DRAFT SYLLABUS FOR THE TRADE OF WEAVING TECHNICIAN (SEMESTER PATTERN) UNDER CRAFTSMEN TRAINING SCHEME (CTS)

General Information

1. Name of the Trade	:	WEAVING TECHNICIAN
2. N.C.O. Code No.	:	
3. Duration	:	Two Years. (4 Semesters)
4. Power Norms	:	9.4 KW
5. Space Norms	:	525 Sq. Meter
6. Entry Qualification	:	Passed 10th class examination under 10+2 system of education with Science and Mathematics or its equivalent.
7. Unit Size (No. Of Student)	:	20
8. Instructor's/Trainer's	:	(A) Degree in Textile Technology with Qualification one year experience in the relevant field OR Diploma in Textile Technology with two year experience in the relevant field. OR NTC/NAC in the trade with three years experience in the relevant field. (B) Desirable Qualification : Preference will be given to a candidate with Craft Instructor's certificate.

Note: At least one Instructor must have Degree/Diploma in Textile Engg.

Draft Syllabus for the Trade of "WEAVING TECHNICIAN" Under C.T.S.

First Semester: (Duration: **Six Months)**

Week No.	TRADE PRACTICAL	TRADE THEORY	ENGINEERING DRAWING	WORKSHOP CALCULATION & SCIENCE
1	FITTING: Filing Practice	Trade instruction-safety-types of safety-workshop safety-Hand Tools safety-personal safety. Hand tools – Types of hand tools – Types of vices – specification – uses, care and maintenance	Importance of Engg. Drawing – Methods of drawing – Instruments and equipments-uses in Engg. Drawing	Fraction Decimals Basic Arithmetic Operations – Addition and Subtraction
2	Filing to size and chipping	Accident – Prevention – Machine – men –Industry – Marking tools – calipers – dividers – Surface plates – Angle plates – Scribers – punches – surface gauges – Types – Uses, Care & maintenance.	Types of lines – their meanings, Applications as per IS: 696	Fraction & decimals: Basic Arithmetic Operations – Multiplication – Divisions – Complex Problems of basic operations
3	Marking and Punching	Cutting tools-Files – Chisels – Hacksaw blades – Scrapper – Various cutting angles and their uses – care & maintenance – specification steel flats & strips – specification of steel angle – specification of steel sections	Simple conventional symbols for material and parts as per IS - 696	Properties & Uses of Metals and Non-metals.
4	Open fitting of sized metals	Measuring tools – Precision and non precision – steel rule – calipers – Vernier caliper – micrometer – Vernier Height gauge – depth gauge types – uses and specification – calibration and setting as per standard	Construction for geometrical drawings angles and triangles.	System of units – British – Metric S.I Units for Length – area – volume – capacity weight – time – force – temperature – their conversion
5	Scrapping to rough and size	Measurement of angles – Vernier Bevel protractor – Graduation on universal Bevel protractor	Geometrical construction of Rectangle – Square –	Principle of corrosion – corrosive materials and noncorrosive

		– Reading of universal Bevel Protractor	Triangle –Circle	materials – causes and remedies.
6	Internal Fitting, Drilling & Fitting	Specification Drill types – reamer types – various cutting angles – taps and dies –types –uses –tap drills and dies calculation- types of hammer.	Polygons and ellipse, parabola and hyperbola	Acceleration – speed- Equation of motion – Friction – Principles of friction – related problems
7	Grinding machine Practice types – method of drill bit and chisel grinding	Geometrical construction of involute, oval, and helix. Reviewing the various geometrical constructions.	Concept of scalar and vector quantity with examples. Newton's laws of motion. Law of conservation of momentum – mass –weight - density	
8	Snap gauge filing	Gauges – types – Uses- Care & maintenance – tolerance –limits – fits –definitions & applications.	Free hand practice on printing style for standard letters and numbers	Square roots factorization method –division method.
9	TURNING: Tool grinding- tool setting & job setting	Lathe- types – construction –parts - functions – specification. Lathe accessories.	Free hand practice on printing style for standard letters and numbers	Percentage – changing percentage to decimal vice versa- simple problems.
10	Facing and chamfering, plain turning	Different types of operations – performed in lathe	Free hand sketching of Straight lines. Rectangles, Circles, Square, Polygons and ellipse	Heat treatment of metals – methods for Heat treatment
11	Different types of shoulder and small radius turning	Cutting tools materials – types – selection-various cutting angles – uses and applications	Free hand sketching of simple geometrical solids cube, prism, cylinder sphere, pyramids	Work –power – energy – simple problems.
12	Taper turning and simple thread	Types of threads – application – tapping and	Free hand sketch of measuring	Different types of force- Stress –

