LESSON PLAN

DEPARTMENT OF TEXTILE TECHNOLOGY, ITT, CHOUDWAR

SUBJECT: YARN MANUFACTURING -II

Periods: 4/Week

SEMESTER: 4th

NAME OF FACULTY: Maheswar Bhutia

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

Ist 2nd Objects of drawing 3rd Principle of drafting and doubling 4th Passage of material in draw frame 2nd 1st Study of different parts of draw frame 2nd 2nd Study of modern drafting system 3rd Concept of roller setting, drafting waves 4th Technological design change in modern draw frame 3rd 2nd Study of drafting roller arrangement 3rd 2nd Study of drafting roller arrangement 3rd 0nline monitoring and auto leveling suction arrangement 3rd 1st Discussion on maintenance schedule in drafting 4th Discussion on fiber presentation and pre-comb draft 3rd Discussion on fiber presentation and pre-comb draft 3rd Ubjects of combing 4th Discussion on combing cycle, types feeding 1st Study of clamping line and c	Week	Class Day	Theory / Practical Topics
Ard Principle of drafting and doubling 4th Passage of material in draw frame 2nd 1st Study of different parts of draw frame 2nd 2nd Study of modern drafting system 3rd Concept of roller setting, drafting waves 4th Top roller weighting, electronic stop motion 4th Technological design change in modern draw frame 3rd 2nd Study of drafting roller arrangement 3rd 0nline monitoring and auto leveling suction arrangement 4th Discussion on maintenance schedule in drafting 4th Study of sliver doubling and lap doubling 4th Study of sliver doubling and lap doubling 4th Study of different settings involved in comber 3rd Discussion on combing cycle, types feeding 4th Discussion on combing cycle, types feeding 4th Discussion on combing cycle, types feeding 3rd Degree of combing 4th Performance of combing cycle 4th Performance of combing cycle 4th Discussion on combing cycle 4th Discussion combing		1 st	Revision of YM-I
3rd Principle of drafting and doubling 4th Passage of material in draw frame 2nd 1st Study of different parts of draw frame 2nd 2nd Study of modern drafting system 3rd Concept of roller setting, drafting waves 1st Technological design change in modern draw frame 3rd 2nd Study of drafting roller arrangement 3rd 2nd Study of auto motion in dofing 4th Discussion on maintenance schedule in drafting 4th Discussion on fiber presentation and pre-comb draft 3rd Discussion on fiber presentation and pre-comb draft 3rd Discussion on fiber presentation and pre-comb draft 3rd Degree of combing 3rd Degree of combing 3rd Degree of combing 3rd Degree of combing 3rd Degree of combing ine and clamp setting 6th Discussion on combing cycle, types feeding 4th Discussion or combing cycle 4th Discussion or combing cycle 4th Discussion or combing cycle 4	1st	2 nd	Objects of drawing
4th Passage of material in draw frame 2nd 1st Study of different parts of draw frame 2nd 2nd Study of modern drafting system 3rd Concept of roller setting, drafting waves 4th Top roller weighting, electronic stop motion 4th Technological design change in modern draw frame 2nd Study of drafting roller arrangement 3rd 2nd Study of auto motion in dofing 4th Study of auto motion in dofing 4th Discussion on maintenance schedule in drafting 2nd Need for lap preparation 2nd Study of sliver doubling and lap doubling 4th Study of different settings involved in comber 2nd Objects of combing 3rd Degree of combing 4th Discussion on combing cycle, types feeding 1st Principle of uning machine 2nd Study of clamping line and clamp setting 3rd Degree of combing 4th Discussion on combing cycle, types feeding 4th Discussion or combing cycle, types feeding 4th Discussin on combing cycle 1st		3 rd	Principle of drafting and doubling
