Loom (Cotton and Polyvastra)(Including Preparatory Weaving. (KHA102)
TERMINAL COMPETENCY	:	After completion of the course the Trained person would be able to manage the Woollen Khadi weaving production centre as Supervisor.
DURATION	:	390 Hrs. [65 working days and 6 Hrs per day]
CONTENT:		

<b>Practical Competencies</b>	<b>Underpinning Knowledge (Theory)</b>
<ol style="list-style-type: none"> <li>1 Safety precautions (use of various equipments in safe manner)</li> <li>2 Ergonomics of plying of frame loom</li> <li>3 Familiarization with tools and equipments</li> <li>4 Wool Yarn sorting (count wise)</li> <li>5 Yarn winding as D.F. bobbin, core, etc.</li> <li>6 Sectional warping.</li> <li>7 Denting &amp; Drafting.</li> <li>8 Pirn winding.</li> <li>9 Plain weaving, different types of knots.</li> <li>10 Cloth testing – ends, picks, mending cloth defects, etc.</li> </ol>	<ol style="list-style-type: none"> <li>1 Khadi vis-à-vis Textile Industry.</li> <li>2 Khadi (Fabrics) Production               <ol style="list-style-type: none"> <li>a. Brief on Wool yarn production:                   <ul style="list-style-type: none"> <li>➤ Wool Yarn hand Spinning</li> <li>➤ Type of Yarn used in Khadi (Wool / Cotton/ Polyvastra)</li> <li>➤ Count range of Woolen Yarn</li> <li>➤ Characteristics of Woolen Yarn</li> <li>➤ Hank winding (reeling)</li> </ul> </li> <li>b. Weaving Preparatory: -                   <ul style="list-style-type: none"> <li>➤ Scouring                       <ul style="list-style-type: none"> <li>▪ Yarn scouring.</li> <li>▪ Material used in Yarn Scouring</li> <li>▪ Scouring process</li> </ul> </li> <li>➤ Warp preparation                       <ul style="list-style-type: none"> <li>▪ Winding of Yarn on Bobbin, cone, etc.,</li> <li>▪ Warping –using sectional warping machine.</li> <li>▪ Sectional warping methods</li> <li>▪ Warp beam preparation</li> </ul> </li> </ul> </li> <li>c. Loom: -                   <ul style="list-style-type: none"> <li>➤ Description of looms and functions of its parts including semi-automatic loom –</li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"><li>➤ Working of different types of primary, secondary and auxiliary motions of weaving.</li><li>➤ Loom timings</li><li>➤ Elementary weaves and weaving the same with different types of yarns for various end uses.</li><li>➤ Development of designs on 'Point' paper.</li><li>➤ Extra warp and extra weft weaving.</li><li>➤ Knowledge of Jala, dobby and jacquard weaving</li><li>➤ Weaving calculations including costing of the fabrics</li></ul> <p>d. General:</p> <ul style="list-style-type: none"><li>➤ Usual defects in khadi Woolen</li><li>➤ Care to be taken while weaving</li><li>➤ Counting ends &amp; picks, mending defects</li></ul>
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**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>Sr. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	Rattas (for pirn preparation)	25 Nos.
2.	Creel Stand with Warping Drum (wooden), D.F. bobbins, Pirn bobbins	2 Nos., 1000 bobbins, 500 Pirn bobbins
3.	5 Wheel Take-up motion frame looms	25 Nos.
4	Yarn Scouring vessels and big Stirring sticks	As required
5	Buckets, Mugs, Vessels etc	As required
6	Hydro extractor	2 Nos.
7	Reed Hooks	25 Nos
8	Reeds	25 Nos
9	Healds set or Steel wire healds with frame	4 sets 4 X 25 Nos.
10	Plain shuttles	50 Nos.
11	Small Pots	25 Nos.
12	Almirahas (Cabin model) for trainees	With 25 Draws
13	Tools kit	One kit
14	Weighing balance	5 kg weighing balances digital type.
15.	Cloth testing table (Wooden, Big)	1 No.
16	Important Spare parts kit	As required
17	Spindle Mala (Thread)	500 gms.
18	Big/Thick Mala (Thread)	5 kg
19	Engine oil and Grease	1 ltr. & 500 gms.
20	Counting Glass – 1”	25 Nos

### Advance Weaving – III(Silk) (Dobby Jacquard Designs)

NAME	:	Advance Weaving – III (Silk) (Dobby Jacquard Designs)
Sector	:	Khadi
CODE:		KHA207
Entry Qualification	:	VIII th STD & 14 years of age + MES Modules on Plain Weaving on frame loom 2 peddles & Multi Treadle/Semiautomatic Loom (Cotton and Polyvastra)(Including Preparatory Weaving. (KHA102)
TERMINAL COMPETENCY :		After completion of the course the trained person would be able to manage the Khadi Silk weaving production centre as Supervisor.
DURATION	:	480 Hrs. [80 working days and 6 Hrs per day]
CONTENT:		