	forming	dicing process – metrics and inch threads. Different process of paper turning & thread calculation	tools, steel rule, inner caliper, outer caliper.	strains –modules of elasticity simple problems.
13	Sheet Metal Work marking tools Marking and simple sheet metal joints	Sheet metal hand tools – marking tools - cutting-shaping tools –types and uses	Free hand sketch of measuring tools, Vernier Caliper, Micrometer	Ratio and proportion. Applications, Simple problems.
14	Cylinder with brazed joint	Standard wire gauge – soft and hard soldering various allowances – used in sheet metal joint	Free hand sketch of Hand tools. Various types of Hammers Spanners, Allen Keys, Feeler Gauge.	Simple machines – principles of M.A – V.R. – of simple mechanism of simple machines.
15	To make simple trays – riveted and solder joints	Types of sheets & uses – folding – notching –wiring-hemming – allowances and uses.	Free hand sketch of Hand tools. Chisel, Various types of punches.	Algebra symbols use in algebra – co-efficient terms unlike terms – addition subtraction-multiplication and division.
16	Welding: Welding practice Straight line bead-square butt joint –single 'V' Butt joint	Welding types – Arc Welding –Gas Welding – Welding tools and equipments- Types of welding joints – Electrode and current selection – Specifications and safety precautions	Scales construction of plain scale. Representing faction	Algebra power & exponents – Laws of exponents.
17	Welding practice: Using gas welding	Types of gases used in gas welding oxy acetylene flame setting Gas pressure and nozzle selection. Edge preparation for Arc & Gas welding process	Simple technique size and location dimension for parts, holes, Angles Taper, Screw, etc. as per IS: 696. dimensioning	Algebraic simplification problems
18	Carpentry: Simple planning, sawing and chiseling	Carpentry hand tools-Measuring tools – work holding devices – Bench vice. Work bench – Clamps types – sizes – uses- safety methods saws-Plan types –	Simple dimensioning technique size and location dimension for parts, holes,	Algebraic simplification problems

		setting sharpening – uses etc.	Angles Taper, Screw, etc, as per IS: 696	
19	Simple mortise and Tenon joints practice	Different types of saws – Saw setting –Types of joints – Application – wood working machine – specification and their uses. Adhesives type and uses.	Dimensioning practice Unidirectional system and Aligned system	Equations: Simple simultaneous, quadratic
20	Electrical: Demonstration and identification of cables. Soldering practice – Series –Parallel connection Measurement of electrical energy – Multi meter	Atom & Atomic structure – electrons – Fundamental terms – work power – energy –units –voltage-current – resistance –colour codes. Types of cables – standard wire Gauge-Ohm's law-Kirchoff's law	Dimensioning practice: Unidirectional system and Aligned system	Application, construction and solution of problems.
21	Demonstration & practice on fixing common electrical accessories. Testing of domestic appliances – Building layout assemble of small electrical circuits.	Series and parallel connection – Simple problems – properties of conductor, semi conductor and insulator. Primary and secondary cells common electrical accessories and their specification. Demonstration and description of domestic appliances.	Isometric view of simple solids; cubes and Regular solids.	Use of Logarithm and anti logarithm table. Logarithm and exponent.
22	Construction of Calling Bell (Electromagnet) Testing. Rewinding of electromagnet – identification, of DC generator. Use of Ohmmeter and Megger	Magnetism and electro magnetism – simple – Motors generators – principles and rules applied	Isometric view of simple solids, Cubes and Regular solids	Basic operations involving logarithm in the computation.
23	Demonstration and Reading of Electrical Measuring Instruments	Explanation of electrical measuring Instruments – Ammeter- Voltmeter wattmeter- Energy meter	Isometric view of tapered blocks: Single sided and Double sided.	Problems related to the trade using logarithm tables