2nd1stStudy of different parts of draw frame2nd2ndStudy of modern drafting system3rdConcept of roller setting, drafting waves3rd1stTechnological design change in modern draw frame3rd2ndStudy of drafting roller arrangement3rd2ndOnline monitoring and auto leveling suction arrangement3rd0nline monitoring and auto leveling suction arrangement4thDiscussion on maintenance schedule in drafting4thDiscussion on maintenance schedule in drafting4thStudy of sliver doubling and lap doubling4thStudy of sliver doubling and lap doubling4thPrinciple of unilap machine5th2ndObjects of combing3rdDegree of combing3rdDegree of combing3rdStudy of different settings involved in comber5th2ndStudy of clamping line and clamp setting6th2ndStudy of clamping line and clamp setting3rdDiscussion on combing cycle, types feeding3rdDonery of nips/min and concentric nipper movement9th1stMachinery setting7th2ndWire geometry3rdDrafting arrangement and calculation related to draft4thConcept of actual draft and mechanical draft4thConcept of actual draft and mechanical draft9th1stFeatures of modern comber3rdWorking mechanism of modern comber3rdConcept of nips/min and concentric nipper movement2nd<		-	Passage of material in draw frame
2 nd Study of modern training system 3 rd Concept of roller setting, drafting waves 4th Top roller weighting, electronic stop motion 4th Technological design change in modern draw frame 3 rd 2 nd Study of arting roller arrangement 3 rd Online monitoring and auto leveling suction arrangement 4 th Study of auto motion in dofing 4 th Discussion on maintenance schedule in drafting 4 th 2 nd Need for lap preparation 3 rd Discussion on fiber presentation and pre-comb draft 3 rd Discussion on fiber presentation and pre-comb draft 4 th Principle of unilap machine 2 ^{rdd} Objects of combing 4 th Discussion on combing cycle, types feeding 4 th Discussion on combing cycle, types feeding 6 th 3 rd Concept of nips/min and concentric nipper movement 7 th 2 nd Study of auto mething cycle 4 th Performance of combing cycle 4 th Preformance of combing cycle 7 th 2 nd Study of auto leveling		1 st	
Jet Top roller weighting, electronic stop motion 4th Technological design change in modern draw frame 3rd 2nd Study of drafting roller arrangement 3rd 2nd Online monitoring and auto leveling suction arrangement 4th Discussion on maintenance schedule in drafting 4th 2nd Need for lap preparation 3rd Discussion on fiber presentation and pre-comb draft 3rd Study of sliver doubling and lap doubling 4th Study of sliver doubling and lap doubling 4th Discussion on combing cycle, types feeding 3rd Degree of combing 3rd Degree of combing sincolved in comber 2nd Study of different settings involved in comber 2nd Study of clamping line and clamp setting 6 th 3 rd Concept of nips/min and concentric nipper movement Performance of combing cycle 4 th 7 th 1 st Machinery setting 7 th 1 st Machinery setting 7 th 2 nd Vire geometry 3 rd Drafting arrangement and calculation rel	2nd	2 nd	Study of modern drafting system
4th 1 st 1 st Technological design change in modern draw frame 3rd 2nd Study of drafting roller arrangement 3rd Online monitoring and auto leveling suction arrangement 4th Study of auto motion in dofing 4th Discussion on maintenance schedule in drafting 2nd Need for lap preparation 3rd Discussion on fiber presentation and pre-comb draft 3rd Study of sliver doubling and lap doubling 4th Study of sliver doubling and lap doubling 4th Degree of combing 3rd Degree of combing 3rd Degree of combing cycle, types feeding 3rd Degree of combing cycle, types feeding 3rd Study of clamping line and clamp setting 6 th 3rd 2nd Study of clamping line and clamp setting 3rd Concept of nips/min and concentric nipper movement Performance of combing cycle Performance of combing cycle 4th Concept of actual draft and mechanical draft 4th Concept of actual draft and mechanical draft 4th		3 rd	Concept of roller setting, drafting waves
