



Veermata Jijabai Technological Institute (V.J.T.I)

(Central Technological Institute, Maharashtra State, INDIA)

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Program: Diploma in Textile Manufacture (DTM)

Semester: III

Implemented from: 2017

COURSE CODE	COURSE	GR	TEACHING SCHEME (HRS/WK)				EXAMINATION SCHEME														
			L	T	P	CR	PAPER HRS	TH		IST	TOTAL		PR		OR*		TW		TOTAL MARKS		
								Max	Min		Max	Min	Max	Min	Max	Min					
176M&E31	General Engineering	A	4	0	0	4	3	80	32	20	100	40	-	-	-	-	-	-	-	-	100
176TM32	Yarn Manufacture II	C	4	0	3	7	3	80	32	20	100	40	-	-	-	-	50	20	-	150	
176TM33	Fabric Manufacture II	C	4	0	3	7	3	80	32	20	100	40	-	-	-	-	50	20	-	150	
176TM34	Cloth Structure I	C	3	3	0	6	3	80	32	20	100	40	-	-	50	20	50	20	-	200	
176TM35	Textile Chemistry I	C	3	0	3	6	3	80	32	20	100	40	-	-	-	-	50	20	-	150	
176TM36	Professional Practices	M	-	-	2	2	-	-	-	-	-	-	-	-	-	-	50	20	-	50	
	TOTAL		18	3	11	32	-	400	-	100	500	-	-	-	50	-	250	-	-	800	

Abbreviations: B – Basic; C – Core; A – Applied; M – Management; L – Theory Lecture; T – Tutorial; P – Practical; TH – Theory Paper; MST – Mid-Semester Tests; PR – Practical Exam; OR – Oral Exam; TW – Term Work.

Student Contact Hours per week (Formal Teaching): 33 Hours

Theory, Practical and Tutorial periods are of 60 minutes duration

Total Marks 800

* Indicates assessment by External Examiner.


Curriculum Coordinator


Head
Diploma in Textile Manufacture


Dean - Diploma



DIPLOMA PROGRAMME	DIPLOMA IN TEXTILE MANUFACTURES
PROGRAMME CODE	DTM
SEMESTER	THIRD
COURSE TITLE	GENERAL ENGINEERING
COURSE CODE	176M&E31

Teaching scheme and Examination scheme:

Teaching Scheme				Paper Hours	Examination Scheme										Total Marks	
L	T	P	CR		Theory		MST	Total		Practical		Oral		Term work		
					Max	Min		Max	Min	Max	Min	Max	Min	Max	Min	
4	0	0	4	3	80	32	20	100	40	-	-	-	-	-	-	100

Course Objective:

The modern Textile mill is fully atomized and different types of motors, pumps, boilers and other types of electronic as well as mechanical devices are used. A student should have a good background in electrical electronics and mechanical engineering. This subject also deals with the various mechanical system requirements of textile mills.

Course Outcomes:

Students should able to

CO1	To identify the different electrical, electronic and mechanical devices & elements used in textile mills
CO2	To know the working of various electrical, electronic & mechanical devices in textile industry

Course Contents:

Section I								
Sr No	Topic	Contents	Hr	Mark	COR	R Level	U Level	A Level
1	AC Fundamentals	Terms related to single phase and three phase supply, Definition of AC quantities, Serial and parallel A.C. circuits	4	06	2	40	30	30
2	DC Machines	Introduction to D.C. Machines , DC generator---Construction, working principle, classification and applications for textile. D.C.Motors- construction ,working principle , classification and applications for textile.	8	12	1	30	40	30
3	Electrical Measurement	Measurement of current, voltage, power and energy in ac circuit.	4	10	2	40	30	30
4	Electronic devices	Definition:- Doping, P-N type of Semiconductor. I Diode Forward bias, reverse bias characteristics, Diode rectifier application .Zener diode voltage	5	08	2	40	30	30
5	Digital electronics	Binary number system, logic gates and	3	04	2	40	30	30