24	Electronics: Testing of active & passive component with suitable meters like Ammeter, Voltmeter & Multimeter- Testing of DC & AC Assembly and testing of simple electronic circuits (power supply) Testing of amplifier	Electronic Activities – Passive components – Resistors –Capacitors inductors–coils- Transformers- Relays-Applications and Uses. All PN diodes Transistor IC's, simple and logic gates, Application and uses. Simple rectifiers, power supply, amplifier- logic gates – Principle of operations	Isometric view of stepped blocks: Single & Double sided and Center 'v' shape Isometric view of complicated blocks – combined of simple, tapered and stepped blocks	Fundamental geometrical definition angles and properties of angles, triangles, properties of triangles. Pythagoras theorem, properties of similar triangles
25	Project Work / Industrial Visit (Optional)			
26	Examination			

Draft Syllabus for the Trade of "WEAVING TECHNICIAN" Under C.T.S.

Second Semester: (Duration: **Six Months)**

Week No.	TRADE PRACTICAL	TRADE THEORY	ENGINEERING DRAWING	WORKSHOP CALCULATION & SCIENCE
1	Familiarization to Textile Machines Industrial Visit to spinning, Weaving and Chemical Processing Units	**Orientation to Textile Sector:** Overview of Textile Industry- History, Scope & Future Prospects, Strengths & Weakness of the industry	Isometric view of complicated blocks – combined of simple, tapered and stepped Blocks.	Equations: simple simultaneous quadratic etc.
2	Collection of various fibres samples and methods of identification	**Orientation to Fibres:** Definition of Textile Fibre. Classification of fibres with respect to Origin - natural, synthetic (man-made) and Regenerated types.	Drawing of sectional & longitudinal shape of fibres	Basic problems related with logarithm .Use of logarithm and anti-logarithm table. Logarithm and exponent.
3	Collection of Samples of intermediate products in spinning. Collection of various yarn samples: Cotton Yarn, Blended Yarns, Filament Yarns, Synthetic Yarns, etc.	**Orientation to yarn manufacture:** Intermediate Products in Spinning Process: Bale, Lap, Silver, Comber Lap, Roving, Ring frame Cone / Spool etc.	Inter-convention of isometric, oblique drawings of vice-versa along with shape and size of different Wound packages.	Fundamental methods used for transmitting motion and the calculation involved there in. Speed calculations, velocity ratio to the Weaving preparatory machine.
4	**Determination of Yarn Properties:** Count, Strength, unevenness %, twist etc.	**Technical Data and terms in yarn trade:** Count, twist, Strength CSP, unevenness CV etc.	Inter-convention of isometric, oblique drawings of and vice-versa.	Fundamental geometrical definition angles and properties of angles, triangles, properties of triangles. Pythagoras theorem, properties similar triangles.
5-6	Familiarization to	**Weaving Preparatory:**	Inter convention	Rectangle, Square,

