# STATE COUNCIL FOR TECHNICAL EDUCATION AND VOCATIONAL TRAINING, ODISHA

## TEACHING AND EVALUATION SCHEME FOR 4th Semester Textile Tech/Engg (wef 2019-20)

| Subject Number | Subject Code | Subject | Periods/week | | | Evaluation Scheme | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Internal Assessment/ Sessional | End Sem Exams | Exams (Hours) | Total |
| | | **Theory** | | | | | | | |
| Th.1 | | Textile Design-I | 4 | | - | 20 | 80 | 3 | 100 |
| Th.2 | | Yarn manufacture -II | 4 | | - | 20 | 80 | 3 | 100 |
| Th.3 | | Fabric Manufacture-II | 4 | | - | 20 | 80 | 3 | 100 |
| Th.4 | | Textile Chemical Processing-II | 4 | | | 20 | 80 | 3 | 100 |
| | | *Total* | *16* | | | *80* | *320* | - | *400* |
| | | **Practical** | | | | | | | |
| Pr.1 | | Yarn manufacture –II Lab | - | - | 6 | 25 | 75 | | 100 |
| Pr.2 | | Fabric Manufacture-II Lab | - | - | 6 | 25 | 75 | | 100 |
| Pr.3 | | Textile Chemical Processing-II Lab | - | - | 6 | 25 | 75 | | 100 |
| Pr.4 | | Technical Seminar | | | 2 | 50 | - | | 50 |
| | | Student Centred Activities(SCA) | | - | 3 | - | - | - | - |
| | | *Total* | - | - | *23* | *125* | *225* | - | *350* |
| | | **Grand Total** | **16** | | **23** | **205** | **545** | **-** | **750** |

Abbreviations: L-Lecturer, T-Tutorial, P-Practical . Each class is of minimum 55 minutes duration

**Minimum Pass Mark in each Theory subject is 35% and in each Practical subject is 50% and in Aggregate is 40%**

**SCA shall comprise of Extension Lectures/ Personality Development/ Environmental issues /Quiz /Hobbies/ Field visits/ cultural activities/Library studies/Classes on MOOCS/SWAYAM etc. ,Seminar and SCA shall be conducted in a section.**

**There shall be 1 Internal Assessment done for each of the Theory Subject. Sessional Marks shall be total of the performance of individual different jobs/ experiments in a subject throughout the semester**

# Th.1 Textile Design-I

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **TH-1** | **Semester:** | **4th** |
| **Total Period:** | **60** | **Examination:** | **3hours** |
| **Theory Periods:** | **4P/Week** | **Internal Assessment:** | **20** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **80** |

**A. Rationale :**

Fabrics are made from different types of fibres/Yarn and their blends are put into specific uses such as summer wear, winter wear, industrial wear etc., depending on their particular properties. Different basic Textile Designs, construction and it's end uses are very important for a student to know. This paper is mainly highlighting the basic Textile design and it's constructional process in a loom.

**B. Objective :** After completion of this subject the students will able to

**1.** acquire elementary knowledge on representation technique of different verities of fabrics .

2. change in their construction parameters , construction process as well as composition .

3. investigate different fabric structures and factors affecting them in detail.

4, develop understanding of different types of weaves & their construction as well as drafting, lifting & denting plan etc.

| **C. Topic wise distribution of periods** | | |
|---|---|---|
| **Sl. No** | **Topics** | **Period** |
| 01 | Basic Weaves | 10 |
| 02 | Plain Weaves and its derivatives | 10 |
| 03 | Twill Weaves and its derivatives | 15 |
| 04 | Simple towelling & Curtain Fabrics | 10 |
| 05 | Compound structures | 15 |
| | **Total:** | **60** |

**D. Course Contents:**

**1. Basic Weaves**

1.1 Differentiate woven, non-woven, knitted structures .

1.2 Explain representation of weaves and use of point paper.

1.3 Describe drafting , lifting, denting plan of a design on point paper.

**2. Plain Weaves and its derivatives**

2.1 Basic concept of Plain woven structure.

2.2 Construct standard plain weaves and its derivatives like Warp rib, weft rib and matt etc

2.3 Ornamentation of plain weave

2.4 Explain the application of these weaves in different field of Textile.

**3. Twill Weaves and its derivatives**

3.1 Basic concept of twill weaves.

3.2 Explain influence of twist direction and angle of twill on appearance of fabric.

3.3 Construct Derivatives of Twill design – Balanced and Un balanced twill, pointed twill ,combined twill (end and end ,pick and pick Combination.), broken twill etc.

