

VEER NARMAD SOUTH GUJARAT UNIVERSITY

SCHME OF TEACHING AND EXAMINATION

B.E. IV TEXTILE TECHNOLOGY (8TH 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	Tutorial hours	Sem End Exam	Continuous Evaluation	Total (8+9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Yarn structure & Fabric Geometry	TT 801	4	-	-	3	100	-		-	-	100
Process Control in Weaving	TT 802	3	-	2	3	100		30	20	50	150
Textile production Management	TT 803	4	2-	-	3	100	50		-	50	100
Elective : (i) Garment Technology (ii) Knitting (iii) CAD/CAM	TT 804	3	-	2	3	100		30	20	50	150
Import Export Management	TT 805	3	1	-	3	100	-	25	-	25	100
Project Work	TT 806	-	-	6	-	-		100	125	125	225
Total :		17	03	10		500	50	185	165	400	900

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

TT - 801 YARN STRUCTURE AND FABRIC GEOMETRY

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:

Yarn

1. Ideal yarn geometry, yarn structure.
2. Measurement of yarn diameter using different methods.
3. Different packing structure & its effect on yarn properties.
4. Contraction and Retraction factors, concentrating and disturbing factors.
5. Theory of Migration, Ideal migration, Tracer fibre technique, conditions for migration to occur.

Fabric

1. Fabric density and specific volume
2. Porosity, permeability and pore area
3. Fabric cover: Relationship between d/p & K
Reference standard for cover
Effect of yarn numbering system on cover
4. Crimp: Measurement, Crimp interchange
Relationship between cloth shrinkage, yarn shrinkage and crimp
5. Fabric Weaight
6. Geometry of plain woven fabric (Pierce Gemetry)
7. Fabric Sett.

References:

- (1) Pierce : Cloth Geometry, The Textile Instiute, U.K.1978
- (2) Goswami : Textile Yarns, Mahajan Publisher,1995
- (3) Greenwood : Control of Fabric structure, Merrow Publication U.K. 1975

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

TT - 802 PROCESS CONTROL IN 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	
3	-	2	3	100	30	20	150

Theory:

1. Object and scope for process control in weaving.
2. Controls for machine stoppage, productivity and quality in winding, warping, sizing, drawing in, pirn winding and weaving department.
3. Standard norms for settings, speeds and production rates.
4. Control of fabric quality: fabric defects, causes and remedies.
5. Control and norms of hard waste in various processes.
6. Importance and types of maintenance. Maintenance schedule for winding, warping, sizing and loom shed.
7. Calculation pertaining to production, efficiency and machine allocation in winding, warping, pirn winding, sizing and weaving, including size addition and size losses in sizing.
8. Process control for Man Made Filament and blend yarns from winding to loom shed.
9. Norms for process controls in weaving (ATIRA, BITRA, SITRA, NITRA).

References:

- (1) ATIRA : Process Control in Weaving, 1995 edition, Mahajan Publ.
- (2) ATIRA/BTRA/SITRA/NITRA : Norms for the Textile Industry- Weaving
NITRA, 1989
- (3) BTRA : Loomshed, BTRA, 1986.

PROCES CONTROL IN WEAVING

LIST OF PRACTICALS

1. Control of yarn content / diameter on pirn.
2. Study of end breakage rate on winding machine.
3. Setting of parameters for mechanical and electronic yarn clearers for running different counts on winding machine.
4. Study of end breakage rate on warping machine.
5. Calculation of stretch % on sizing machine.
6. Calculation of size % and size add-on on sizing machine.
7. Calculation of slippage on different looms.
- 8 Study of warp and weft breakages on loom.
9. Study of occurrence of different fabric defects on different looms and their remedial measures.
10. Preventive maintenance schedule of all the machine in the weaving department.

B.E. IV (TEXTILE TECHNOLOGY) Semester -VIII
TT - 803 TEXTILE PRODUCTION MANAGEMENT

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam			Grand Total
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Tut.	Cont.Int Evaluation	Sem. exam	
4	2	-	3	100	50	-	-	150

Theory:

1. Selction for site for Textile mill.
2. Preparation of spin plan for cotton,manmade and blends.
3. Preparation of weaving plan for conventional , automatic and shuttleless looms.
4. Objects and types of layout,significance of layout, Factors affecting layout, effect of aumation on layout.
Layout of spinning, yarn preparatory, weaving, knitting, Garment Department.
5. Importance of material handling in various department of Textile mill. Differenyt methods
of material handling .Study of different equipments used.
6. Costing
7. Machine depreciation,different ways of calculating depreciation.
8. Importance of Humidification inTextile Mills. Difdferent methods of humidification.
9. Types of building.
10. Energy conservation in Textile mill, modification done in spinning & weaving machines for
reducing power consumption.
11. Industrial Safety, statutory regulation for health hazard, noise pollution and its control.
12. Clause requirement of ISO 9000.