	Weaving Preparatory Machines – Industrial visit to see warp winding, Warping, Sizing & Beaming, Gaiting & Pirn Winding Machine. Calculation of different important parameter of preparatory machines.	Process Flow from yarn to fabric for cotton, blended synthetic yarns, types and sizes of yarn packages – Warp Winding, Warping, Sizing & Beaming, Gaiting and Pirn Winding, etc.	of isometric, oblique drawings of different Weaving Preparatory machineries.	Rhombus and Parallelogram and their properties.
7-9	Gearing arrangement, Passage of yarn, Winding & wind, wind per double traverse setting length & diameter setting. Setting of tensioner, Slub catcher, lubrication, maintenance schedules, & calculation of different important parameter of winding machine along with production & efficiency calculation. Calculation of different important parameters of various winding machines.	**Warp Winding:** Objects of Warp Winding, Types & functions, Drive system, different types of drums, different types of packages (Cone/spool/cheese) Tensioning arrangement, Stop Motion, Length & Diameter adjustment motion, winding package build up, tensioner , slub catcher, Yarn Clearers, Types, Mechanical and Electronic clearers, etc. Different types of knots. Brief study of package faults, causes and remedies. Study of Modern fully automatic winding machines.	Line diagram of different winding machine with respect to their driving arrangement for spool/cheese /cone changing system etc.	Circle and Properties of Circle and regular Polygons.
10-13	Gearing arrangement, passage of yarn, over head blower, types of creel, stop motion function, tension bar	**Warping:** Objects of Warping, Parts and functions, Creeling system, Drive system, brake disc, pressure gauge, blower, tension rod, rack and	Simple line diagram of different types of warping machine and label all the diagrams	Specific heats of solids and liquids, quantity of heat and its related calculations.

	arrangement, types of drive, direct and indirect – direction control valve, pneumatic and hydraulic – type of brake and length measuring method – speed control method – doffing system – maintenance schedules etc. Calculation of different important parameter of warping machines and related calculation. Production Calculatin. Calculation of different important parameters of various types of warping machine	pinion, creel shifting mechanism , stop motion, clutch assembly, Difference between direct and sectional warping, beaming mechanism, maintenance schedule, machine related technical data. Salient features of Modern Warping Machine. Concept of Computerized Sectional Warping.	properly.	
14-17	Gearing arrangement, passage of yarn, Winding and binding coil setting, Chase length setting, RPM and MPM changing on the machine, setting of reserve bunch, lubrication, maintenance schedules and calculation of different important parameter of pirn, setting of the length and diameter of Pirn winding machine along with	**Pirn Winding:** Objects of Weft winding, Parts and functions, types of prin winding machines, bunch winding and changing mechanism, importance of stop motion, length measuring motion, maintenance schedule, pirn types, pirn build up, automatic pirn Feeders, tension controls pirn winding drives, avoiding of slough-off, setting of the length reserve bunch, pirn stripping, spindles, traverse mechanism, machine related technical data, etc.	Line diagram of pirn winding machine with respect to driving arrangement of pirn and pirn changing mechanism, etc.	Heat loss and Heat gain of Solids and liquids with simple problems.

	the calculation of production.			
18-23	Control valves (Direction control valves and gate valves) servicing – hydraulic and pneumatic cylinder arrangement servicing – PIV, regulator and variator servicing, lubrication and maintenance schedule. Calculation of different parameter related with production and others, Creel marking length, length measurement system etc., Friction drive arrangement, sizing roller and beam roller surface speed, etc.	**Sizing and Beaming machine:** Objects of Sizing, Parts and functions – types of machines, types of speed regulator. PIV, regulator and variator. Pressure gauges, safety valves, pneumatic; and hydraulic loading devices, creel changing mechanism, function of steam trap and rotary joint, direction control valves and gate valves, hydraulic and pneumatic cylinders, types of bearing used, lubrication method, types of reduction gear boxes and angular gear boxes, machine related technical details.	Simple line diagram of different types of Sizing and Beaming machine and label all the diagrams properly.	Menstruation: Plain figures, triangles square, rectangle, parallelogram, etc
24	Determination of Sizing Cost, Percentage of application, factors affecting production and efficiency of the said Machines.	Sizing Ingredients, Formulation of size recipe for cotton yarn and its blends. Size Mixing and Cooking etc. Single end sizing. Beam defects, causes and remedies.	Orthographic views of stepped blocks and tapered blocks, etc.	Trapezium, regular polygons, circle & related geometrical figure.
25	Project Work / Industrial Visit (Optional)			
26	Examination			

Draft Syllabus for the Trade of "WEAVING TECHNICIAN" Under C.T.S.