Section II								
6	Steam	Properties of steam, wet, dry and superheated steam, use of steam tables, dryness fraction, sensible heat, latent heat and super heat, dryness fraction, specific volume, heat units, applications of steam in textile industries	4	06	2	40	30	30
7	Steam Boilers	Steam boiler construction and application. Classification, packaged boilers, boiler specification, performance, efficiency and equivalent evaporation. Application of steam in power generation and process industries. Efficient distribution & utilization of steam. Boiler inspection & safety	8	10	2	40	30	30

8	Condensers	Condensers, classification, Types, their application in textile industry	2	04	1	40	30	30
9	Pumps	Pumps, classification & working. Application in Textile industry	2	04	1	40	30	30
10	Compressors	Air compressors, Classification, specification, application in Textile industry	2	04	1	40	30	30
11	Air conditioning & humidification	Principle of air conditioning and refrigeration, methods ton of refrigeration, DBT,WBT, Humidity Ratio, Relative humidity, Sensible heat & Cooling, method of humidification in textile mills	4	08	2	40	30	30
12	Power Transmission Devices	Gears, Belts, Chains, Ropes, Their types, Selection, construction and applications. Types of conveyors	2	04	1	40	30	30

TEXT BOOKS

1. Fundamentals of Electrical engineering and electronics, By B. L. Theraja , S.Chand & Company, 2009.
2. Electronics by V. K. Mehta, S. Chand & Company, 2007
3. Electronic Controls for Textile Machinery- NCUTE by Hiren Joshi, Gouri Joshi A.K. Gupta
4. Textile Robotics and Automation By Mahadevan , Abhishek Publication First edition,2012
5. A Textbook of Thermal Engineering by R. S. Khurmi and J. K. Gupta, S. Chand and Company, New Delhi
6. Theory of machines,S.S.Rattan ,McGraw-Hill Publications 38 th Edition 2003
7. Thermal Engineering by R.K.Rajput, Laxmi Publicashions (P) Ltd ,9th Edition 2013
8. Pippenger Hicks Industrial Hydraulics McGraw Hill International



DIPLOMA PROGRAMME	DIPLOMA IN TEXTILE MANUFACTURES
PROGRAMME CODE	DTM
SEMESTER	THIRD
COURSE TITLE	YARN MANUFACTURE- II
COURSE CODE	I76TM32

TEACHING AND EXAMINATION SCHEME:

TEACHING SCHEME				EXAMINATION SCHEME												
L	T	P	CR	PAPER HRS	TH		MST	TOTAL		PR		OR		TW		TOTAL MARKS
					Max	Min		M	Min	Max	Min	Max	Min	Max	Min	
4	0	3	7	3	80	32	20	10	40	-	-	-	-	50	20	150

Course Objectives:

- 1) State the objects of the combing preparatory machines and describe in detail their construction and working.
- 2) Understand the process of combing and drawframe and describe in detail the construction and working of comber and drawframe.
- 3) Calculate speeds, draft, production, noil percentage and roller setting parameters of comber preparatory, comber and drawframe.

Course Outcomes:

Student should be able to

CO1	Recall the basic operations of comber preparatory and comber.
CO2	Describe the construction and working of the comber preparatory and comber machines.
CO3	Apply the formulae in calculating speeds, drafts and production in combing preparatory and comber.
CO4	State the objects of the drawframe and the principles of high drafting systems.
CO5	Describe, discuss and explain the various operating zones of the drawframe, roller setting and weighting.
CO6	Apply the formulae for the calculation of speed, draft and production on the drawframe.
CO7	Plan and perform experiments related to comber preparatory, comber machines and drawframe.
CO8	To apply engineering knowledge for calculating speeds of various parts of machines, use of engineering tools for dismantling and setting of parts safely.