3.4 Construct Diamond & Corkscrew.

3.5 Construct satin & Sateen.

3.6 Explain the application of these weaves in different field of Textile.

**4. Simple towelling & Curtain Fabrics**

4.1 Construct ordinary honey comb ,brighton, Huck-a-Back, Mock leno with draft and peg plan;

4.2 Explain the application of these weaves in different field of Textile.

**5. Compound structures**

5.1 Construct Bedford cords(Plain & twill faced with wadding effect) & welts design;

5.2 Construct Extra warp and Extra weft designs with drafting & lifting.

5.3 Explain the application of these weaves in different fabrics.

**Coverage of Syllabus upto IA.:** Chapter1,2,3

| **Learning Resources:** | | | |
|---|---|---|---|
| **Sl No** | **Title of the Book** | **Name of Authors** | **Name of Publisher** |
| 01 | Textile Design and Colour | Z.J Grosicki | Universal Publishing Corporation, Bombay |
| 02 | Watson'sAdvance Textile Design | Z.J Grosicki | Universal Publishing Corporation, Bombay |
| 03 | Fabric Structure & Design | N.Gokarneshan | New Age International(P) Ltd |
| 04 | Analysis of Woven Fabrics | A.F. Barker & E Midgley | Abhishek Publication, Chandigarh-1979 |

# Th.2 Yarn Manufacture- II

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **TH-2** | **Semester:** | **4th** |
| **Total Period:** | **60** | **Examination:** | **3hours** |
| **Theory Periods:** | **4P/Week** | **Internal Assessment:** | **20** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **80** |

**A. Rationale :**

The student of Textile technology after completion his diploma has to work in Textile Industries. Fibres has to be converted to yarn form to be used as raw materials for formation of fabrics for different end uses. Hence, a Textile student should know the manufacturing process of yarn. In this subject students will be taught about the I process i.e Draw Frame, Comber and Speed frame process for preparation of short staple fibres required for formation of yarn

**B.Objective :** After completion of this subject the students will able to

**1.** investigate the preparation process of the most important intermediate stage i.e. yarn.

2.acquire knowledge on parallelization & refinement of fibres to prepare for good quality yarn.

3. develop knowledge and skills of

- Drawing ,Comber ,Speed Frame.
- Their working principles
- Functions of various parts
- Passage of material
- Maintenance & Settings

| **C. Topic wise distribution of periods** | | |
|---|---|---|
| **Sl. No** | **Topics** | **Period** |
| 01 | Draw Frame | 05 |
| 02 | Comber | 10 |
| 03 | Speed frame | 15 |
| 04 | Production calculation | 10 |
| | **Total:** | **60** |

**D. Course Contents:**

**1. Draw Frame**

1.1 Explain the objects of Drawing.

1.2 Discuss principles of doubling and drafting.

1.3 Explain the passage of material and function of different parts.

1.4 Study various modern drafting system, Roller settings, Drafting wave roller slip wave, Top roller weighting, Electronic stop motion.

1.5 Discuss the technological design change in modern draw frame.

1.6 Explain drafting roller arrangement ,on line monitoring and auto leveling suction arrangement and auto motion in doffing.

1.7 Discuss the maintenance schedule.

**2. Comber**

2.1 Explain the need for lap preparation,

2.2 Discuss the effect of fibre presentation & pre-comb draft.

2.3 Discuss silver doubling and lap doubling & unilap machine.

2.4 Explain the objects and importance of combing & Degree of combing.

2.5 Discuss combing cycle ,types of feed, Discuss Cylinder clothing ,clamping line distance ,increase in nips/min, concentric nipper movement,

2.6 Explain the performance affecting quality of combed cycle.
2.7 Discuss salient features of modern comber.
2.8 Discuss the maintenance schedule

**3. Speed Frame**

3.1 Explain the objects of speed frame.
3.2 Discuss passage of material through S/F and function of important parts.
3.3 Explain modern drafting system.
3.4 Discuss principles of twisting , winding & package formation.
3.5 Explain Differential motion used in modern speed frame.
3.6 Discuss modern developments in speed frame; drafting –builder ,twisting-driving system ,other features-creel ,package size ,roving tension control, flyer, suction etc.
3.7 Roving Defects and their remedies.
3.8 Maintenance schedule for speed Frame.

