

Manonmaniam Sundaranar University – Tirunelveli
B.Voc. Fashion Technology
(From 2019-2020 Onwards)
Course Structure and Syllabus for III and IV Semesters

Sem.	Course Code	Course Title	Hrs./Week	Credits	Marks					
					Maximum			Passing Minimum		
					Int.	Ext.	Total	Int.	Ext.	Total
III		General Component								
		Theory: Environmental Studies	4	4	25	75	100	10	30	40
		Practical: Fashion Illustration and Rendering Techniques	4	4	50	50	100	20	20	40
		Practical: Advanced Computer Aided Designing	4	4	50	50	100	20	20	40
		Sub - Total	12	12			300			
		Skill Component								
		Theory: Elegant Embroidery Art	5	5	25	75	100	10	30	40
		Practical: Surface Adornment	4	2	50	50	100	20	20	40
		Theory: Designing of Women's Wear	5	5	25	75	100	10	30	40
		Practical: Construction of Women's Attire	4	2	50	50	100	20	20	40
		Industrial Visit		4						completion
	Sub - Total	18	18			400				
	Total – Sem- III	30	30			700				
IV		General Component								
		Theory: Yoga	4	4	50	50	100	20	20	40
		Practical: Art Portfolio	4	4	50	50	100	20	20	40
		Practical: Fabric Printing	4	4	50	50	100	20	20	40
		Sub - Total	12	12			300			
		Skill Component								
		Theory: Fabric Structure and Design	5	5	25	75	100	10	30	40
		Practical: Fibre and Fabric Analysis	4	2	50	50	100	20	20	40
		Theory: Apparel Production Management	5	5	25	75	100	10	30	40
		NSQF Level-6: Practical: Industrial Engineer	4	2	50	50	100	20	20	40
		Mini Project		4	50	50	100	20	20	40
	Sub - Total	18	18			500				
	Total – Sem - IV	30	30			800				
	Total – II Year	60	60			1500				

SEMESTER - III

Contact hours per week: 4

Total Number of Hours per semester: 60

L	T	P	C
4	-	-	4

Objectives:

- To create awareness about the environment, ecosystem to the students.
- To make them known about the bio-diversity, social and environmental issues.

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:

- Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people.
- Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management.
- Mineral resources: Use and exploitation, environmental effects.
- Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems.
- Energy resources: Growing energy needs, renewables, non-renewable energy sources, alternate energy sources.
- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

- Forest Ecosystem
- Grassland Ecosystem
- Desert ecosystem
- Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) Energy flow in the ecosystem Ecological succession Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity.

Biogeographical classification of India

Values of Biodiversity

Biodiversity at global, national and local levels

India as a mega-diversity nation

Hot-Spots of biodiversity ‘

Threats to biodiversity

Endangered and endemic species of India

Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-

- Air Pollution
- Water Pollution
- Soil Pollution
- Marine Pollution
- Noise Pollution.

f) Thermal Pollution
Solid Waste Management
Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.
Wasteland reclamation
Consumerism and Waste products, use and through plastics
Environment Protection Act Air (Prevention and Control of Pollution) Act
Water (Prevention and Control of Pollution) Act
Wildlife Protection Act
Forest Conservation Act
Population Explosion — Family Welfare Programme
Human Rights

REFERENCES:

1. G.S. Vijayalakshmi, A.G. Murugesan and N. Sukumaran. 2006. Basics of Environmental Science, ManonmaniamSundaranar University Publications, Tirunelveli , pp.160.
2. Agarwal. K.C. 2001. Environmental Biology, Nidi Publications Limited, Bikaner.
3. A.K.De. 1999. Environmental Chemistry, Wiley Eastern Limited, India.
4. Jadhav,H. and Bhosale, V.M.1995. Environmental Protection and Laws, Himalaya Publishing House, Delhi. pp284.
5. Odum, E.P.1971. Fundamentals of Ecology, W.B.Saunders Co., USA. pp.574.

FASHION ILLUSTRATION AND RENDERING TECHNIQUES**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	4

Objectives:

- To make the students understand the draping techniques of the garments on croqui.
 - To teach basic proportions of men's croquis and kid's croquis
1. Basic children's croquis- New born, 1 year, 2 years, 4 years, 6 years, 8 years, 10 years, 12 years, 16 years.
 2. Children's garments - Kids play wear, uniforms and Party wear.
 3. Basic men's croquis and their various poses.
 4. Men's garments - casual, formal and Party wear.
 5. Basic Women's croquis and their various poses.
 6. Women's wear designs- Formal, casual and Ethnic with special emphasis.
 7. Conceptualize and design a thematic collection of 6 garments.