Course Content:

SECTION-I							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		Preparatory machines for combing	4	12			
	1.1	Objectives of comber preparatory. Introduction to the conventional and modern comber preparatory.	2	8	CO1	100%	
	1.2	Construction and working of the conventional and modern comber preparatory machines. Modern pre-combing machinery sequence, its advantages over the conventional system.	2	4	CO2		100%
2		Comber	14	16			
	2.1	Principles and objects of Comber. Baer sorter and Noil%, Sequence of combing and combing cycle.	4	8	CO1	100%	
	2.2	Important settings affecting noil percentage in combing Detailed description of the driving arrangements and parts of the comber. Defects in comber sliver, their detection, causes and remedies. Modern high-speed comber, concept of short fibres in sliver and long fibres in waste. Fractionating efficiency of comber, optimum level of comber waste.	10	8	CO2		100%
3		Calculations on Comber preparatory machines and Comber	14	12			
	3.1	Calculations of speeds, drafts and production in combing preparatory Calculations of noil%, speeds, drafts and production in combing.	14	12	CO3		100%

SECTION-II							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
4		Drawframe	8	16			
	4.1	Introduction to draw frame. Principles and objects of doubling, drafting, blending and dust removal on draw frame. Operating principle and devices – Creel, drafting arrangements, suction systems and coiling.	4	10	CO4	100%	

	4.2	Shore hardness of the synthetic cots, their effects on the material being processed and their maintenance.	4	6	CO5		100 %	
5		Drawframe settings and Autolevelling	12	12				
	5.1	Principles of various high drafting systems and roller weighing arrangements in draw frame. Effective length and allowances for roller setting.	6	6	CO4		100 %	
	5.2	Roller settings and weightings. Faults in drafting process, its effects and remedies. Developments in draw frame. autolevelling. Stop motions.	6	6	CO5	100 %		
6		Calculations on the drawframe	12	12				
	6.1	Calculations related to settings, speeds and draft. Production calculations on draw frame.	12	12	CO6			100 %
			64	80				
Legends: R- Remember, U – Understand, A – Apply and above levels (Blooms’s Revised Taxonomy).								

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of Practicals/Assignments/Tutorials:

Sr. No.	Practical/Assignment	Approx. Hours	CO
1	To study Sliver lap machine and calculation of speeds, draft and production.	3	CO7 &8
2	To study Ribbon lap machine and calculation of speeds, draft and production.	3	CO7 &8
3	To study of passage of cotton through comber.	3	CO7
4	To calculate speed, draft, production rate and comber noil %.	3	CO7 &8
5	To study the combing cycle and timing diagram.	3	CO7
6	To study and perform the important settings on comber.	3	CO8

7	To study the passage of cotton through the draw frame.	3	CO7
8	To study the gearing diagram and calculate speeds, drafts and production on drawframe.	3	CO7 &8
9	To set the drafting rollers on draw frame.	3	CO7 &8
10	To study the weighing arrangements on the rollers and study of various stop motions of the draw frame. To compare Lakshmi-Rieter (LR-DO2) draw frame with conventional draw frame.	3	CO7

Text Books:

Sr. No.	Author	Title	Publisher and Edition
1	Frank Charnley.	Manual of Cotton spinning, Drawframe, Comber, Speedframe, Vol IV- Part II.	The Textile Institute
1	Werner Klein	Technology of short-staple spinning- Volume 1	The Textile Institute
2	Werner Klein	Spinning Preparation- Volume 3	The Textile Institute

Reference books and Websites:

Sr. No.	Author	Title	Publisher and Edition
1	Dr A R Khare	Elements of Combing	Sai book centre
2	Dr A R Khare	Elements of carding and drawframe	Sai book centre
3	http://www.rieter.com/en/riepedia/articles/fibre-preparation/		

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DIPLOMA PROGRAMME	: DIPLOMA IN TEXTILE MANUFACTURES
PROGRAMME CODE	: DTM
SEMESTER	: THIRD
COURSE TITLE	: FABRIC MANUFACTURE- II
COURSE CODE	: 176TM33

TEACHING AND EXAMINATION SCHEME:

TEACHING SCHEME				EXAMINATION SCHEME												
L	T	P	CR	PAPER HRS	TH		MST	TOTAL		PR		OR		TW		TOTAL MARKS
					Max	Min		Max	Min	Max	Min	Max	Min			
+	0	3	7	3	80	32	20	100	40	-	-	-	-	50	20	150

Course Objectives:

To apply the basic concepts of sizing and fabric formation process and prepare suitable raw material for weaving to weave different fabrics on a plain loom

Course Outcomes:

Student should be able to

CO1	Define the objects of Sizing, Looming, Drawing-in and leasing.
CO2	Describe the construction and working of sizing machines
CO3	Analyze the defects occurring during sizing machines and their remedial measures.
CO4	Describe construction and working of mechanisms on plain power loom.
CO5	Calculate the production on sizing machine and plain power loom.
CO6	Analyze the causes and remedies of various fabric faults.
CO7	Demonstrate the working of sizing machine and plain power loom.
CO8	Apply knowledge for calculating speed, use engineering tools for dismantling and setting of loom mechanisms.

Course Content:

SECTION-I							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1	Sizing: Mechanism and Process	16	20				
1.1	Objects of sizing, size ingredients and their properties	4	4	CO1	30%	30%	40%
1.2	Sizing zones, Creel types, Types of Size box, Drying methods: cylinder drying, hot air and infra red drying, Leasing/ splitting and headstock	12	14	CO2	20%	30%	50%
1.3	Modern developments in sizing machine	2	2	CO2	20%	60%	20%
2	Sizing: Drive and Calculations	6	8				
2.1	Drive to sizing machine, Crawl speed	2	2	CO5	20%	40%	40%
2.2	Sizing calculations: Production, Efficiency, Pick up %, Stretch %	4	6	CO5	20%	20%	60%
3	Process Control in Sizing	8	10				
3.1	Control of Size pick up, Control of yarn stretch, Control of Moisture in Sized yarns	6	6	CO3	20%	40%	40%
3.2	Quality of Sized Beams and Package defects in sizing	2	4	CO3	10%	30%	60%
4	Looming, Drawing-in and leasing	2	2				
4.1	Looming, drawing and leasing function, Drawing-in methods, Calculations of crimp%, warp weight, weft weight, fabric weight.	2	2	CO1	20%	20%	60%

SECTION-II

Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
5	Primary motions	10	12				
5.1	Classification of Looms, Passage of warp through loom, different parts of loom and their functions. Loom drive and timing diagram for loom mechanisms	2	2	CO4	40%	40%	20%
5.2	Shedding mechanisms: Classification, Construction, working, Early and Late shedding, Positive shedding and Negative shedding, Types of sheds	3	4	CO4	20%	40%	40%
5.3	Picking mechanism: Objects, Types of Picking Mechanisms, Construction and working of cone over pick mechanism, Construction and working of Side lever underpick mechanism Comparison between overpick and underpick mechanism, Factors affecting strength of the pick, Shuttle box	3	4	CO4	20%	40%	40%
5.4	Beat up Mechanism: Construction and working, Eccentricity of sley, Factors affecting eccentricity of the sley	2	2	CO4	20%	40%	40%
6	Secondary motions	6	8				
6.1	Let-off Mechanism: Types, construction and working of negative let off motion, Effect of beam diameter	2	4	CO4	20%	40%	40%
6.2	Take up Mechanism: Types of Take up motion, Construction and working of five wheel and seven wheel take-up motion, Calculation of dividend	4	4	CO4	10%	30%	60%
7	Auxiliary motions	6	8				
7.1	Weft fork mechanism: Types, Construction and working of Side weft fork mechanism, Comparison between side weft fork and centre weft fork motions	2	3	CO4	20%	40%	40%
7.2	Warp Protector Mechanism: Construction and working of Loose reed and Fast reed mechanism, Comparison between loose reed and fast reed warp protector motion	2	3	CO4	20%	40%	40%
7.3	Temples: Function, Types of temples, Oscillating backrest Brakes: Function, Construction, working of brake mechanism	2	2	CO4	20%	40%	40%
8	Process Control in Weaving and Loom calculations	10	12				
8.1	Control of Productivity, Loom speed, Loom efficiency, Loom Stoppage and hard waste	6	5	CO6	20%	20%	60%

8.2	Fabric defects and its remedies	2	2	CO6	20%	40%	40%
8.3	Calculations: Loom speed, Production, Efficiency, Reed count and Heald count	2	5	CO5	20%	20%	60%
		64	80				

Legends: R- Remember, U – Understand, A – Apply and above levels (Blooms’s Revised Taxonomy).