Ist Technological design change in modern draw frame3rd2ndStudy of drafting roller arrangement3rdOnline monitoring and auto leveling suction arrangement4thStudy of auto motion in dofing4th1stDiscussion on maintenance schedule in drafting2ndNeed for lap preparation3rdDiscussion on fiber presentation and pre-comb draft3rdStudy of sliver doubling and lap doubling4th1st2ndObjects of combing3rdDegree of combing3rdDegree of combing3rdDiscussion on combing cycle, types feeding3rdDiscussion on combing cycle, types feeding6th2nd2ndStudy of clamping line and clamp setting4thPerformance of combing cycle4thPerformance of combing cycle4thPerformance of combing cycle4thNachinery setting7th1st1stMachinery setting7th1st2ndDrafting arrangement and calculation related to draft4thConcept of actual draft and mechanical draft8th1st2ndNeed of modern comber4thCosting calculation in combing3rdDrafting arrangement and calculation related to draft4thCosting calculation in comber4thCosting calculation in comber4th2nd2ndNeed of modern comber4thCosting calculation in combing3rd1st			Top roller weighting, electronic stop motion
3rd 2nd Study of drafting roller arrangement 3rd 0nline monitoring and auto leveling suction arrangement 4th Study of auto motion in dofing 4th 1st Discussion on maintenance schedule in drafting 2nd Need for lap preparation Discussion on fiber presentation and pre-comb draft 3rd Discussion on fiber presentation and pre-comb draft 3rd Study of sliver doubling and lap doubling 4th 4th 2nd Objects of combing 3rd Degree of combing 3rd Degree of combing cycle, types feeding 4th Discussion on combing cycle, types feeding 6th 2nd Study of clamping line and clamp setting 1st Study of auto leveling cycle 2nd Concept of nips/min and concentric nipper movement Performance of combing cycle 4th 1st Machinery setting 7th 1st Machinery setting 1st Study of auto leveling 8th 2nd Drafting arrangement and calculation related to draft 4th Concept of actual draft and mechanical draft 2nd			Technological design change in modern draw frame
3rd Online monitoring and auto leveling suction arrangement 4th Study of auto motion in dofing 4th 1st Discussion on maintenance schedule in drafting 2rd Need for lap preparation 3rd Discussion on fiber presentation and pre-comb draft 3rd Study of sliver doubling and lap doubling 4th The principle of unilap machine 2rd Objects of combing 3rd Degree of combing 4th Discussion on combing cycle, types feeding 3rd Degree of combing 4th Discussion on combing cycle, types feeding 3rd Study of different settings involved in comber 2nd Study of nips/min and concentric nipper movement Performance of combing cycle Performance of combing cycle 4th Performance of combing cycle 4th Performance of combing cycle 4th Concept of nips/min and calculation related to draft 4th Concept of actual draft and mechanical draft 2nd Drafting arrangement and calculation related to draft 4th Concept of actual draft and mechanical draft 2nd Need of modern comber </td <td>0.1</td> <td></td> <td></td>	0.1		
3^{th} Study of auto motion in dofing 4^{th} 1stDiscussion on maintenance schedule in drafting 2^{nd} Need for lap preparation 3^{rd} Discussion on fiber presentation and pre-comb draft 3^{rd} Study of sliver doubling and lap doubling 4^{th} 2^{nd} 3^{rd} Degree of combing 3^{rd} Degree of combing 3^{rd} Degree of combing 3^{rd} Degree of combing vertice, types feeding 3^{rd} Degree of combing line and clamp setting 6^{th} 3^{rd} Concept of nips/min and concentric nipper movement $Performance of combing cycle4th1^{st}Machinery setting7^{th}2^{nd}2^{nd}Wire geometry3^{rd}Drafting arrangement and calculation related to draft4^{th}Concept of actual draft and mechanical draft4^{th}Costing calculation in comber3^{rd}Wire geometry3^{rd}Need of modern comber4^{th}Costing calculation in combing9^{th}1^{st}9^{th}1^{st}2^{nd}Comparative study of comber and draw frame$	3rd		