<b>Practical Competencies</b>	<b>Underpinning Knowledge (Theory)</b>
<ol style="list-style-type: none"> <li>1 Safety precautions (use of various equipments in safe manner)</li> <li>2 Ergonomics of plying of frame loom</li> <li>3 Familiarization with tools and equipments</li> <li>4 Yarn sorting (count wise)</li> <li>5 Yarn winding as D.F. bobbin, core, etc.</li> <li>6 Sectional warping</li> <li>7 Denting &amp; Drafting.</li> <li>8 Pirn winding</li> <li>9 Plain weaving, different types of knots.</li> <li>10 Cloth testing – ends, picks, mending cloth defects, etc.</li> </ol>	<ol style="list-style-type: none"> <li>1 Khadi vis-à-vis Textile Industry.</li> <li>2 Khadi (Fabrics) Production</li> <li>e. Brief on Silk Yarn production:               <ul style="list-style-type: none"> <li>➤ Silk Reeling/ Hand spinning</li> <li>➤ Type of Yarn used in Khadi Silk</li> <li>➤ Count range of Silk Yarn</li> <li>➤ Characteristics of Silk Yarn</li> <li>➤ Hank winding (reeling)</li> </ul> </li> <li>f. Weaving Preparatory: -               <ul style="list-style-type: none"> <li>➤ Weft preparation                   <ul style="list-style-type: none"> <li>▪ Pirn winding</li> </ul> </li> <li>➤ Warp preparation                   <ul style="list-style-type: none"> <li>▪ Winding of Yarn on Bobbin, cone, etc.,</li> <li>▪ Warping –using sectional warping machine.</li> <li>▪ Sectional warping methods</li> <li>▪ Warp beam preparation</li> </ul> </li> </ul> </li> <li>g. Loom: -               <ul style="list-style-type: none"> <li>➤ Description of looms and functions of its parts including</li> </ul> </li> </ol>

	<p>semi-automatic loom –</p> <ul style="list-style-type: none"><li>➤ Working of different types of primary, secondary and auxiliary motions of weaving.</li><li>➤ Loom timings</li><li>➤ Elementary weaves and weaving the same with different types of yarns for various end uses.</li><li>➤ Development of designs on 'Point' paper.</li><li>➤ Extra warp and extra weft weaving.</li><li>➤ Knowledge of Jala, dobby and jacquard weaving</li><li>➤ Weaving calculations including costing of the fabrics</li></ul> <p>h. General:</p> <ul style="list-style-type: none"><li>➤ Usual defects in khadi cloths</li><li>➤ Care to be taken while weaving</li><li>➤ Counting ends &amp; picks, mending defects</li></ul>
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**TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES.**

<b>Sr. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1.	Rattas (for pirn preparation)	25 Nos.
2.	Creel Stand with Warping Drum (wooden), D.F. bobbins, Pirn bobbins	2 Nos., 1000 bobbins, 500 Pirn bobbins
3.	5 Wheel Take-up motion frame looms	25 Nos.
4	Yarn wetting Tank	Area as required
5	Yarn Boiling vessels and big Stirring sticks	As required
6	Buckets, Mugs, Vessels etc	As required
7	Hydro extractor	2 Nos.
8	Reed Hooks	25 Nos
9	Reeds	25 Nos
10	Cotton healds set or Steel wire healds with frame	4 sets 4 X 25 Nos.
11	Plain shuttles	50 Nos.
12	Small Pots	25 Nos.
13	Almirahas (Cabin model) for trainees	With 25 Draws
14	Tools kit	One kit
15	Weighing balance	5 kg weighing balances digital type.
16.	Cloth testing table (Wooden, Big)	1 No.
17	Important Spare parts kit	As required
18	Spindle Mala (Thread)	500 gms.
19	Big/Thick Mala (Thread)	5 kg
20	Engine oil and Grease	1 ltr. & 500 gms.
21	Counting Glass – 1”	25 Nos

## **List of Expert/Trade Committee Members**

CURRICULUM DEVELOPMENT FOR SHORT TERM COURSES BASED ON  
MODULAR EMPLOYABLE SKILLS

SECTOR/AREA: **Khadi Sector**

### **Members of the Trade Committee**

1. Shri. Ashok Kumar, Dy. Director General, DGET
2. Shri V.B.Gangurde, Dy. CEO(HRD), KVIC
3. Shri Ashwani Aggarwal, Dy. Director , DGET
4. Shri S.Vijay Kumar, Dy. Director (Chem), SISI
5. Shri P.M. Badgujar, Head, CETRI-Resource Centre
6. Shri B.B. Datta, Asstt. Director (Designs)-WSC
7. Shri K. Ravindra, Technical Supdt (Weaving)-WSC
8. Shri S.R.Fulmali, Director (VIC), KVIC
9. Shri S.K. Sinha, Director (KC), KVIC
10. Shri G.Hussain, Dy. Director (HRD), KVIC