



SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and
Technology
Bachelor of Engineering



B E IVth Year: Semester – VII

Subject Name: Textile Mill Management

Subject Code: BTTT13703

Type of course: ~~BSC/ESC/HSM/PCC/PEC/OEC/MD~~ Professional Core Course

Prerequisite (if any): Basic knowledge of Spinning, Yarn preparation and Weaving machines.

List of Courses where this course will be prerequisite: All Textile course related to Production planning and overall management of Textile Unit

Rationale: Mill Management, Production planning, machine calculation and cost calculation in different departments of textile unit, is necessary for achieving production targets and manage delivery schedule for customer.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
4	0	2	5	60	25	15	30	20	150

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests CA2: Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Content	Total Hrs

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1	Basics of Production planning in spinning department.	2
2	Preparation of spin plan for carded yarn and combed yarn.	8
3	Preparation of production schedules for carded yarn and combed yarn. Production calculation of Blow room, Card, Lap forming, Comber, Draw Frame Speed frame, Ring Frame and calculation of number of machines required.	8
4	Preparation of Spin plan and production schedule for Open end spinning. Production planning for open end spinning and machine calculation.	4
5	Preparation of Spin plan and production schedule for producing blended yarn. Production planning for blended yarn and machine calculation.	4
6	Basics of Production planning in yarn preparatory and weaving department.	2
7	Preparation of production schedules for warp and weft yarns for shuttle and shuttle less looms. Production calculation of winding, warping, sizing and pirn winding departments. Production planning for the weaving department. Multi sort working in the weaving shed, allocation of looms. Formula for reed and ends calculation. Production calculation for shuttle and shuttleless weaving machines. Calculation of number of looms required.	14
8	Production planning and production calculation for Knitting, Texturising and TFO.	8
9	Maintenance of Textile machines: Types of maintenance. Maintenance check points for all Spinning machines from Blow room to Ring frame, Yarn preparatory and Weaving departments- shuttle and shuttleless looms.	4
10	Elements of costing - capital cost, running cost, cost /kg calculation for yarn, cost per meter calculation for fabric. Depreciation – Causes, Calculation methods – straight line method, reducing balance method, sum of years digit method.	6

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level

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20	15	10	5	5	5
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Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr no	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Weaving Calculation	SenGupta R	Taraporevala & sons	1996	
2	Textile Mathematics Vol.1	Booth J.E	Textile Institute Manchester ISBN - 0-900739-16-9	1975	
3	Textile Mathematics Vol.2	Booth J.E	Textile Institute Manchester ISBN - 0-900739-19-3	1975	
4.	Textile Mechanics and Spinning Calculations	Jagannathan , R	Mahajan Book Dist.Ahmedabad ISBN -81-85401-19-5	2003	
5	Modern Approach to Maintenance in Spinning	Nijjaawan Neeraj	Woodhead Pub.Ltd, London ISBN - 978-93-80308-02-9	2010	

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6	Modern Textile Management	Rattan, J.B	Abhishek Pubs Chandigarh ISBN - 81-8247-165-6	2007	
7	Weaving: Machines Mechanisms Management	Talukdar M.K., Sriramulu, P. K	Mahajan Book Dist Ahmedabad ISBN - 81-85401-16-0	1998	
8	Cost Control and Costing in Spinning Mills.	Doraiswamy, Indra	South india textile research association(SITRA)- Coimbatore ISBN -	1992	
9	Management of Textile Production	A Ormerod	Butterworth-Heinemann Ltd ISBN -978-0408003810	1979	
10	Spinning and Weaving Tablets		ATIRA		

Course Outcomes:

Sr. No.	CO statement	Marks weightage	%
CO-1	Prepare spin plan and weave plan for different varieties.	15	
CO-2	Prepare production schedule, calculate production of spinning , preparatory and weaving machines and calculate number of machines required as per production schedule.	40	

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w.e.f. AY 2021-22



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CO-3	Production calculation for Knitting, Texturising and TFO.	15
CO-4	Carry out maintenance of all spinning, preparatory and weaving machines.	15
CO-5	Calculate yarn cost and machine depreciation.	15

Mapping with POs:

	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	P S O 1	P S O 2	P S O 3
CO-1	3	3	2	2	3	1	1	0	2	1	3	2	3	3	2
CO-2	3	3	2	2	3	1	1	0	2	1	3	2	3	3	2
CO-3	3	3	2	2	3	1	1	0	2	1	3	2	3	3	2
CO-4	3	2	2	1	2	1	2	0	2	1	2	2	3	3	1
CO-5	2	1	1	0	1	1	1	0	1	0	1	2	3	3	0
Rationale*	3	3	2	2	3	1	1	0	2	1	3	2	3	3	2

Rationale*: Management of a Textile unit, which includes Production planning, machine calculation and cost calculation of yarn and fabric is necessary for achieving production targets and cost control. The study of the subject leads to achievement of various PO.

List of Open learning website: <https://nptel.ac.in>

List of Open Source Software: <https://nptel.ac.in>, web site of Textile machine manufacturers

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FOR LAB SESSIONS:

List of Experiments:

- 1) Prepare project report with spin plan, production schedule number of machines required for producing carded yarn
- 2) Prepare layout of spinning mill producing carded yarn.
- 3) Prepare project report with spin plan, production schedule number of machines required producing combed yarn.
- 4) Prepare layout of spinning mill producing combed yarn.
- 5) Prepare project report with spin plan, production schedule number of machines required producing open end spinning.
- 6) Prepare layout of spinning mill producing open end yarn.
- 7) Prepare project report and lay out for yarn preparatory unit.
- 8) Prepare project report with weave plan, production schedule number of machines required in weaving unit with shuttle looms.
- 9) Prepare layout of weaving unit with shuttle looms.
- 10) Prepare project report with weave plan, production schedule number of machines required in weaving unit with shuttleless looms.
- 11) Prepare layout of weaving unit with shuttleless looms.
- 12) Prepare project report and lay out for unit with TFO, Texturising machine and knitting machines.
- 13) Calculation of yarn cost.
- 14) Calculation of fabric cost.

Major Equipment Needed:

Spinning Machines, Yarn preparatory and weaving machines, TFO, Knitting machine