Third Semester: (Duration: **Six Months)**

Week No.	TRADE PRACTICAL	TRADE THEORY	ENGINEERING DRAWING	WORKSHOP CALCULATION & SCIENCE
1	Observation of Reed/Dents, Dent spacing. Dents/inch calculation and expressing reed count.	**Expression of Reed/Heald Count:** Methods, different popular reed count System, Irish systems – Stockport, Bradford, Porter, different types of Heald and heald count	Orthographic views of curved blocks.	Solid figures: Prism, figure, Cylinder, Pyramid, cone.
2-4	Formation of Knots – Manually and Using Knotters, Gaiting through drop wires, sealed wires reed dents, etc.	**Loom Gaiting:** Drawing-in & Tying-in. Types of pinning machines – manual, automatic and universal. Tying-in machines. Gaiting Sequence for different weave patterns – plain, twill, satin, sateen etc.	Orthographic views of curved blocks.	Trigonometry: Trigonometrically ratios use of Trigonometrical table.
5-7	Point Paper representation for basic weaves patterns, including drawing, denting, peg plan, etc.	Designing of Basic Weaves: Plain, Derivatives of Plain Weaves – Regular and irregular warp rib, weft rib and matt weaves. Twill weave, derivative of twills, Pointed/zigzag/Herringbone /Broken twill, etc.	Ortho graphic views of complicated blocks (both of taper & curve)	Area of triangle by Trigonometry.
8-9	Point Paper representation for modified weave patterns.	Designing of Modified Weaves: Satin/Sateen, Crepe, Honey Comb, Huck-a-back, Mock-leno weave, Bedford Cord weave.	Orthographic views of complicated blocks (both of taper & curve)	Finding height and distance by Trigonometry.
10	Collection of defective package sample, End breakage study on looms producing fabrics with varying; yarn quality and	Yarn Quality Requirements: Yarn defects and remedies, Yarn Quality requirements for shuttle looms.	Orthographic views of complicated blocks (both of taper & curve)	Application of trigonometry to shop problems.

	Different fabric quality.			
11-14	Familiarization to Weaving machines, Industrial Visit to Handloom, Non automatic and automatic power loom, Shuttleless looms etc.	Fabric Formation: Principle, classification of looms – Handloom, Non-automatic and automatic power loom, Shuttleless looms: Advantages of automatic shuttle and shuttleless loom- Salient features of automatic shuttle and shuttleless looms, etc.	Orthographic views of complicated blocks (both of taper and curve)	Triangle of forces, parallelogram of forces.
15-18	Primary and secondary motions timing with reference to slay position – setting of picks per inch – setting of proper shedding – changing of tappets for shedding – operating the loom – lubrication – attending warp and weft break. Picking force and timing setting and turning. Oscillating and vibrating back rest – anti clock motion – weft feeler mechanism (mechanical & electrical) – weft fork mechanism – shuttle protector – shuttle eye, thread cutter – temple cutter – trigger mechanism – bobbin protector.	**Plain Loom:** Objectives, Parts and functions, Passage of Material through Power loom, gearing diagram, tappet changing and fitting mechanism, weft changing mechanism, shuttle picking mechanism, beat up mechanism, take up mechanism, let off mechanism, stop motions, weft feeler mechanism, Warp Protecting mechanism, methods of drive, power transmission system elements, reversing motion, brake, starting handle, types of shuttle, maintenance schedule, machine related technical data.	Riveted joints. Various types of joints as per ISI standard. Sketches for simple pipe unions with simple pipe line drawings.	Ohm's law. Simple; calculation, electrical insulating materials.