4th1stDiscussion on maintenance schedule in drafting4th2ndNeed for lap preparation3rdDiscussion on fiber presentation and pre-comb draft3rdStudy of sliver doubling and lap doubling4thPrinciple of unilap machine5th2ndObjects of combing3rdDegree of combing4thDiscussion on combing cycle, types feeding4thDiscussion on combing cycle, types feeding4thDiscussion on combing cycle, types feeding6th2ndStudy of clamping line and clamp setting3rdConcept of nips/min and concentric nipper movementPerformance of combing cycle4thVire geometry3rdDrafting arrangement and calculation related to draft4thConcept of actual draft and mechanical draft4thConcept of actual draft and mechanical draft4thCocept of actual draft and mechanical draft4thCosting calculation in comber3rdYorking mechanism of modern comber4thCosting calculation in combing3rdYorking mechanism of modern comber3rdWorking mechanism of modern comber3rdZnd3rdWorking mechanism of modern comber3rdYork		314	
$ \begin{array}{c c c c c c } & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & $		4th	
$\frac{2^{nd}}{9^{nd}} = \frac{1}{1} $	41-	1 st	Discussion on maintenance schedule in drafting
3rdStudy of sliver doubling and lap doubling4thStudy of sliver doubling and lap doubling5 th 1 st Principle of unilap machine3rdDegree of combing3rdDegree of combing4thDiscussion on combing cycle, types feeding4thDiscussion on combing cycle, types feeding6 th 2nd2ndStudy of clamping line and clamp setting3rdConcept of nips/min and concentric nipper movementPerformance of combing cycle4thPerformance of combing cycle4thConcept of actual draft and mechanical draft7 th 2 nd 1 st Machinery setting7 th 1 st 2 nd Orafting arrangement and calculation related to draft4thConcept of actual draft and mechanical draft8 th 1 st 3rdWorking mechanism of modern comber3rdWorking mechanism of modern comber9 th 1 st 9 th 1 st 9 th 2 nd 2 nd Comparative study of comber and draw frame	4^{tn}	2 nd	Need for lap preparation
Study of sliver doubling and lap doubling4th1stPrinciple of unilap machine5 th 2 nd Objects of combing3rdDegree of combing4thDiscussion on combing cycle, types feeding4thDiscussion on combing cycle, types feeding6 th 1st2ndStudy of clamping line and clamp setting3rdConcept of nips/min and concentric nipper movementPerformance of combing cycle4th1st1stMachinery setting7 th 2 nd 1stMachinery setting3rdDrafting arrangement and calculation related to draft4thConcept of actual draft and mechanical draft4thConcept of actual draft and mechanical draft8 th 1st2ndNeed of modern comber3rdOverling mechanism of modern comber4thCosting calculation in combing9 th 1 st 2 nd Comparative study of comber and draw frame		2.1	Discussion on fiber presentation and pre-comb draft
$\frac{4th}{1^{st}} = \frac{1}{1^{rtnciple of unilap machine}}$ $5^{th} = \frac{2^{nd}}{2^{nd}} = \frac{0 \text{ Objects of combing}}{0 \text{ Objects of combing}}$ $\frac{3^{rd}}{4^{th}} = \frac{1}{1^{st}} = \frac{1}{1^{$		3rd	Study of sliver doubling and lan doubling
$5^{\text{th}} \qquad \begin{array}{c c c c c } \hline 2^{nd} & Objects of combing \\ \hline 2^{nd} & Degree of combing \\ \hline 3^{rd} & Degree of combing cycle, types feeding \\ \hline 4^{th} & Discussion on combing cycle, types feeding \\ \hline 1^{st} & Study of different settings involved in comber \\ \hline 2^{nd} & Study of clamping line and clamp setting \\ \hline 3^{rd} & Concept of nips/min and concentric nipper movement \\ \hline 2^{nd} & Performance of combing cycle \\ \hline 4^{th} & Performance of combing cycle \\ \hline 4^{th} & Performance of combing cycle \\ \hline 1^{st} & Machinery setting \\ \hline 2^{nd} & Wire geometry \\ \hline 3^{rd} & Drafting arrangement and calculation related to draft \\ \hline 4^{th} & Concept of actual draft and mechanical draft \\ \hline 4^{th} & Concept of actual draft and mechanical draft \\ \hline 3^{rd} & Need of modern comber \\ \hline 3^{rd} & Working mechanism of modern comber \\ \hline 4^{th} & Costing calculation in combing \\ \hline 9^{th} & \frac{1^{st}}{2^{nd}} & Features of modern comber \\ \hline 2^{nd} & Comparative study of comber and draw frame \\ \hline \end{array}$		4th	