References:

- Garthe.M –(1996)- *Fashion and Color*- Rockport publishers-Massachusetts
- Massachusetts .B –(2008)- *Essential Fashion Illustration Colour + Medium* ,Rockport Publishers, Gloucester, MA
- Drake.N– (1994) *Fashion Illustration Today* -Thames & Hudson - London.
- Nunnely C.A – (2009) -*Fashion Illustration School* - Thames & Hudson- London

ADVANCED COMPUTER AIDED DESIGNING**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	4

Objectives:

- To familiarize various tools and their application in CorelDraw.
- To enhance the skill of pattern making using Industrial CAD Software

Create the following designs

1. Create chest print design for T-Shirt using CorelDraw.
2. Create designs for following Women's Wear using CorelDraw.
 - Kitchen Apron - different styles
 - House Coat – different styles
 - Middi and Middi Top – different Styles
 - Princess Line Dress – different Styles
3. Create designs for following Men's Wear using CorelDraw.
 - S B Vest
 - S B Coat
 - Trousers
4. Create Pattern for Men's T-Shirt using any CAD Software
5. Create Pattern for Men's Knitted Pant using any CAD Software

ELEGANT EMBROIDERY ART**Contact hours per week: 5****Total Number of Hours per semester: 75**

L	T	P	C
5	-	-	5

Objectives:

- To understand the fundamentals of embroidery and orients the learners in the field of fashion design.
- To know the hand embroidery stitches, machine embroidery and traditional embroidery in apparel industry.

UNIT – I: Fundamentals of Embroidery:

Fundamentals of Embroidery – General rules for hand and machine embroidery. Selection of material, thread, and needle Methods of tracing design.

UNIT – II: Hand Embroidery Stitches:

Hand embroidery Stitches – Running, stem, Blanket , Lazy daisy, chain, couching, Herringbone, Fish bone, Feather – single and double, Rumanian seeds, Cross, Fly, Satin , Long and Short, French knot, Bullion knot, Double knot, Lettering – Alphabets and Monogram work.

UNIT – III: Machine Embroidery stitches:

Machine Embroidery stitches – Running, cording, Satin, Long and Short, Granite, Eyelet, Cutwork, Letters Monograms, appliqué on net.

UNIT – IV: Traditional Indian Embroidery:

Origin of Indian Embroidery .Embroidery stitches used – Kashida of Kashmir, kantha of Bengal, Phulkari of Punjab, Embroidery of Kutch and Kathiawar, Zari embroidery, Kasuti of Karnataka, Chikankari of Luck now – Types, Colours, Motiffs, Fabric used and their historical importance.

UNIT – V: Surface trimmings and Decorations:

Creating style through surface trimmings and Bias trimmings, Ric-Rac, Ruffles, Smocking, Faggoting, Drawn thread work, Cutwork, Belts and Bows, Quilting, Patch work, Appliqué work – velvet, plain, printed appliqué. Mirror work, Sequins, patch work, Bead work, Shadow work, Fabric painting –using fabric colors, glitters, pastes.

Reference:

1. Practical clothing construction Part I,II – Mary Mathews
2. Indian embroidery – Kamaladevi 3. Creative art of embroidery – Barbara snook.

SURFACE ADORNMENT**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	2

Objectives:

- To learn the hand embroidery stitches making skill.
- To make awareness about the traditional embroidery stitches and also other surface trimmings.

A. Prepare samples for the following:

1. Hand Embroideries – 20 Stitches – 10 samples
2. Machine Embroidery – 7 Stitches – 3 samples

B. Prepare samples for the following Traditional Embroidery Work:

1. Kantha of Bengal
2. Chikankari of Lucknow
3. Kasutiof Karnataka
4. Kashida of Kashmir
5. Phulkari of Punjab

C. Prepare samples for the following Surface Ornamentation:

1. Appliqué work
2. Patch work
3. Mirror work
4. Sequins work
5. Bead work

References:

1. Nirmal C. Mistry, Embroidery, Naganeeth Publications Ltd., 1999.
2. Kit Pynan and Carole, The Harmony Guide to Decorative Needle Craft, Lyric Books Ltd., 1982.
3. Shailaja m. and Naik. D., Traditional Embroideries of India, KPH Publishing Corporation, 1996.
4. Ritu, Attractive Embroidery Designs, Indica Publishers, 1995.
5. Modern Embroidery Series, MBD Publishers, 1995.