	Calculation of loom constant, production efficiency, etc.			
19	Study and analyze timing diagram of various types looms and its effect on fabric quality, productivity and efficiency, etc.	Loom Timing diagram	Concept of preparation of assembly drawing and detailing. Simple assemblies and their details of trade related tools/jobs/exercises with the dimensions from the given sample or models.	Mechanical properties of metals.
20	Trace Driving diagram for various looms and calculation of loom speed, adjustment of picking force, eccentricity of loom, etc.	Loom drive: Crank shaft, bottom shaft and auxiliary shaft and Driving Diagram. Fabric defect, Causes and remedies.	Simple assemblies and their details of trade related tools/jobs/exercises with the dimensions form the given sample or models.	Heat treatment of steals hardening, annealing, tempering, normalizing, casehardening, standard and measurement.
21-22	Knife setting – selector pirn setting – return spring boxes – shed setting, Lubrication, schedule etc. Different calculation, i.e. production, efficiencies, etc.	**Dobby:** Objectives, Parts and functions, Purpose and Principle, Card Cylinder, Single and double lift dobbies, paper and wooden lattice dobbies pick finding with dobbies, return spring box. Types of dobby pick finding devices for dobby, paper pattern, greasing and oiling,	Simple assemblies and their details of trade related tools/jobs/exercise with the Dimensions from the given sample or models.	Heat treatment of steals hardening, annealing, tempering, normalizing, case-

		maintenance schedule, settings, etc. Brief study of Electronic dobby and cross border dobby.		
23-24	Card punching – Synchronizing with loom-lift setting of jacquard-cam throw setting-harness setting and trying lubrication. Pirn alignment and firmness in shuttle – picking force and timing-shuttle checking in shuttle box-belt fork setting-loom brake function-warp protector motion function-anti crack motion-reed alignment and firmness -loom parts lubrication-shuttle box, swell setting-picker centering-reed alignment and angle-race board alignment-warp protection motion-slay check and repair etc.	**Jacquard:** Functions – types of jacquards – card punching – single and double lift type jacquards for power looms-simple wooden peg type-drives-types of lingoes-Synchronizing with loom-return spring type-harness comber board-drafts-principle parts of the jacquard machine-sizes and figuring capacities of jacquard-types of sheds-lift and cylinder, types-casting out process-greasing and oiling-maintenance schedule-Brief study of cross border jacquard - Introduction to electronic Jacquards.	Details of assembly of shaft and pulley. Details of assembly of a simple coupling and different types of loom motion.	Importance of Statistics – Measures of location: Arithmetic mean, Median, Mode, Geometric mean and Harmonic mean.
25	Project Work / Industrial Visit (Optional)			
26	Examination			

Draft Syllabus for the Trade of "WEAVING TECHNICIAN" Under C.T.S.

Fourth Semester: (Duration: **Six Months)**

Week No.	TRADE PRACTICAL	TRADE THEORY	ENGINEERING DRAWING	WORKSHOP CALCULATION & SCIENCE
1-4	Picking timing of drop box looms – slay dwell of box loom – box alignment with race board – synchronizing of drop box with crank shaft of the loom – card punching for drop box control – lubrication, etc.	**Drop Box Loom:** Objectives, Parts and functions, types of drop box motion – common uses of Eccle's and cam type drop box loom – single, double and triple box lift, dobby controlled drop box – card punching for drop box loom – weft patterning – greasing and oiling – maintenance schedule, etc. Brief Study of Pick-at-will motion. Terry motion. **Synthetic Weaving:** General loom requirement for synthetic and blended yarn weaving. Common fabric defects, causes and remedies.	Details and assembly of Vee-Blocks with clamps.	Transmission of power by belt pulleys and gear drive.
5-10	Torsion rod setting – guide tooth setting-receiving unit and brake setting - Projectile conveyor setting-assembly of picking and arrival side units-deciding no. of projectiles as per cloth width - assembly of cams for different weaves - warp	**Projectile Loom:** Introduction – main features-advantages-basic drive-clutch brake-weft transfer (picking mechanism) – projectile picking, beat- up mechanism - shedding types-assembly of picking and arrival side units-emery roller-cleaning schedule and maintenance schedule- essential setting, etc.	Blue print reading. Simple exercises related to missing lines.	Measures of Depression: Quartile deviation, Mean deviation, Standard deviation and Coefficient of regression.

