VEER NARMAD SOUTH GUJARAT UNIVERSITY

Scheme of Teaching

Textile Technology (7 th semester)

Sr. No.	Courses	Course No.	Teaching Scheme		
			L	T	P
1.	Post Spining Operations for MMF	TT 701	4	-	2
2.	Modern Weaving Technology	TT 702	3	-	4
3	Process Control in Spinning	TT 703	4	-	2
4	Textile Testing - II	TT 704	3	-	4
5	Nonwovan, Geotextiles &Carpet Weaving	TT 705	1	-	-
			18	-	12

Total Teaching scheme is for 30 hours

VEER NARMAD SOUTH GUJARAT UNIVERSITY

SCHME OF TEACHING AND EXAMINATION
B.E. IV TEXTILE TECHNOLOGY
(7 TH SEMESTER)

Course	Course No.	Teaching Schedule			Examination Schme					Grand Total
		Theory	Tutorial	Practical	Theory Exam		Prac/Quiz/Viva Examination			Marks (7+10)
					Duration (Hrs)	Marks	Sem End Exam	Continuous Evaluation	Total (8+9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Post Spinning Operations For MMF	**TT 701**	4	-	2	3	100	30	20	50	150
Modern Weaving Technology	**TT 702**	3	-	4	3	100	60	40	120	200
Process Control in Spinning	**TT 703**	4	-	2	3	100	30	20	50	150
Textile Testing - II	**TT 704**	3	-	4	3	100	60	40	100	200
Non-woven , Geotextiles & Carpet Weaving	**TT 705**	4	-	-	3	100	-	-	-	100
Total :		**18**	**-**	**12**		**500**	**180**	**120**	**300**	**800**

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.E. IV (TEXTILE TECHNOLOGY) Semester -VII

TT - 701 POST SPINNING OPERATIONS FOR MMF

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam		**Grand Total**
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Sem. End Exam.	Cont.Int. Evaluation	
4	-	2	3	100	30	20	**150**

Theory:

1. Factors influencing drawability. Influence of drawing on structure and propertise of fibres.
2. Methods used for orientation stretching- single stage, multistage, drawing. Drawig defects and remedies.
3. Heat-setting of fibres. Influence of heat-setting variables on structure and properties of fibres.
4. Need for crimping (Texturising). Crimping methods. Manufacture of high shrink fibres.
5. Twisting of continuous filaments. Uptwisters and two-for-one twisters.Twist setting. Modern TFO's.

Practical:

This shall be based on the prescribed syllabi.

Term Work:

This shall consists of record of practical work done during practicals and recorded in the journals.

References:

(1) Goswami B.C, Martindale & Scardino: Textile Yarns, Technology ,Structure & Application, John Wiley & Sons, 1977

(2) Kulkarni H.S. & Dr.H.V.S. Murthy : Two-For-One, Tecoya Publication,1992

(3) Mantra: A Guide to crimping / Texturing Tech. Mantra 1990

POST SPINNING OPERATIONS

LIST OF PRACTICALS

(A) REWINDER

1. Study of yarn passage through rewinder.
2. Study of different parts of the machine.
3. Study of drive to the spindle.
4. Study of traverse mechanisum.

(B) TWO-FOR-ONE TWISTER FOR FILAMENT YARN

1 Study of yarn passage through twister.
2. Study of different parts of the machine.
3. Study of i. drive to the machine.
   ii. drive to the shaft.
   iii. drive to over-feed roller.
4. Study of Gear box.
5. Setting of processing parameters for running different deniers.

(C) TEXTURISING MACHINE

1 Study of yarn passage through texturising machine.
2. Study of different parts of the machine.
3. Study of drive to differents of the machine.
4. Detailed study of control panel.
5. Different settings of processing parameters for running various yarns.

(D) Maintenance schedule of above listed machines.

