

# LESSON PLAN

## DEPARTMENT OF TEXTILE TECHNOLOGY I. T.T CHOUDWAR

Subject: yarn manufacture-III

Semester: 5<sup>th</sup>

Periods: 4/week

Name of Faculty: Sri Rajiblochana Sahoo

No. of weeks/sem. as per SCTE&VT Odisha, Textile Tech./ Engg. : 15

| Week            | Class Day       | Theory / Practical Topics   |
|-----------------|-----------------|---|
| 1st             | 1 <sup>st</sup> | Revision of YM-II   |
|                 | 2 <sup>nd</sup> | Purpose of ring spinning  |
|                 | 3 <sup>rd</sup> | Study of passage of material in R/F                                     |
|                 | 4 <sup>th</sup> | Study of different parts and functions of R/F                           |
| 2nd             | 1 <sup>st</sup> | Concept of modern drafting system in R/F                                |
|                 | 2 <sup>nd</sup> | Top roller weighting system, top covering and mounting                  |
|                 | 3 <sup>rd</sup> | Roller setting in R/F   |
|                 | 4 <sup>th</sup> | Concept of spinning triangle , cots and aprons                          |
| 3rd             | 1 <sup>st</sup> | Study of rings and travelers  |
|                 | 2 <sup>nd</sup> | Study of function, size of rings and flange number, running in of rings |
|                 | 3 <sup>rd</sup> | Study of traveler, types, traveler number                               |
|                 | 4 <sup>th</sup> | Selection of proper traveler, factors affecting traveler                |
| 4 <sup>th</sup> | 1 <sup>st</sup> | Concept of twist in R/F and winding                                     |
|                 | 2 <sup>nd</sup> | Study of driving mechanism in R/F                                       |
|                 | 3 <sup>rd</sup> | Study of build of bobbin, building motion in R/F                        |
|                 | 4 <sup>th</sup> | End break aspiration data monitoring, piecing device                    |
| 5 <sup>th</sup> | 1 <sup>st</sup> | Study of end breakage rate and ballooning in R/F                        |
|                 | 2 <sup>nd</sup> | Study of ring data, automatic doffing                                   |
|                 | 3 <sup>rd</sup> | Special attachment like, auto doffing and pneumatic loading             |
|                 | 4 <sup>th</sup> | Study of gearing diagram in R/F   |
| 6 <sup>th</sup> | 1 <sup>st</sup> | Speed calculation in R/F  |
|                 | 2 <sup>nd</sup> | Maintainace schedule in R/F   |
|                 | 3 <sup>rd</sup> | Cost minimization and production efficiency in R/F                      |
|                 | 4 <sup>th</sup> | Brief idea on compact spinning  |
| 7 <sup>th</sup> | 1 <sup>st</sup> | Principles and concept of doubling                                      |
|                 | 2 <sup>nd</sup> | Concept of wet and dry doubling, methods of threading                   |
|                 | 3 <sup>rd</sup> | Study of creels, building motion, spindles in doublers                  |

|                  |                 |  |
|------------------|-----------------|--|
|                  | 4th             | Concept of balanced twist in ring doublers           |
| 8 <sup>th</sup>  | 1 <sup>st</sup> | Twist in double yarn and its relation to single yarn |
|                  | 2 <sup>nd</sup> | Twist calculation                                    |
|                  | 3 <sup>rd</sup> | Study of TFO   |
|                  | 4 <sup>th</sup> | Contd.... TFO  |
| 9 <sup>th</sup>  | 1 <sup>st</sup> | Study of fancy doubler and fancy yarns               |
|                  | 2 <sup>nd</sup> | Study of different types of yarn                     |
| 9 <sup>th</sup>  | 3 <sup>rd</sup> | Concept of cable yarn and cord yarn its uses         |
|                  | 4 <sup>th</sup> | <b>Doubt clearing/ short fall class.</b>             |
| 10 <sup>th</sup> | 1 <sup>st</sup> | Need of modern spinning system                       |
|                  | 2 <sup>nd</sup> | Working mechanism of rotor spinning                  |
|                  | 3 <sup>rd</sup> | Study of friction spinning system                    |
|                  | 4 <sup>th</sup> | Production calculation                               |
| 11 <sup>th</sup> | 1 <sup>st</sup> | Maintenance schedule                                 |
|                  | 2 <sup>nd</sup> | Gearing diagram                                      |
|                  | 3 <sup>rd</sup> | Concept of air jet spinning                          |
|                  | 4 <sup>th</sup> | Study of twist less spinning                         |
| 12 <sup>th</sup> | 1 <sup>st</sup> | Brief idea on self twisted yarn                      |
|                  | 2 <sup>nd</sup> | Study of Siro spinning                               |
|                  | 3 <sup>rd</sup> | Calculation related to modern spinning               |
|                  | 4 <sup>th</sup> | Calculation related to modern spinning               |
| 13 <sup>th</sup> | 1 <sup>st</sup> | Defects and remedies                                 |
|                  | 2 <sup>nd</sup> | Comparative study different spinning system          |
|                  | 3 <sup>rd</sup> | Concept of woolen spinning                           |
|                  | 4 <sup>th</sup> | Wool opening, cleaning and carding operation         |
| 14 <sup>th</sup> | 1 <sup>st</sup> | Woolen spinning and worsted spinning system          |
|                  | 2 <sup>nd</sup> | Outline of Bradford and Continental system           |
|                  | 3 <sup>rd</sup> | Concept of worsted card and semi worsted card        |
|                  | 4 <sup>th</sup> | Study of Gill box concept                            |
| 15 <sup>th</sup> | 1 <sup>st</sup> | Study of filament yarn                               |
|                  | 2 <sup>nd</sup> | Brief study on worsted D/F, R/F and finisher R/F     |
|                  | 3 <sup>rd</sup> | Yarn quality parameter analysis                      |
|                  | 4 <sup>th</sup> | <b>Doubt clearing/ Revision</b>                      |