$\frac{2^{nd}}{3^{rd}} = \frac{3^{rd}}{3^{rd}} = 3^$	_th	1 st	
4thDiscussion on combing cycle, types feeding1stStudy of different settings involved in comber2ndStudy of clamping line and clamp setting3rdConcept of nips/min and concentric nipper movementPerformance of combing cycle4thPerformance of combing cycle7th1st2ndWire geometry3rdDrafting arrangement and calculation related to draft4thConcept of actual draft and mechanical draft8th1st3rdNeed of modern comber3rdNeed of modern comber3rdWorking mechanism of modern comber4thCosting calculation in combing9th1st2ndComparative study of comber and draw frame	5 ^m	2 nd	Objects of combing
$ \begin{array}{c} 1^{\mathrm{st}} & \mathrm{Study \ of \ different \ settings \ involved \ in \ comber} \\ \hline 2 \mathrm{nd} & \mathrm{Study \ of \ clamping \ line \ and \ clamp \ setting} \\ \hline 3 \mathrm{rd} & \mathrm{Concept \ of \ nips/min \ and \ concentric \ nipper \ movement} \\ \hline 4 \mathrm{th} & \mathrm{Performance \ of \ combing \ cycle} \\ \hline 4 \mathrm{th} & 1^{\mathrm{st}} & \mathrm{Machinery \ setting} \\ \hline 7^{\mathrm{th}} & \frac{1^{\mathrm{st}} & \mathrm{Machinery \ setting} \\ \hline 2^{\mathrm{nd}} & \mathrm{Wire \ geometry} \\ \hline 3 \mathrm{rd} & \mathrm{Drafting \ arrangement \ and \ calculation \ related \ to \ draft \\ \hline 4 \mathrm{th} & \mathrm{Concept \ of \ actual \ draft \ and \ mechanical \ draft \\ \hline 4 \mathrm{th} & \mathrm{Concept \ of \ actual \ draft \ and \ mechanical \ draft \\ \hline 4 \mathrm{th} & \mathrm{Concept \ of \ actual \ draft \ and \ mechanical \ draft \\ \hline 4 \mathrm{th} & \mathrm{Concept \ of \ actual \ draft \ and \ mechanical \ draft \\ \hline 3 \mathrm{rd} & \mathrm{Need \ of \ modern \ comber} \\ \hline 3 \mathrm{rd} & \mathrm{Need \ of \ modern \ comber} \\ \hline 3 \mathrm{rd} & \mathrm{Working \ mechanism \ of \ modern \ comber} \\ \hline 4 \mathrm{th} & \mathrm{Costing \ calculation \ in \ combing} \\ \hline 9^{\mathrm{th}} & \frac{1^{\mathrm{st}} & \mathrm{Features \ of \ modern \ comber} \\ \hline 2^{\mathrm{nd}} & \mathrm{Comparative \ study \ of \ comber \ and \ draw \ frame} \\ \hline \end{array}$		3rd	
$ \begin{array}{c c} & 1 & 1 & 1 \\ \hline 2nd & Study of clamping line and clamp setting \\ \hline 3rd & Concept of nips/min and concentric nipper movement \\ \hline \\ & 1 & Performance of combing cycle \\ \hline \\ & 4th & Performance of combing cycle \\ \hline \\ & 4th & Performance of combing cycle \\ \hline \\ & 4th & Machinery setting \\ \hline \\ & 2^{nd} & Wire geometry \\ \hline \\ & 3rd & Drafting arrangement and calculation related to draft \\ \hline \\ & 4th & Concept of actual draft and mechanical draft \\ \hline \\ & 4th & Concept of actual draft and mechanical draft \\ \hline \\ & 4th & Concept of actual draft and mechanical draft \\ \hline \\ & 8th & \frac{1^{st}}{2nd} & Study of auto leveling \\ \hline \\ & 3rd & Working mechanism of modern comber \\ \hline \\ & 4th & Costing calculation in combing \\ \hline \\ & 9^{th} & \frac{1^{st}}{2^{nd}} & Features of modern comber \\ \hline \\ & 9^{th} & \frac{1^{st}}{2^{nd}} & Comparative study of comber and draw frame \\ \hline \end{array}$		4th	