References

- (1) ATIRA: Norms for the Textile Industry - combined edition, ATIRA, 1982
- (2) Sen Gupta : Weaving Calculations, D.B.Taropawala Sons & Co.Pvt,Ltd.
Bombay, 1996.
- (3) Dr. V.A. Shenai : Occupational Health & Safety in Textile Mills,Sevak Publ.
1978.
- (4) D.L.Shah : Trade Support Services-ISO 9000 Quality Management System,
2nd edition, D.L. Shah Trust, New Delhi, 1996.

TEXTILE PRODUCTION MANAGEMENT

LIST FOR TUTORIAL WORK

1. To prepare spin plan for cotton spinning unit.
2. To prepare spin plan for blend spinning unit.
3. To prepare spin plan for polyester spinning unit.
4. To prepare weave plan for weaving unit having plain power looms.
5. To prepare weave plan for weaving unit having automatic looms
6. To prepare weave plan for weaving unit having shuttleless looms.
7. To prepare layout of spinning unit
8. To prepare layout of yarn preparatory unit.
9. To prepare layout of weaving unit having plain power looms
10. To prepare layout of weaving unit having automatic looms.
11. To prepare layout of weaving unit having shuttleless looms.
12. To prepare plan and layout for a composite unit.
13. To calculate cost of yarn and fabric

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

TT - 804 ELECTIVE : GARMENT 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	-	2	3	100	30	20	150

Theory:

1. Background to Clothing Industry in India and elsewhere.
2. Garment manufacturing:-
 - (a) Cutting: Market planning, requirements, planning and methods. Spreading requirements and methods of Spreading. Types of fabric packages. Cutting objectives and methods.
 - (b) Sewing: Various types of seams and stitches. Study of various feed mechanism sewing machine needles. Sewing problems like packer, needle heating, etc.
 - (c) Brief out lines of alternative methods of joining materials.
3. Sewing Machinery:

Basic simple machines like lock stitch, overlock, etc. and work aids, simple automatics like button holder, button sewing bar tack etc. Advance Machineries.
4. Various components and trims used in making garment.
5. Outline of finishing methods used.
6. Various aspects of clothing manufacture like production planning etc.

Practical: This shall be based on the prescribed syllabi.

Term Work: This shall consist of record of practical work done during practicals and recorded in journals.

References :

- (1) Bary : Dress Pattern Designing, Blackwell, U.K. 5th edition, 1996
- (2) Carr : The Technology of Clothing Manufacture Blackwell, U.K. 2nd edition, 1996
- (3) Cooklin : Introduction to Clothing Manufacture Blackwell, U.K. 1996
- (4) Hunter : Quick response in Apparel manufacturing, The Textile Institute, U.K., 1990

ELECTIVE (1) GARMENT TECHNOLOGY

LIST OF PRACTICALS

1. Study of yarn passage through machine.
2. Study of maker method.
3. Study of different spreading devices.
4. Study of various cutting systems.
5. Study of different types of seams.
6. Study of various feed mechanisms.
7. Study of different types of stitches.
8. Study of various sorts of needles.
9. Preparation of samples of different types of seams.
10. Study of modern sewing methods.
11. Study of different types of sewing beds.

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

TT - 804 ELECTIVE : KNITTING

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	-	2	3	100	30	20	150

Theory:

1. Comparison of weaving , knitting and lacing.
2. Evolution of knitting,hand knitting and Machine knitting.
3. Introduction of weft knitting,elements of machine knitting terms and defination , production of plain weft knitting fabric and its decoration rib fabric and ita modification.
4. Development of double jercy interlock,single pique , double pique and Pontode-Roma structures.
5. Design in weft knitting - Horizontal stripping , Plating, Individual stitch selection Alternation in number of needle knitting loops. Pattern on single and double jersey.
6. Quality control in weft knitting .
7. Introduction to warp knitting production of fuel tricot fabric . Different structures of Tricot fabric. Patrern chain formation.Drive to different elements.
8. Raschel warp knitting machine,comparison of Raschel and tricot machines.development in Raschel machine.

Practical :

This shall be based on the prescribed syllabi.

Term Work:

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

References :

- (1) David J. Spencer : Knitting Technology, Pergamon Press,London,1986
- (2) Terry Brackenbury : Knitted Clothing Technology, Blackwell Scientific publ. London, 1992
- (3) Andrea Wynne : Textile, Macmillian Education Ltd.London , 1997.