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of Practicals/Assignments/Tutorials:

Sr. No.	Practical/Assignment	Approx. Hours	CO
1	Study of passage of warp sheet and drive to sizing machine.	3	CO7
2	Study of Sow box, Drying cylinder, Steam trap, Measuring and marking motion.	3	CO7
3	Study and setting of tappet shedding mechanism	3	CO8
4	Study and settings of cone overpick mechanisms	3	CO8
5	Study and settings of side lever underpick mechanisms	3	CO8
6	Study and settings of beat-up mechanism	3	CO8
7	Study of let-off mechanism and brake motion	3	CO8
8	Study and setting of 5 - wheel and 7-wheel take-up mechanism	3	CO8
9	Study and settings of side weft fork mechanism	3	CO8
10	Study and settings of loose reed and fast reed motion	3	CO8

Text Books:

Sr. No.	Author	Title	Publisher and Edition
1	K. T. Aswani	Plain Weaving Motions	Mahajan Publishers, 1997
2		Woven Fabric Production – I, Plain Power Loom	NCUTE, 2002
3	D B Ajaonkar, M. K. Talukdar and V. R. Wadekar	Sizing Material, machine and process	Mahajan Publishers Pvt., Ltd., Ahmedabad. 2nd edition
4	P. K. Banerjee	Principles of fabric formation	CRC Press, 2014

Reference books and Websites:

Sr. No.	Author	Title	Publisher and Edition
1	P. R. Lord and M. H. Mohamed	Weaving : Conversion of yarn to fabric	Merrow publishing Co. Ltd., England, 2nd edition, 1988
2	M. K. Talukdar, P.K. Sriramulu, D.B Ajaonkar	Weaving Machines, Mechanism, Management	Mahajan Publishers Private Limited, Ahmedabad, edition 1998
3	M. C. Paliwal and P. D. Khimothi	Process control in weaving	ATIRA, 1974.
4		http://nptel.ac.in/course.php	



DIPLOMA PROGRAMME	DIPLOMA IN TEXTILE MANUFACTURES
PROGRAMME CODE	DTM
SEMESTER	THIRD
COURSE TITLE	CLOTH STRUCTURE- I
COURSE CODE	176TM34

TEACHING AND EXAMINATION SCHEME:

TEACHING SCHEME					EXAMINATION SCHEME											
L	T	P	CR	PAPER HRS	TH		MST	TOTAL		PR		OR		TW		TOTAL MARKS
					Max	Min		Max	Min	Max	Min	Max	Min	Max	Min	
3	3	0	6	3	80	32	20	100	40	-	-	50	20	50	20	200

Course Objectives:

1. Identify basic weaves like Plain, Twill, Sateen/Satin, Toweling weaves and other weaves used in the manufacturing of woven fabrics for different end use applications.
2. Understand and design different weave used in the manufacturing of woven fabrics.

Course Outcomes:

Student should be able to

CO1	Identify the Basic weaves. Define Design, Draft, Peg plan and Denting. Recall the characteristics of the commercial fabrics.
CO2	Construction of derivatives of Plain, Twill.
CO3	Construction of derivatives of Satin and Sateen.
CO4	Identification of Toweling weaves. Recall the characteristics of toweling weaves.
CO5	Construction of Bedford cord , Pique and Crepe weave.
CO6	Construction of weaves of Colour and weave effect
CO7	Analysis of different weaves like Plain, Twill, Satin/Sateen, Toweling weaves and Other weaves.
CO8	Design different weaves using Wonder weave software.