**4. Production calculation**

4.1 Calculate Speed, Draft, production of Draw frame, comber & Speed frame.

**Coverage of Syllabus upto IA.:** Chapter1,2

| **Learning Resources:** | | | |
|---|---|---|---|
| **Sl No** | **Title of the Book** | **Name of Authors** | **Name of Publisher** |
| 01 | The Technology of Short-staple Spinning | Klein W | The Textile Institute, Manchester |
| 02 | Manual of Cotton Spinning (Vol-III & IV) | Klein W | The Textile Institute, Manchester,1965&1968 |
| 03 | Spun Yarn Technology | Oxtoby E | Butter worth's, London, New Edition 2002 |
| 04 | Cotton Spinning | W.S. Taggard | Universal Book Corporation,Bombay |
| 05 | Process control in Spinning | T A Subramanyam | ATIRA Pub. |

# Th.3. Fabric Manufacture-II

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **TH-3** | **Semester:** | **4th** |
| **Total Period:** | **60** | **Examination:** | **3hours** |
| **Theory Periods:** | **4P/Week** | **Internal Assessment:** | **20** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **80** |

**A. Rationale :**

A knowledge about the different processes like Secondary, auxiliary, Multiple Box , dobby, Jacquard and shuttle-less loom are essential for the students to understand the operations in the weaving processes. Hence they must be taught to the students to enhance their knowledge and skill in the setting and operation of the preparatory machines, to perform necessary weaving calculations and also fundamental concept of mechanism for formation of fabric.

**B. Objective :** After completion of this subject the students will able to

**1.** develop concepts on conventional & non conventional weaving processes.

3. understand the Auxiliary mechanism in looms, Working of the Dobby & Jacquards & Automatic looms for plain and ornamental fabrics.

| **C. Topic wise distribution of periods** | | |
|---|---|---|
| **Sl. No** | **Topics** | **Period** |
| 01 | Secondary and Auxiliary motion | 14 |
| 02 | Multiple Box Motion | 06 |
| 03 | Dobby & Jacquard shedding | 20 |
| 04 | Modern developments in auto loom | 10 |
| 05 | Shuttle –less Looms | 10 |
| | **Total:** | **60** |

**D. Course Contents:**

**1. Secondary and Auxiliary motion**

1.1 Explain take up & Classify take up motion.
1.2 Discuss Negative and positive take up motions.
1.3 Explain let off & Classify let off motion.
1.4 Discuss Negative and positive let off mechanism.
1.5 Explain Warp protecting motion.
1.6 Discuss weft stop motion
1.7 Discuss Break Mechanism.
1.8 Discuss Timings and settings of these motions.

**2. Multiple Box Motion**

2.1Explain drop Box mechanism,.
2.2 Explain pick & pick looms.
2.3 Brief idea on card saving devices .

**3. Dobby & Jacquard shedding**

3.1 Explain working principles of dobbies like Keighly , cam, paper and electronically controlled Dobby.
3.2 Discuss pegging for dobby (Right & left hand) loom.
3.3 Explain principles of Jacquard weaving & Classify Jacquards.
3.4 Explain working single lift double lift single cylinder Jacquards.
3.5 Discuss double lift double cylinder Jacquards.
3.6 Discuss Jacquard building and harness ties & Casting out of Jacquard.

3.7 Brief idea on Electronic Jacquard.

**4. Modern developments in auto loom**

4.1 Explain weft feeler mechanism.

4.2 Discuss 3 try weft fork mechanism.

4.3 Discuss Automatic warp stop motion.

4.4 Explain Shuttle protector.

4.5 Discuss Automatic cop changing motion.

4.6 Discuss fabric defects, its causes and remedies.

**5. Shuttle –less Looms**

5.1 Classify & Explain unconventional looms.

5.2 Discuss Limitation of shuttle looms& State the advantages of shuttle-less looms over shuttle Looms.

5.3 Explain the preparation of raw materials for unconventional looms.

5.4 Classify & explain briefly on different types of weft insertion processes in shuttle-less looms like- Rapier, Gripper, Fluid jet etc.