$ \begin{array}{c c} 6^{th} & \hline & 3rd & Concept of nips/min and concentric nipper movement \\ \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline & & \\ \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline \hline \hline & & \\ \hline \hline \hline & & \\ \hline \hline \hline \hline$			
$\frac{1}{9^{th}}$ $\frac{1}$	∠ th		
$\frac{4\text{th}}{1^{\text{st}}} \qquad \frac{1^{\text{st}}}{\text{Machinery setting}} \\ \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{\text{Wire geometry}} \\ \frac{3\text{rd}}{3\text{rd}} \qquad \frac{1^{\text{st}}}{1^{\text{st}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \\ \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \\ \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \\ \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \\ \frac{1^{\text{st}}}{2^{\text{nd}}} \qquad \frac{1^{\text{st}}}{2^{\text{nd}}} \\ 1^{\text{$	0	3rd	
$7^{th} \begin{array}{ c c c c } \hline & & & & & & & \\ \hline & & & & & \\ \hline & & & &$		4th	Performance of combing cycle
$9^{th} = \frac{2^{td}}{2^{nd}}$ Write geometry $\frac{3 rd}{3 rd} = \frac{3 rd}{1 rangement}$ $\frac{3 rd}{4 th} = \frac{1 rangement}{2 rangement}$ $\frac{1 rangement}{4 th} = \frac{1 rangement}{2 rangement}$ $\frac{1 rangement}{2 rangement}$		1 st	Machinery setting
$9^{th} \begin{array}{ c c c } \hline & & & & & & & & & & \\ \hline & & & & & & \\ \hline & & & &$	7^{th}	2 nd	Wire geometry
$9^{th} \begin{array}{ c c c }\hline & 4th & Concept of actual draft and mechanical draft \\ \hline & 4th & Concept of actual draft and mechanical draft \\\hline & 1^{st} & Study of auto leveling \\\hline & 2nd & Need of modern comber \\\hline & 3rd & Working mechanism of modern comber \\\hline & 4th & Costing calculation in combing \\\hline & 1^{st} & Features of modern comber \\\hline & 2^{nd} & Comparative study of comber and draw frame \\\hline \end{array}$		3rd	Drafting arrangement and calculation related to draft
8 th 2nd Need of modern comber 3rd Working mechanism of modern comber 4th Costing calculation in combing 9 th 1 st 2 nd Comparative study of comber and draw frame		4th	
$9^{th} \begin{array}{ c c c c c }\hline & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & $	_	1 st	Study of auto leveling
4th Costing calculation in combing 9 th 1 st Features of modern comber 2 nd Comparative study of comber and draw frame	8^{th}	2nd	Need of modern comber
9 th $\frac{1^{\text{st}}}{2^{\text{nd}}}$ Features of modern comber Comparative study of comber and draw frame		3rd	Working mechanism of modern comber
9 th 2^{nd} Comparative study of comber and draw frame		4th	
2^{nd} Comparative study of comber and draw frame	.1	1 st	Features of modern comber
^{3rd} Production and efficiency calculation	9 th	2 nd	Comparative study of comber and draw frame
		3 rd	Production and efficiency calculation

I F	4th	Sustainable development in combing
	1 st	Production waste in combing
10 th	1	-
10	2 nd	Maintenance schedule in combing
	3 rd	Concept of carded yarn, combed yarn
	4th	Doubt clearing/ short fall class.
th	1^{st}	Objects of speed frame
11 th	2 nd	Study of passage of material in a speed frame
	3 rd	Study of different parts and function of S/F
	4th	Study of modern drafting system
41-	1^{st}	Principle of twisting, winding
12 th	2 nd	Concept of false and actual twist
	3 rd	Study of twist and its need
	4th	Concept of package build up
13^{th}	1^{st}	Study of differential motion in S/F
	2 nd	Study of modern development in S/F
	3 rd	Concept of draft builder, twist driving system
	4th	Contd Creel, package size
	1^{st}	Contd roving tension control, flyer, suction system
1 4th	2 nd	Roving defects and their remedies
14 th	3 rd	Production efficiency assessment
	4th	Calculation related to S/F
41	1^{st}	Drafting arrangement
15 th	2 nd	Concept of back draft
	3 rd	Maintenance schedule in S/F
	4th	Doubt clearing/ Revision

Name: Maheswar Bhutia PTGF, ITT, Choudwar.