	and weft stop motion settings - mechanical and electronic let-off assembly and setting-differential gear box assembling – setting of picks/inch - emery roll covering-essential settings - warp and weft breaks-lubrication - adjustment of shed geometry.			
11-15	Settings of rapier as per nominal width - change of throw-deciding rapier loom speed-shed height alignment-rapier weft transfer setting-periodic check of rapier guides and resetting-picks/inch setting - warp tension setting-slay drive checking-lubrication-machine setting avoiding warp and weft defects.	**Rapier Loom:** Introduction – main features – advantages – method of weft insertion-types of weft stop- remedy for each type of weft stop – weft feeder introduction-rapier head-drive-classification of rapier weaving machines-working principle of rapier-Working of Electronic take up and let off motions - maintenance schedule - essential settings.	Blue print reading. Simple exercises related to missing views.	Important of strength of materials – Types of forces on Metals. Types stress and strain-Related problems.
16 - 20	Air insertion settings-solenoid valve setting-deciding no. of nozzles required-settings through microprocessor-measuring air	**Air-jet Loom:** Introduction – main features-advantages – weft insertion cycle with profile speed – Loom timing - drives-clutch-brake-weft transfer-deciding no. of nozzles required-technique of	Blue print reading. Simple exercises related to missing symbols.	Principles of Stress Elasticity and relation between modulus of elasticity's.

	consumption-changing of speeds - shedding-change of weaves-setting picks/inch-lubrication-attending weft breaks.	measuring air consumption-picking mechanism-method of air-jet control- maintenance schedule- essential settings. Brief Study of Water jet loom – it's salient features and weft insertion technique. **Multi Phase Weaving:** Classification – circular machine – weaving principle – Sulzer M8300 loom – Principle – Shed formation and Weft insertion. **Terry Weaving:** Classic terry and Fashion terry – Loom requirements for weaving terry fabrics. Passage of material through a modern terry weaving machine. **Brief study of Denim Weaving.**		
21-24	Familiarization to QA Systems: Visit to Companies, which have ISO 9000 certification. Concept of fabric quality	**Quality Assurance:** Concepts of quality, Control and Assurance. Introduction to ISO 9001-2000, ISO 14001-2004 & SA 8000 systems, OHSAS-18001-1999. Testing of fabric Quality.	Blue print reading. Simple exercises related to missing dimensions.	Absolute Pressure Vacuum Pressure, Gauge Pressure, Relative Pressure-Static Pressure, Pressure Gauge.
25	Revision			
26	Examination			

TRADE : WEAVING TECHNICIAN

A. List of tools & equipments for 20 trainees + one

- **Trainees Kit – (As per the below table)**

Sl. No.	Name and Description of the Item	Quantity
1	Combination Plier 200 mm insulated	21 Nos.
2	Screw Driver 200 mm.	21 Nos.
3	Screw Driver 100 mm.	21 Nos.
4	Terminal Screw Driver	21 Nos.
5	Hammer Ball pein (0.25 kg)	21 Nos.
6	Try square (200 mm.)	21 Nos.
7	File round (half) 2nd cut 250 mm	21 Nos.
8	File round 150 mm.	21 Nos.
9	Plumb bob 115 gm.	21 Nos.
10	Barwood Mallet 1 kg (75 mm. X 150 mm.)	21 Nos.
11	Knife	21 Nos.
12	Wood rasp file 250 mm.	21 Nos.
13	Firmer chisel 12 mm.	21 Nos.
14	Firmer chisel 6 mm.	21 Nos.
15	Neon Tester	21 Nos.
16	Tenon saw 250 mm.	21 Nos.
17	File flat 25 cm. 2nd cut	21 Nos.
18	File flat 25 cm. smooth	21 Nos.
19	Steel rule 300 mm to read Metric.	21 Nos.
20	Test lamp	21 Nos.
21	Circlip opener	21 Nos.
22	Continuity Tester	21 Nos.
23	Gloves	21 Nos.
24	Insulating tape	21 Nos.
25	Electrical soldering Iron	21 Nos.