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.E. IV (TEXTILE TECHNOLOGY) Semester -VII

TT - 702 MODERN WEAVING TECHNOLOGY

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam		**Grand Total**
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Sem. End Exam.	Cont.Int. Evaluation	
3	-	4	3	100	60	40	**200**

Theory:

1. Different types of shuttleless loom
2. Study in detail of shedding ,picking and beat-up motion of sulzer loom.
3. Detailed study of picking mechanism of Rapier,Airjet and waterjet looms.
4. Circular loom: Multiphase looms;Tri-axial weaving.
5. Techno-econimics of modern weaving technique.
6. Calculations.

Practicals:

This shall be based on the prescribed syllabi.

Term Work:

This shall consists of record of practical work done during practicals and recorded in the journals.

References:

(1) Singh R.B. : Modern Weaving Theory & Practice, Mahajan Publ. 1989.

(2) Aswani : Fancy Weaving Mechanisms, mahajan Publ. 1990

(3) Svaty/Talavasek:Shuttleless Weaving Machines,STNL Publ. Netherlands,1981

MODERN WEAVING TECHNOLOGY

LIST OF PRACTICALS

(A) AIRJET LOOM

1. Study of warp yarn passage through loom.
2. Study of different parts of loom.
3. Study of Shedding motion.
4. Study of Picking mechanism.
5. Study of Beat-up motion.
6. Study of let-off mechanism.
7. Study of Cloth take-up mechanism.
8. Study of air supply system to the loom.
9. Study of Stop motions on loom.
10. Study of Weft accumulator.

(B) RAPIER LOOM

1. Study of warp yarn passage through loom.
2. Study of different parts of loom.
3. Study of Shedding motion.
4. Study of Picking mechanism.
5. Study of Beat-up motion.
6. Study of let-off mechanism.
7. Study of Cloth take-up mechanism.

(C) SULZER PROJECTILE LOOM

1. Study of warp yarn passage through loom.
2. Study of different parts of loom.
3. Study of Shedding motion.
4. Study of Picking mechanism.
5. Study of Beat-up motion.
6. Study of let-off mechanism.
7. Study of Cloth take-up mechanism.

(D) Calculations pertaining to above looms.

(E) Fabric formation on above looms.

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.E. IV (TEXTILE TECHNOLOGY)
Semester -VII

TT - 703 PROCESS CONTROL IN SPINNING

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam		**Grand Total**
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Sem. End Exam.	Cont.Int. Evaluation	
4	-	2	3	100	30	20	**150**

Theory:

1. Need for development of norms, Establishment of norm/standard, its significance.
2. Importance of Mixing, Control of mixing quality and cost.
3. Yarn realisation & it's importance. Control of yarn realisation - records and accounting.
4. Classification of Cotton waste, Resoursces of waste & its users.
5. Control of wast in various spinning departments.
6. Measurement and analysis of productivity.
7. Factors affecting yarn quality-count,strength and their viability.
8. Measurement of Unevenness and imperfactions. Study of uster & CV% values.
9. Yarn faults and package defects & their remedial measures.
10. Machinery audit.

References:

(1) ATIRA : Process Control in Spinning,ATIRA, 1987.
(2) ATIRA/BTRA: Combined norms for Textile Industry, NITRA,/SITRA/NITRA.
(3) BTRA :Spinning Productivity & methods of evaluation,1990
(4) SITRA : Norms for the spinning mills, 1996

PROCESS CONTROL IN SPINNING

LIST OF PRACTICALS

1. To check the lap rejection & C.V. % of full lap.
2. To check the C.V. % of 1mt.wrappin of lap.
3. To check the C.V.% of carded sliver.
4. To check the C.V.%of drawn sliver.
5. To check the C.V.%of roving.
6. To check the noil % at comber.
7. Study of breaks at speed frame.
8. Study of end breaks at ring frame.
9. To check the C.V. % of yarn count.
10. To check the twist level of ring spun yarn .
11. To study breaks at doubler frame.
12. To check the resultant count of doubled yarn.
13. To check the twist level of doubled yarn.
14. To.study the breaks at open end (rotor) spinning machine.