**Coverage of Syllabus upto IA.:** Chapter1,2,3

| **Learning Resources:** | | | |
|---|---|---|---|
| **Sl No** | **Title of the Book** | **Name of Authors** | **Name of Publisher** |
| 01 | Weaving Mechanism (Vol-1&2) | N.N.Banerjee | T Baneerjee, Kolkata |
| 02 | Weaving Mechanism | Thomas W. Fox | Universal Book Corporation, Bombay-02 |
| 03 | Principles of Weaving | Robinson & Marks | Textile Institute, Manchester |
| 04 | Cotton Weaving | Gurudev, V.Blinov,P Yolkov | MIR Publication ,Muscow |
| 05 | Weaving Calculation | R.Sengupta | DB Taraporevala sons&co. Bombay |
| 06 | Cotton Yarn Weaving | Textile Association of India,Ahmedabad | Textile Association of India,Ahmedabad |
| 07 | Weaving Conversion of Yarn to Fabric | P.R.Lord & M.H.Mohamed | Wood head Publication |
| 08 | Loom Shed | BTRA Monograph | BTRA Monograph |
| 09 | An Introduction to Automatic Weaving | G A Bennet | Indo Overseas trading Co, Bombay |

# Th.4. Textile Chemical Processing-II

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **TH-4** | **Semester:** | **4th** |
| **Total Period:** | **60** | **Examination:** | **3hours** |
| **Theory Periods:** | **4P/Week** | **Internal Assessment:** | **20** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **80** |

**A. Rationale :**

A diploma holder in Textile Technology must have the requisite knowledge and skill about Chemical processing of textiles i.e. bleaching, printing and finishing etc. Hence, this subject is designed to teach students about the various processes involved in dyeing, Printing & finishing of Textiles.

**B. Objective :** After completion of this subject the students will able to

1. enlighten the students about colouring of new age textiles and its functional performances.
2. deal with printing knowledge.
3. develop an idea about different machines used industrially for printing and finishing of commercial fabrics.
4. develop knowledge and skills in different processes in dyeing ,printing and finishing.

| C. Topic wise distribution of periods | | |
|---|---|---|
| **Sl. No** | **Topics** | **Period** |
| 01 | Dyeing of Man made & their Blends | 10 |
| 02 | Printing | 25 |
| 03 | Mechanical finishing | 10 |
| 04 | Chemical Finishing | 10 |
| 05 | Washing & drying | 05 |
| | **Total:** | **60** |

**D. Course Contents:**

**1. Dyeing of Man made & their Blends**

1.1 Discuss Dyes used for man-made fibres.
1.2 State Dyeing of polyester with disperse dyes by carrier ,HTHP and Thermosol method.
1.3 State Dyeing of Cationic dye-able polyester fibre
1.4 State the Dyeing of Polyester /Cotton and polyester /Wool blended fabrics with suitable dyes.
1.5 State the Dyeing of Acrylic with basic dyes.

**2. Printing**

2.1 State the objects of printing
2.2 Differentiate between dyeing and printing.
2.3 Preparation of printing paste & Classify and state the functions and properties of thickeners.
2.4 Methods & Styles of printing
2.5 Discuss styles of printing – Direct ,Discharge &Resist.
2.6 Discuss Different methods of printing –Block printing ,Screen Printing ,Rotary screen Printing, Roller printing ,Transfer printing .
2.7 Brief idea about preparation of screens for printing.
2.8 Printing of cotton fabric with suitable dyes like vat dyes, reactive etc.
2.9 State printing of wool ,silk & Nylon fabrics with acid dye & Polyester fabric with disperse dyes.

**3. Mechanical finishing**

3.1 State the objects of finishing & Classify finishes.
3.2 Discuss importance of mechanical finishes & State the objects of calendaring and working of different calendars.
3.3 State the objects of stentering & sanforization .

**4. Chemical Finishing**

4.1 State the objects of chemical finishing.

4.2 Discuss methods of application of Crease resistance finish, water proof and water repellant finish ,flame retardant finish , carbonization of wool ,Moth proof finish on wool, Stone wash on denim fabric.