Course Content:

SECTION-I							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1	Basic weaves: Classification, Methods of fabric representation, Notation of weave, draft and peg plan, Different types of drafts and peg-plans, Construction of plain, twill, Satin and sateen weaves, Heald Calculation, Denting, Ornamentation of plain weave. Commercial plain - woven fabrics, their constructions & characteristics. Twist and twill interaction	08	14	CO1	40%	40%	20%
2	Derivatives of Plain Weaves: Characteristics of plain weave, Derivatives of plain weave, Warp rib weaves, Weft rib, Matt weave, Commercial fabric specifications for warp rib, weft rib and Matt weave and end use applications. Derivatives of twill weave: Characteristics of twill weave, Regular twill, Waved twills, Herringbone twills, Curved Twills, Broken twill, Transposed twill, Elongated twill, Combination twill weaves, Diaper weave, Diamond weaves	12	20	CO2	40%	40%	20%
3	Derivatives of Satin and sateen weaves: Characteristics of satin and sateen weave, Regular and Irregular Satin and sateen weaves, Satinette weave, Comparison between satin and sateen weaves	4	06	CO3	40%	40%	20%
SECTION II							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
4	Toweling Weaves: Honeycomb: Characteristics of honeycomb weave, Ordinary honeycomb weave, Brighton honeycomb weave, Comparison between ordinary honeycomb and brighton honeycomb weave, Hack-a-back weaves, Mock leno weaves,	10	16	CO4	40%	40%	20%
5	Other Weaves: Characteristics of rib, cord weaves, Rib and cord structures like Bedford cord and pique. Crepe weaves, their construction & characteristics and end uses	06	10	CO5	40%	40%	20%

6	Colour and weave effects: Colour and weave effects for stripes, checks and simple figured designs. Continuous line effect, Hair line effect, Bird,s eye and spot effect, Hounds tooth pattern, Step effect and All over effect	08	14	CO6	40%	40%	20%
		48	80				

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of Practicals/Assignments/Tutorials:

Sr. No.	Practical/Assignment	Approx. Hours	CO
1	Analysis of Plain weave fabric	3	CO7
2	Analysis of Twill weave fabric	3	CO7
3	Analysis of Satin/Sateen weave fabric	3	CO7
4	Analysis of Honeycomb, Hack-a-back weave, Mock leno fabric	3	CO7
5	Analysis of Bedford cord weave	3	CO7
6	Analysis of Pique weave	3	CO7
7	Analysis of Crepe weaves	3	CO7
8	Analysis of sample of Colour and weave effect	3	CO7
9	Wonder weave CAD Software: i) Dobby Master ii) Jacquard Master	3	CO8

Text Books:

Sr. No.	Author	Title	Publisher and Edition
1	Grosicki	Watson's Textile Design & Colour	Woodhead, (Seventh Edition), 1977
2	Z. Grosicki	Watson's Advanced Textile Design: Compound woven structures	Woodhead Textile Series No. 2, 1975
3	Robinson and Marks	Woven cloth construction	The Textile Institute
4	N. Gokarneshan	Fabric Structure and Design	New Age International Publisher, New Delhi 2004
5	William Watson Longmans	Textile Design and colour: Elementary and Figured Fabrics	Green and co. London, edition second.

Reference books and Websites:

Sr. No.	Author	Title	Publisher and Edition
1	Jacque Wilson	Handbook of Textile Design	Woodhead Publishing Ltd. Edition 2001
2	W.S. Murphy	Textile Weaving and Design	Abhishek Publications, Chandigarh, 2000



DIPLOMA PROGRAMME	DIPLOMA IN TEXTILE MANUFACTURES
PROGRAMME CODE	DTM
SEMESTER	THIRD
COURSE TITLE	TEXTILE CHEMISTRY -I
COURSE CODE	176TM35

EXAMINATION SCHEME																
L	T	P	CR	PAPER HRS	TH		MST	TOTAL		PR		OR		TW		TOTAL MARKS
					Max	Min		Max	Min	Max	Min	Max	Min	Max	Min	
3	0	3	6	3	80	32	20	100	40	-	-			50	20	150

TEACHING AND EXAMINATION SCHEME:

Course Objectives:

Students must be able to,

- 1) Study fibres in detail
- 2) Preparatory processing treatment for natural as well as synthetic fibre.
- 2) Understand Fabric preparatory processes like desizing, scouring, bleaching and mercerizing.
- 3) Study Fabric processing machineries.