DESIGNING OF WOMEN'S WEAR**Contact hours per week: 5****Total Number of Hours per semester: 75**

L	T	P	C
5	-	-	5

Objectives:

- To learn designs and drafting for various style of Women's wear.
- To acquaint the suitable layout methods for the effective utilization of fabric.
- To understand various sewing techniques for achieving the finest garment finishing.

Unit – I:

Designing and drafting Saree Petticoat and Blouse:

1. Six gore saree petticoat

Features:

- a) Six panels
- b) Frilled edge

2. Four gore saree petticoat

Features:

- a) Four panels
- b) Frilled edge

3. Blouse

Features:

- a) Front open
- b) Fashion neck
- c) Waist band
- d) Any sleeve

4. Katoricholi

Features:

- a) Kato
- b) Waist band
- c) Belt

Unit-II:

Designing and drafting Middi and Middi Top

5. Middi

Features:

- a) With (or) without open
- b) Waist band of elastic
- c) Panel

6. Middi Top

Features:

- a) Back (or) front open
- b) Collar
- c) Fashioned full sleeve with (or) without cuff

Unit – III:

Designing and drafting Maxi and Nighty

7. Maxi

Features:

- a) Back open
- b) Trimmings in Front
- c) Fashioned neck
- d) Fashioned sleeve

8. Nighty

Features:

- a) Yoke
- b) Bell sleeve
- c) Gathered bottom
- d) Attaching trimmings

Unit – IV:

Designing and drafting Surwar and Kurta , Ladies pant and shirt

9. Surwar

Features:

- a) Tape (or) Elastic attached waist
- b) Designed bottom

10. Kurta

Features:

- a) Fashioned Neck
- b) Fashioned Sleeve
- c) Side seam slit

11. Ladies Pant

Features:

- a) Waist band
- b) Zip attached
- c) Patch pocket

12. Ladies Shirt

Features:

- a) Half (or) Full open
- b) Collar
- c) Half (or) Full sleeve

Unit- V:

Designing and drafting Salwar and Kameez

13. Salwar

Features:

- a) Gathered waist with tape (or) elastic
- b) Bottom design

14. Kameez

Features:

- a) Fashioned front body
- b) Back (or) front open
- c) Fashioned Neck
- d) Fashioned sleeve

References:

1. Scientific Garment Quality – by K.M. Hedge & Sons. Plot No: 43, Somuwarpetnpoona – 411 011.
2. Easy Cutting – By Juvekar commercial Tailors Corporation Pvt. Ltd. 166, Dr. Ambedkar Rd., Dadar.

3. Commercial system of cutting – By Juvekar commercial Tailors Corporation Pvt. Ltd. 166, Dr. Ambedkar Rd., Dadar.
4. Zarpkar System of Cutting – By K.R. Zarpkar, Navneet Publication Ltd. Mumbai/ Ahmedabad/ Nagpur.
5. Dress Making – By Smt. ThangamSubramaniam, Bombay Tailoring & Embroidery College, 32 – North Park St., Ambatur, Madras – 600 053.
6. Practical Clothing Construction Part I and II – By Mary Mathews Thompson & Co, Pvt. Ltd. Madras – 600 001

CONSTRUCTION OF WOMEN’S ATTIRE**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	2

Objectives:

- To make designs and pattern for various style of Women’s wear.
- To practice suitable layout methods for the effective utilization of fabric.
- To apply various sewing techniques for achieving the finest garment finishing.