4.3 Objects of Mercerisation , Physical, Chemical & Structural Changes occurred after mercerization of cotton fibre.

4.4 Factors affecting mercerisation., Discuss working method of chainless mercerisation of cotton fabric.

**5. Washing & Drying**

5.1 Importance of Washing.

5.2 Objects of drying.

5.3 Discuss Working principle of Hydroextractor , Multi cylinder drying, IR/ RF dryer.

**Coverage of Syllabus upto IA.:** Chapter1,2,3

| **Learning Resources:** | | | |
|---|---|---|---|
| **Sl No** | **Title of the Book** | **Name of Authors** | **Name of Publisher** |
| 01 | Dyeing and Chemical Technology of Textile Fibres | E.R.Trotman. | Charles Grifinece & Co,Bombay |
| 02 | Technology of Dyeing | V. A. Shenai | Sevak publication,Bombay |
| 03 | Textile Printing | L W C Miles. | Dyers Company Pub. Trust, England |
| 04 | Technology of printing | R. S. Prayag | Mrs R S Prayag |
| 05 | An Introduction to Textile Printing | W. Clerk | Butter Worth & Co. London |
| 06 | Principles of cotton printing | D G Kale | Mahajan Brother's, Ahamadabad |
| 07 | An introduction to textile finishing | J. T. Marsh | B.I.Publication, Bombay |
| 08 | Technology of Textile Finishing | V. A. Shenai | Sevak publication,Bombay |

# Pr.1. Yarn Manufacture – II (Lab.)

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **Pr-1** | **Semester:** | **4th** |
| **Total Period:** | **90** | **Examination:** | **3hours** |
| **Lab. Periods:** | **6P/Week** | **Sessional:** | **25** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **75** |

**A. Rationale :**

The student of Textile Technology after completion his diploma has to work in textile industries. In this subject students will get practical knowledge about the process i.e Draw frame, Comber and Speed frame for preparation of staple fibres required for formation of yarn.

**B. Objective :** After completion of this subject the students will able to

**1.** Proper handling & processing of fibres yield a good yarn and ultimately a value added consumer product i.e. fabric.

2. deal with the concept of pre-yarn manufacturing like- drawing, drafting ,combing etc.

3. work with Draw frame, speed frame, Ribbon lap ,sliverlap, Comber and study different setting, production, maintenance procedure etc.

| Experiment No | Topics | Topic wise distribution of periods in hours |
|---|---|---|
| 01 | Study of the different parts of the Draw Frame and the flow of material in the machine | 05 |
| 02 | Study of the Gearing Diagram of Draw Frame and to calculate the draft constants as well as individual drafts | 10 |
| 03 | Learning of roller setting and changing of draft change pinion in the draw frame | 10 |
| 04 | Study of the parts and Flow of the material in a silver Lapper Machine | 10 |
| 05 | Study of the parts and flow of the material in a Ribbon Lapper Machine | 10 |
| 06 | Study of the parts and flow of the material in the comber Machine | 10 |
| 07 | Study of different parts and flow of material in a simplex machine | 10 |
| 08 | Study the Gearing Diagram of simplex and calculation of Draft Constant | 05 |
| 09 | Calculation of Spindle Speed and Twist Constant of a speed Frame | 05 |
| 10 | Learning of Changing C.P. , T.W. & L.W ., etc. in the speed frame | 05 |
| 11 | Study of building mechanism in speed frame | 05 |
| 12 | Study of roller setting in speed frame | 05 |
| | TOTAL | 90 |

# Pr.2 Fabric Manufacture – II (Lab.)

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **Pr-2** | **Semester:** | **4th** |
| **Total Period:** | **90** | **Examination:** | **3hours** |
| **Lab. Periods:** | **6P/Week** | **Sessional:** | **25** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **75** |

**A. Rationale :**

The students to enhance their practical knowledge and skill in the setting and operation of the preparatory machines, to perform necessary weaving calculations and also fundamental concept of mechanism for formation of fabric.