Course Outcomes:

Student should be able to

CO1	Acquire basic knowledge about fibres
CO2	Understand the polymerization and man- made fibre manufacturing
CO3	Study of Testing and identification of fibre
CO4	Study the preparatory process
CO5	Study the Machines used for preparatory process
CO6	Understand need of and process of ecofriendly processing.

Course Content:

SECTION-I							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1	Fibre study I general	06	12				
1.1	Definition of Fibre and Polymers. . Essential and desirable properties of a fibre		6	CO1	30%	40%	30%
1.2	Classification of fibres based on chemical composition Brief chemistry of textile fibre/polymers e.g. cellulose, proteins.		6	CO1	30%	40%	30%
2	Natural fibres and synthetic fibres	10	16				
2.1	Morphology of natural fibres like cotton wool silk Physical, chemical properties and applications of natural fibres		7	CO1	20%	40%	40%
2.2	Raw materials for manufacturing of man-made fibres like viscose rayon, polyester, nylon and acrylic		7	CO2	30%	40%	30%
2.3	Physical and chemical properties of man-made fibres and their applications		4		20%	40%	40%
3	Testing of Fibre	06	12	CO3			
3.1	Identification of fibres by microscopy, burning test				30%	40%	30%

SECTION-II							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
4	Preparatory processing	10	16				
4.1	Sequence of preparatory processing importance, Shearing and cropping, Singeing, Desizing, Scouring, Bleaching. (Objective, Principle, Chemicals used, and process) Mercerization	7	12	CO4	20%	30%	50%
4.2	Testing of efficiency of preparatory processes. Efficiency of desizing, scouring, bleaching and mercerization	3	4	CO4	20%	40%	40%
5	Machines used for preparatory process	9	12				
5.1	Winches, Jiggers, Kiers, J-box, continuous pretreatment machines	2		CO5	30%	40%	30%
6	Eco-friendly processing	7	12				
6.1	Eco-friendly processing of textiles. Eco friendly aspect of desizing, scouring, bleaching. Combined process of pre-treatment	7		CO6	30%	40%	30%
		48	80				
Legends: R- Remember, U – Understand, A – Apply and above levels (Blooms’s Revised Taxonomy).							

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

List of Practicals/Assignments/Tutorials:

Sr. No.	Practical/Assignment	Approx. Hours	CO
1	Estimation of alkali mixture	3	CO7
2	Estimation of Sodium nitrite	3	CO7 & CO8
3	Estimation of hypochlorites	3	CO7 & CO8
4	Estimation of hydrogen peroxide	3	CO7
5	Desizing of cotton with acid, enzymes	3	CO7 & CO8
6	Scouring of cotton	3	CO7
7	Bleaching of cotton with hypochlorite	3	CO7 & CO8
8	Bleaching of cotton with hydrogen peroxide	3	CO8
9	Identification of fibres	3	CO7 & CO8
10	Determination of each fibre content % in a blend fabric.	3	CO7

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Reference books and Websites:

Sr. No.	Author	Title	Publisher and Edition
1	Dr. V.A.Shenai	Technology of Bleaching	Sevak Publications, Mumbai, 1 edition, 1984
2	Dr. V.A.Shenai	Chemistry of fibres	Sevak Publications , Mumbai, 1 st edition, 1971
3	S.P.Mishra	Textbook of Fibre science and Technology	New Age International Publications, New Delhi, 1 st edition, 2000
4	J. R. Modi	Tablet on chemical processing	Textile Association of India, 2005.
5	Dr. H. V. S. Murthy	Introduction to Textile Fibres	Textile Association of India, 1987
6	Editor-Mody	Chemical Processing of Cotton and Polyester-Cotton blends	Textile Association, Ahmedabad



DIPLOMA PROGRAMME	DIPLOMA IN TEXTILE MANUFACTURES
PROGRAMME CODE	DTM
SEMESTER	THIRD
COURSE TITLE	PROFESSIONAL PRACTICES
COURSE CODE	176TM36

TEACHING AND EXAMINATION SCHEME:

TEACHING SCHEME				EXAMINATION SCHEME												
L	T	P	CR	PAPER HRS	TH		MST	TOTAL		PR		OR		TW		TOTAL MARKS
					Max	Min		Max	Min	Max	Min	Max	Min			
-	-	2	2	-	-	-	-	-	-	-	-	-	-	50	20	50

Course Objectives:

Students must be able to,

- 1) Remove the inhibitions or nervousness in different professional situations
- 2) Prepare notes for given topic
- 3) Present given topic in a seminar

Course Outcomes:

Student should be able to

CO1	Understand the importance of personality development and motivation
CO2	Acquire the knowledge of body language and writing of resume
CO3	Acquire the knowledge about communication skills to be used in organizations.
CO4	Prepare notes for given topic
CO5	Prepare the reports on expert lecture
CO6	Interact with peers to share thoughts regarding industry and new mechanisms

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Course Content:

SECTION-I							
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1	Personality Development - Introduction	2	5				
1.1	The concept personality - The concept of success and failure; What is success? - Hurdles in achieving success.	1	3	CO1	10%	30%	60%
1.2	Attitude - Concept - Significance - Factors affecting attitudes - Positive attitude - Advantages - Negative attitude - Concept of motivation - Significance - Internal and external motives - Finding literature about motivation.	1	2	CO1	20%	30%	50%
2	Other Aspects Of Personality Development	4	05				
2.1	Body language - Problem-solving - Character-building -Team-work - Time management -Work ethics – Good manners and etiquette. Mock session for posture and gesture.	2	2	CO2	10%	40%	50%
2.2	Employability quotient - Resume building- The art of participating in Group Discussion – Mock Interview Sessions.	2	3	CO2	20%	30%	50%
3	Communication:	4	10				
3.1	Oral Communication: Nonverbal communication, video conferencing, public speaking, Body Language, handshakes, gaze, smiles, hand movements, voice modulation, eye contact,	2	5	CO3	30%	30%	40%

		use of expression. Mock session for communicating ethics.						
	3.2	Written communication: report writing, creative writing, framing advertisement, slogans, captions, preparing press notes, resume writing, using Facsimiles (Fax), Handling Mail, writing essays, paragraph, summaries.	2	5	CO3	20%	30%	50%

SECTION-II								
Unit & Sub-Unit	Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level	
4	Group Discussion and Presentation	8	10					
	4.1	The students should discuss in group of six to eight students and write a brief report on the same as a part of term work. Topics should be related to latest market strategy or current scenario.	4	5	CO4	20%	30%	50%
	4.2	The student should present in group of two and write a brief report/review paper on the same as a part of term work. Topics should be related to academic or personality development.	4	5	CO4	10%	40%	50%
5	Lectures by Professional / Industrial Expert	8	10					
	5.1	Expert lecture should be organized in areas of latest developments in the industry on the following topics and report regarding lecture Spinning Weaving		10	CO5	30%	30%	40%

		Textile Chemistry Textile Testing Garment Technology Technical Textiles Personality Development Professional Practice						
6		Industrial visit	6	10				
	6.1	Industrial visit should be arranged to nearby industries & report of the same should be submitted by the individual students, to form a part of the term work.	6	10	CO6	30%	40%	30%
			32	50				
Legends: R- Remember, U – Understand, A – Apply and above levels (Blooms’s Revised Taxonomy).								

Notes: This specification table shall be treated as a general guideline and actual distribution of marks may slightly vary from table. But the questions from each topic should be asked as per marks weightage. Numerical questions are to be asked only if specified.

Text Books:

Sr. No.	Author	Title	Publisher and Edition
1	Kavita Singh	Organisational Behaviour: Text and Cases	Pearson Education
2	Pareek, Udai	Understanding Organisational Behaviour	Oxford University Press

Reference books and Websites:

Sr. No.	Author	Title	Publisher and Edition
1	Robbins, S.P. & Judge	Organisational Behaviour	Pearson Education
2	Albrecht, K	<i>Brain Power: Learning to Improve Your Thinking Skills</i>	New York: Simon and Schuster



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