ELECTIVE (2) KNITTING

LIST OF PRACTICALS

1. Study of yarn passage through knitting machines.
2. Study of different parts of flat bed knitting machine.
3. Study of different parts of circular knitting machine.
4. Study of knitting cycle.
5. Development of single jersey.
6. Development of double jersey.
7. Development of various types of warp knitting structures.
8. Study of various types of warp knitted structures with DOT diagram.
9. Study of Rib structure

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

TT - 804 ELECTIVE : KNITTING

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	-	2	3	100	30	20	150

Theory:

1. Comparison of weaving , knitting and lacing.
2. Evolution of knitting,hand knitting and Machine knitting.
3. Introduction of weft knitting,elements of machine knitting terms and defination , production of plain weft knitting fabric and its decoration rib fabric and its modification.
4. Development of double jersey interlock,single pique , double pique and Pontode-Roma structures.
5. Design in weft knitting - Horizontal stripping , Plating, Individual stitch selection Alternation in number of needle knitting loops. Pattern on single and double jersey.
6. Quality control in weft knitting .
7. Introduction to warp knitting production of fuel tricot fabric . Different structures of Tricot fabric. Pattrern chain formation.Drive to different elements.
8. Raschel warp knitting machine,comparison of Raschel and tricot machines.development in Raschel machine.

Practical :

This shall be based on the prescribed syllabi.

Term Work:

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

References :

- (1) David J. Spencer : Knitting Technology, Pergamon Press,London,1986
- (2) Terry Brackenbury : Knitted Clothing Technology, Blackwell Scientific publ. London, 1992
- (3) Andrea Wynne : Textile, Macmillian Education Ltd.London , 1997.

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

TT - 804 ELECTIVE : CAD/CAM

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	-	2	3	100	30	20	150

Theory:

1. Components of CAD system.
2. Advantages of using CAD.
3. Introduction of Textile Design & need of CAD.
4. CAD versus Designer.
5. The impact of Computer Graphics on Clothing Design.
6. Using CAD : Clothing & Textile System in industry.
7. Developments of Dobby / Jacquard Design using different available software packages.
8. Practical utilisation of CAD systems in the preparation, Creation & processing of Designs for Textile Printing.
9. Latest Developments in the CAD system.
10. Developments of Software packages for different processes of Textiles

Practical :

This shall be based on the prescribed syllabi.

Term Work:

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

References :

- (1) Aldrich : CAD in Clothing and Textiles, 1994 edition, Hartnolls ltd.Great Britain
- (2) A.D. Sule : Computer Colour Analysis, New Age International publishers, New Delhi, 1997.
- (3) Chris H. Pappas & William H. Murry : C/C ++ Progammer's Guide, BPB Publications.New Delhi, 1996.

ELECTIVE (3) CAD/CAM

LIST OF PRACTICALS

1. Introduction to CAD system.
2. Development of Simpal computer graphic on Clothing design.
3. Development of Dobby designs.
4. Development of Jacquard designs.
5. Practical utilisation of CAD for creation, preparation & processing of Textile designing.
6. Development of softwere for different processes of textile.
7. Application of CAD in colour matching.
8. Development of production programme for different textile processes.

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B.E. IV (TEXTILE PROCESSING) Semester -VIII

TT - 805 IMPORT EXPORT MANAGEMENT

Teaching Scheme : (No. Of Contact Hrs.)			Theory Exams		Prac./Quiz/Viva/Exam			Grand Total
Theory	Tut.	Pract.	Duration (Hrs)	Marks	Tut.	Cont.Int Evauation	Sem. exam	
3	1	-	3	100	25	-	-	125

Theory:

1. Introduction to International Business :
 - Basis of International Trade.
 - Instruments of Trade : Tarrif / Quotas/ Exchange Control / Exchange Rate.
 - Balance of Payment & Balance of Trade.
 - International Economic Environment : Legal / Cultural / Political / Technical
 - International Economic Organisation : IMF / IBRD / UNCTAD / WTO
2. India's Export - Import Frame Work :
 - Export - Import policies (EOU / EPZ / Licensing)
 - Promotions and Regulations
 - Institutional set-up for Export Promotions
 - Canalisation , STC, MMTC
 - Export Finance, Export Procedure
 - Trends in India's Foreign Trade
3. International Marketing Strategies :
 - Overseas Market Research, Strategy for Entry
 - Indification and selection of product
 - Market Planning
 - Pricing for International Marketing
 - Channel of Distri bution, Trade Blocks.

References :

1. Y.K.Bhusan : Fundamentals of Business Organistion & Management, 13th edition, 1994, Sultan Chand & New Delhi.
2. B.S. Rathore & J.S. Rathore- Export Import management Himalaya Publishing House, Bombay-1993
3. T.A.S. Balgopal- Export Management Himalaya Publishing House, Bombay-1993
4. R.L.Varshney & B. Bhattacharya--
International Marketing Management & Indian Perspective.
Sultan chand & Sons, New Delhi-1994

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

TT - 806

PROJECT WORK

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	
-	-	6	-	-	125	100	225

Student will select a topic for project work in consultation with the guiding teacher. The Student will have to do literature survey & experimental work on that topic. At the end of the semester he/she will have to submit a report on his/her work. The Student will present his/her topic in front of an audience consisting of staff and students. His/her performance will be assessed on the basis of his/her project report and presentation.