- **General Machinery Shop Outfit (as per the table)**

Sl. No.	Name and Description of the Item	Quantity
1	Pliers side cutting 200 mm.	10 Nos.
2	Pliers Flat nose 150 mm.	5 Nos.
3	Pliers round nose	5 Nos.
4	Pliers long nose	10 Nos.
5	Screw driver heavy duty 250 mm.	10 Nos.
6	Screw driver 7 mm X 300 mm square blade	10 Nos.
7	Firmer Chisel 25 mm	10 Nos.
8	Firmer Chisel 10 mm	10 Nos.

9	Marking Gauge	5 Nos.
10	Combination bevel Protractor	3 Nos.
11	Cold Chisel Flat 25 x 200 mm	4 Nos.
12	Cold Chisel flat 18 x 200 mm	4 Nos.
13	Hammer Ball Pein 0.5 kg	5 Nos.
14	Hammer Ball Pein 0.75 kg	5 Nos.
15	Hammer Ball Pein 1 Kg	5 Nos.
16	Hammer Cross Pein 0.5 kg	5 Nos.
17	Wall jumper octagonal37mmx450mm,37 mm x 600 mm	2 Each
18	Centre punch 100 mm	5 Nos.
19	File Flat 300 mm rough	5 Nos.
20	File Flat 300 mm 2nd cut	5 Nos.
21	File Flat 250 mm Bastard	5 Nos.
22	File flat 250 mm smooth	5 Nos.
23	File half round 300 mm 2nd cut	5 Nos.
24	File triangular 150 mm 2nd cut	4 Nos.
25	Spanner double ended set of 6	5 Sets
26	Adjustable Spanner 350 mm	2 Sets
27	Foot Print grip 250 mm	2 Sets
28	Allen keys (Metric & Inches)	20 Sets
29	Steel rule 300 mm	5 Nos.
30	Steel Measuring Tape (2m)	5 Nos.
31	Steel Measuring Tape (20 m)	2 Nos.
32	Hacksaw frame Adjustable 200 mm to 300 mm	5 Nos.
33	Spirit level 300 mm	3 Nos.
34	Bench vice 150 mm	3 Nos.
35	Bench vice 100 mm	2 Nos.
36	Pipe Wrench (300 mm)	10 Nos.
37	Spanner (up to 32 mm)	10 Nos.
38	Vernier Caliper	2 Nos.
39	Ring spanner	3 Sets
40	12” grip Plier	4 Nos.
41	Inner caliper	5 Nos.
42	Outer caliper	5 Nos.
43	Box spanner	4 Sets
44	Torque spanner	3 Nos.
45	File Swiss type needle set	5 Nos.
46	Shore hardness tester for	1 No.
47	Needle file	3 Sets
48	Nylon hammer	5 Nos.
49	Puller 2 arm, 3 arm	3 Each
50	Copper tube cutter	5 Nos.
51	Ratchet brace 6 mm capacity	5 Nos.
52	Ratchet bit 4mm and 6 mm	5 Nos.
53	Vernier Caliper 200mm (ordinary)	5 Nos.
54	Snips	5 Nos.
55	Conduit Pipe die set	5 Nos.

- **List of Machinery and Equipments:**

Sl. No.	Name and Description of the Item	Quantity
1	Warp Winding Machine	1 No.
2	Pirn Winder	1 No.
3	Plain loom with Dobby	1 No.
4	Handloom with jack & loom arrangement	1 No.
5	Drum Type/ sectional warping & Beaming machine	1 No.
6	Handloom with Jacquard	1 No.
7	Chittaranjan Semiautomatic Power Loom	1 No.
8	Hand Knotter, Splicer etc	1 Each
9	Shuttleless Repair loom	1 No.

- **General Furnature**

Sl. No.	Name and Description of the Item	Quantity
1	Work bench 250x120x75 with four vices of 12.5 cm	4 Nos.
2	Locker with 8 drawers (standard size)	2 Nos.
3	Metal Rack 180x150x45cm	2 Nos.
4	Steel almirah / cupboard	1 No.
5	Black board and easel	1 No.
6	Instructor’s Desk or table	1 No.
7	Chair	1 No.