

## HANDLOOM MECHANICS AND OPERATIONS

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Winding of bobbins.
- Arrangement of bobbins in creel.
- Passing of threads through the back reed.
- Pirn winding and inserting.
- Fitting of handloom and maintenance.
- Harnessing of Handloom.
- Weaving of cloth - plain weave, Basket weave, twill weave and terry pile weave.
- Visit a handloom industry and make a report on working of different parts/ sections of industry.

### (v)TRADE : KNITTING

**PAPER-I**

**TEXTILE FIBRE AND TESTING**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **Fibres**

Introduction to Textiles Fibres, Classification and Description of Various Textile Fibres (Natural, Manmade and Synthetic), Physical and Chemical Properties of textile fibre, Identification of fibre using Physical and Chemical Methods.

#### **Yarn**

Types of Yarns, properties of Yarn for knitted Fabric Manufacturing.

#### **Knitting-**

Classification of Knitting, Product and its uses.

#### **Dyes**

Introduction, Classification – Natural and Synthetics Dyes, Direct, Acidic, Basic, Sulphur,

Reactive, Disperse, Dyes and Pigment Colors, Applications of Dyes on Cotton, Wool, Silk,

Acrylic and Polyester Yarn.

### **Finishes**

Purpose, Types and Understanding the Effect of Some Common Finishes used in Textile Industry like Mercerisation, Sanforisation, Sizing, Crease Resistance, Calendering, Embossing, Dimensional Characteristics, Sentering. Open width or Tubelar Compaction.

### **Stains**

Study of Various Kinds of Stains on Textile and their Removal.

### **Quality Control**

Introduction, Inspection of Yarn Fabric and Garment and Quality Control Procedure.

### **Colour theory**

Primary, Secondary and Tertiary colours.

## **TEXTILE FIBRE AND TESTING**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various textiles fibres by Physical (Burning and Microscopic) and Chemical (Solubility) methods.
- Methods of Washing, Bleaching, Starching, Drying and Ironing of various fabrics.
- Color fastness test to Sunlight, Perspiration, Washing, Crocking and Ironing on coloured natural fabrics.
- Identification of various types of stains and their removal.
  
- Identification of 'S' and 'Z' twist in yarn.
  
- Identification of Knitting fabric from samples.
  
- Quality control of the produced garments measurements, weight, minor and major inspection.

## HAND FLAT KNITTING MECHANISM

### PAPER-II

#### THEORY

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Introduction of Knitting Industry.
- Classification of Weft Knitted Fabric- Single Faced, Rib, Purl, Interlock, Intarsia and pique Fabric.
- Different Parts of Flat Knitting Machine and their Functions.
- Basic Terminology Used in Knitting Such as Gauge, Wales, Course, Knitted Stitch, Needle Loop, Sinker Loop Etc.
- Diagrammatic Presentation of Latch Needle, Understanding Its Different Parts and their Functions.
- Diagrammatic Presentation of Loop Formation of Latch Needle.
- Diagrammatic Presentation of Weft Knitted Stitches Such As Plain, Rib, Tuck and Purl Stitch.
- Diagrammatic Presentation of Cam System of V Bed Hand Flat Knitting Machine.
- Operations and Function of Different Cams of V Bed Hand Flat Knitting Machine.
- Setting of Stitch Length on A Hand Flat Knitting Machine.
- Knitting Process of Welts and Function of Welts.
- Knitting Process of 1 X 1 Rib and Plain Fabric.
- Producing 1x1 and 2x2 Rib (Border) on Simple Flat Knitting Machine.
- Knitting Defects, their Causes and Remedies on Hand Flat Knitting Machine.

## HAND FLAT KNITTING MECHANISM

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Maintenance of Hand Flat Knitting Machine. Oiling and cleaning of knitting machine, Replacement of faulty parts.
- Adjustment of brushes, method of feeding yarn and setting of feeders on Flat Knitting Machine. Yarn passage in terms of tensions, feeder carriage etc.
- Description and diagrams of Cam set, different parts of Cam set and their functions. Setting of Stitch Quality or Stitch Length on Flat Knitting Machine. Adjustment to adjust stitch length.
- Identification and functioning of different parts of Hand Flat Knitting Machine.
- Method of putting and replacing of Needles, adjustments of needles.
- Jobbing On and Running On operation on Flat Knitting Machine.

- Knitting of plain fabric on Flat Knitting Machine.
- Knitting of 1 x 1 and 2 x 2 rib on Flat knitting Machine.
- Transferring of loops from one needle bed to another needle bed with the help of Decca and knitting of single bed fabric.
- Knitting of Decca design and Tuck design.
- Knitting of Half cardigan and Full cardigan fabric.
- Knitting of Half Milano and Full Milano fabric.
- Visit to reputed knitting industry/knitting technology institutes-craft fairs and report writing for the same.
- Setting of Stitch Quality or Stitch Length on Flat Knitting Machine.
- Knitting of 1 x 1 and 2 x 2 rib on Flat Knitting Machine.
- Transferring of loops from one needle bed to another needle bed with the help of Decca and knitting of single bed fabric.
- Knitting of Decca design and Tuck design.
- Knitting of Half cardigan and Full cardigan fabric.
- Knitting of Half Milano and Full Milano fabric.
- Maintenance of Hand Flat Knitting Machine.
- Visit to reputed knitting industry/knitting technology institutes-craft fairs and report writing for the same.

### **PAPER-III**

### **HAND DRIVEN CIRCULAR KNITTING**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Classification of Knitting Industry
  - Socks Knitting Industry
  - Under Garments Knitting Industry
  - Outerwear Garments Knitting Industry.
- Socks Knitting Machine its Different Parts and their Uses.
- Cylinder Cam Set of Hand Driven Socks Machine, Explanation of Its Different Parts and their Functions with Diagram.
- Dial Cam Set of Hand Driven Socks Machine, Explanation of its Different Parts and their Functions with Diagram.

- Looping Elements-Needle, Sinker.
- Jobbing on, Running on Operation of Circular Knitting.
- Diagrammatic Presentation of Loop Formation of Latch Needle on Circular Knitting Machine.
- Showing Diagrammatically Different Parts of Socks (Welt, Rib Top, Leg Part, Heel Part, Foot Part and Toe Part).
- Method of Formation of Welt on Hand Socks Knitting Machine.
- Method of Knitting Rib with the Use of Dial.
- Method of Knitting Heel and Toe.
- Method of Making Complete Socks A with Elastic Rib Top and 1x1 Rib Top.
- Toe Closing (I) Linking (II) Over Locking.
- Defects That Occur During Circular Knitting and their Causes and Remedies.
- Different Types of Articles can be Produced on Hand Driven Knitting Machine Such as Mitins, Socks, Stockings, Gloves Etc.
- Power Socks Machine Parts and its Functioning.

### **HAND DRIVEN CIRCULAR KNITTING**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various parts of socks machine.
- Tools and accessories used in circular knitting machines and their uses.
- Identification and function of cylinder cams.
- Identification and functions of dial-cams.
- Disassembling and assembling of the cam system of socks machine.
- Raising and Lowering of dial and time setting.
- How to adjust the stitch length and yarn guide of the machine.
- Method of starting machine with jobbing on method and running on method.
- Knitting of welt and 1 x 1 rib.
- Method of knitting heel and toe
- Knitting of full socks.
- Knitting of stockings.
- Method of linking of toe portion.
- Method of Pressing, Labeling, Folding and packing of finished product.
- Size chart of socks.