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.E. IV (TEXTILE TECHNOLOGY) Semester -VII

TT - 704 TEXTILE TESTING -II

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam		**Grand Total**
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Sem. End Exam.	Cont.Int. Evaluation	
3	-	4	3	100	60	40	**200**

Theory:

1. Testing of tensile properties of fibres, yarns and fabrics.
2. Fabric thickness,compressibility , resilience, rigidity,drape and other properties associated with the fabric handle.
3. Cloth tear tests and test for brusting strength and resistance to water .
4. Measurement of yarn and sliver irregularity. Tests for air permeability and thermal transmission. Water repellancy tests. Quantitative analysis of fibre mixtures.
5. Application of statistical method to the control of quality in a textile product.

Practicals :

This shall be based on the prescribed syllabi.

Term Work :

This shall consists of record of practical work done during practicals and recorded in the journals.

References:

(1) Booth J.E. :Principles of Textile Testing , 3rd Edition, Butterworth, 1986

(2) P. Angappan & Gopalkrishnan : Textile Testing, S.S.M.I.T.T. Students Co-Op.Stores Ltd.,Tamilnadu,1993

(3) E.B.Grover & D.S.Hamby : Hand book of Textile Testing & Quality Control,M.S.Sejwal Publ.,New Delhi,1988

TEXTILE TESTING - II

LIST OF PRACTICALS

1. Measurement of Single Yarn Strength. (U.T.M.)
2. Measurement of Lea Strength of Yarn. (Lea Strength Tester)
3. Measurement of Yarn Density in Fabric. (Densimeter)
4. Measurement of Fabric Thickness. (Thickness Gauge)
5. Measurement of Fabric G.S.M. (Quadrant Balance)
6. Measurement of Fabric Stiffness. (Stiffness Tester)
7. Measurement of Fabric Drape. (Drape Meter)
8 Measurement of Fabric Crease Recovery. (Crease Recovery Tester)
9. Measurement of Fabric Abrasion Resistance. (Abrasion Tester)
10. Measurement of Pilling. (Pilling Tester)
11. Measurement of Pilling. (Abrasion Tester)
12. Measurement of Tearing Strength. (Tearing Strength Tester)
13. Measurement of Tensile Strength of Fabric. (U.T.M.)

VEER NARMAD SOUTH GUJARAT UNIVERSITY

B.E. IV (TEXTILE TECHNOLOGY) Semester -VII

TT - 705 NON-WOVEN,GEO-TEXTILES AND CARPET WEAVING

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam		**Grand Total**
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Sem. End Exam.	Cont.Int. Evaluation	
4	-	-	3	100	-	-	**100**

Theory:

(A) Non-Woven Textiles

1. Terninology,history and definitions.
2. Structure and classification of non-woven fabrics. Staple Fibre webs, Continuous Filament webs.
3. Characteristic feature and properties of non-woven, raw materials for non-woven fabrics.
4. Production Technology of non-woven using different processes.
5. Laminated fabrics or laminates and disposable non-woven fabrics.
6. Moulded fabrics and other processes of non-wovens. Composite Fabrics.
7. Application of non-woven bonded fabric.

(B) Geo-Textiles

1. Role of Geo-Textiles: History and development.
2. Types of Geo-Textiles.
3. Application of Geo-Textiles in various fields.

(C) Carpet Weaving

1. Raw materials for Carpet Weaving,Additional Carpet yarns & fibres.
2. Different production techniques for Carpet weaving.
3. Important properties of Carpet Backings.

References:

1. Purdy : Needle punching (No.3), The Textile Institute, U.K.1980
2. Dharmadhikary : Thermal bonding non-woven fabrics
   The Textile Institute, U.K.1996
3. Cegielka : Carpets-back to front, The Textile Institute, U.K. 1988