**B. Objective :** After completion of this subject the students will able to

**1.** handle weaving process and machinery.

2. work with Over pick and under pick Looms , Multiple shuttle box type loom, Dobby & Jacquard etc.

| Experiment No | Topics | Topic wise distribution of periods in hours |
|---|---|---|
| 01 | Study of take-up motion and its defects ,calculation of pick/inch and dividend in a loom | 10 |
| 02 | Study of negative let off motion in a loom and its defects | 7 |
| 03 | Study of drop box motion in a loom ,card saving device and safety device | 7 |
| 04 | To prepare the pattern and lacing the metallic cards and mounting in a Drop Box Loom | 10 |
| 05 | Study of Warp Stop Motion (both mechanical and electrical) | 10 |
| 06 | Study of pirn changing Mechanism in an Auto Loom | 7 |
| 07 | Setting of shuttle Box ,Box Swell ,Shuttle Feeler and Weft Feeler in an Auto Loom | 10 |
| 08 | Study of climax Dobby, Mounting and motion to different parts | 7 |
| 09 | Study of pegging the lattice in a dobby ,settings and defects | 8 |
| 10 | Study of double lift ,double cylinder ,swinging type Jacquard in a loom | 7 |
| 11 | Study of card cutting device and preparation of cards as per design | 7 |
| TOTAL | | 90 |

# Pr.3 Textile chemical Processing-ll (Lab.)

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **Pr-3** | **Semester:** | **4th** |
| **Total Period:** | **90** | **Examination:** | **3hours** |
| **Lab. Periods:** | **6P/Week** | **Sessional:** | **25** |
| **Maximum Marks:** | **100** | **End Semester Examination** | **75** |

**A. Rationale :**

A diploma students will acquire practical knowledge and skill about Chemical processing of textiles i.e. Dyeing, printing and finishing etc.

**B. Objective :** After completion of this subject the students will able to

1. analysis and identify different dye stuff .

2. work on dyeing, Printing & finishing of natural and synthetic fabric.

| Experiment No | Topics | Topic wise distribution of periods in hours |
|---|---|---|
| 01 | Dyeing of nylon with acid dyes | 03 |
| 02 | Dyeing of polyester with disperse dyes | 10 |
| 03 | Analysis & Identification of dye | 10 |
| 04 | Direct printing with pigment colour | 05 |
| 05 | Direct printing of cotton with receptive & vat dyes | 15 |
| 06 | Printing of Nylon fabric | 02 |
| 07 | Printing polyester with disperse dyes | 05 |
| 08 | Softening & Stiffening | 05 |
| 09 | Finishing processes | 05 |
| TOTAL | | 60 |

# Pr.4 Technical Seminar

| Name of the Course: Diploma in Textile Technology /Engineering | | | |
|---|---|---|---|
| **Course Code:** | **Pr-4** | **Semester:** | **4th** |
| **Total Period:** | **30** | **Examination:** | |
| **Lab. Periods:** | **2P/Week** | **Sessional:** | **50** |
| **Maximum Marks:** | **50** | **End Semester Examination** | **-** |

**A. Rationale :**

A diploma students will acquire knowledge and skill about to deliver seminar in English.

**B. Objective :** After completion of this subject the students will able to

1. Deliver a talk on any Technical /Non Technical subjects .

2. know how to prepare PPT and how to represent a topic in front of Schools of thought. .

**C. Procedure:**

1 Class should be divided into smaller of not more than four in each Group . One group should be assigned a topic for the seminar. The topic should be usually elated to their course of students. Each students of the group should prepare on a particular aspect of the main topic with active support and guidance from a teacher guide. The students should be encouraged to extensively use the library facilities and also collect relevant material from different technical magazines and journals. Each student should be usually asked to present his paper on the topic of the seminar within 15minutes after which a question answer session may follow for 5 minutes

2 Students should be encouraged to display newspaper clipping and managing emerging technology on the date of the seminar.

3 The Termed work record should be maintained and evaluated by a faculty members and the final marks should be awarded. 4

# List of Machineries /Equipments for Textile Tech/Engg

**Fourth Semester**

| Sl No | Name of Machineries /Equipments | Required No |
|---|---|---|
| 01 | Draw Frame | 01unit |
| 02 | Simplex( 10 spindles) | 01no |
| 03 | Over pick loom | 01no |
| 04 | under Pick loom | 01no |
| 05 | Automatic Pirn changing Loom | 01no |
| 06 | Dobby(12 shaft) | 01no |
| 07 | Jacquard(400 hooks) | 01 nos |
| 08 | HT & HP dyeing M/C | 01no |
| 09 | Printing Table | 01no |
| 10 | Screen & Block for Printing | Hand sum amount |
| 11 | Hot air Drying M/c | 01no |
| 12 | Steamer | 01no |