1. Six gore saree petticoat

Features:

- c) Six panels
- d) Frilled edge

2. Four gore saree petticoat

Features:

- c) Four panels
- d) Frilled edge

3. Blouse

Features:

- e) Front open
- f) Fashion neck
- g) Waist band
- h) Any sleeve

4. Middi

Features:

- d) With (or) without open
- e) Waist band of elastic
- f) Panel

5. Middi Top

Features:

- d) Back (or) front open
- e) Collar
- f) Fashioned full sleeve with (or) without cuff

6. Maxi

Features:

- e) Back open
- f) Trimmings in Front
- g) Fashioned neck
- h) Fashioned sleeve

7. Kurta

Features:

- d) Fashioned Neck
- e) Fashioned Sleeve
- f) Side seam slit

8. Ladies Pant

Features:

- d) Waist band
- e) Zip attached
- f) Patch pocket

9. Ladies Shirt

Features:

- d) Half (or) Full open
- e) Collar
- f) Half (or) Full sleeve

10. Salwar

Features:

- c) Gathered waist with tape (or) elastic
- d) Bottom design

11. Kameez

Features:

- e) Fashioned front body
- f) Back (or) front open
- g) Fashioned Neck
- h) Fashioned sleeve

SEMESTER - IV

YOGA**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
4	-	-	4

Objectives:

- Prevention of health problems and rehabilitation through yoga
- Promoting positive health
- Promoting total personality development of students in colleges and Universities
- Invoke positive attitude and spirit to channelize their energies in to creative and constructive endeavors.

Unit – I – Introduction to Human Body

Body Structure - Systems of Human Body – Body Function – Physical Health – Physical Fitness – meaning of wholesome development.

Unit – II – Yoga

Origin and development of Yoga - Meaning and importance of Yoga - Yoga as a Science - Principles of Yogic Practices, Yogic therapies and modern concept of Yoga – Balanced Diet.

Unit – III – Mental Health

Mind – Mental Health -Stages of Mind – Mental frequency – Mind training process – Methods of concentration – Brain and memory power.

Unit IV –Asanas and Kapalabhati

Importance of preparatory exercises - Meaning of Asana, its types, benefits and principles - Meaning of Kapalabhati, its types, benefits and principles.

Unit V – Pranayama and Meditation

Meaning of Pranayama, its types, benefits and principles - Meaning of Meditation, principles and its benefits.

Practical

1. Simplified Exercises / Warm-up
2. Yogasana
 - a. Standing - Tadasana, Vriksasana, padahastasana, ArdhaCakrasana, Trikonasana
 - b. Sitting - Bhadrasana, ardhastrasana, sasankasana, vakrasana
 - c. Prone - Bhujangasana, salabhasana, makarasana,
 - d. Supine – Sethubandhasana, Pavanamutasana, savasana
3. Kapalabhati
4. Pranayama
5. Meditation and Relaxation.

Assessment:

CIA	– 25 marks
Practical	– 25 marks
Theory Examination	– 50 marks (Objective type)

Total - 100 marks

References:

- Anatomy and Physiology of Yogic Practices - M.M Ghore, Kaivalyadhama, Lonavala, Pune - 4.
- Yoga for different ailments - series published by SVYASA, Bangalore and Bihar Yoga Bharati.
- Yoga therapy : by Swami Kuvalayanand, Kaivalyadhama, Lonavala.
- Pranayama - B.K.S. Iyengar
- Asana, Pranayama, Mudra, Bandha - Swami SatyanandaSaraswati, Bihar School of Yoga, Munger.
- Promotion of positive Health - published by SVYASA, Bangalore

ART PORTFOLIO**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	4

Objectives:

- To create awareness about the Art Portfolio preparation
- To impart the concept of portfolio development in fashion industry.

1. Portfolio preparation of Kids' wear

Mood board – Theme board - ColourPaletter - fabric development Chart – Design Development Chart – Specification Sheet - Customer Profile

2. Portfolio preparation of Women's wear

Mood board – Theme board - ColourPaletter - fabric development Chart – Design Development Chart – Specification Sheet - Customer Profile

3. Portfolio preparation of Men's wear

Mood board – Theme board - ColourPaletter - fabric development Chart – Design Development Chart – Specification Sheet - Customer Profile

Reference:

1. NirupamaPundir – Fashion Technology Today and tomorrow Mittal Publication, 2007.
2. Jenny Devis – A Complete Guide to Fashion designing, Abishek, Publications, 2007

FABRIC PRINTING**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	4

Objectives:

- To know about the traditional printing methods of India
- To understand the various methods in textile printing process.

Prepare samples for the following printing methods**Block Printing**

1. Vegetable block
2. Stick block
3. Nail block

Stencil Printing

4. Spray Method
5. Sponge Method
6. Painting Method

Tie and Dye

7. Tie and dye with circles effect
8. Tie and dye with stripes effect
9. Tie and dye with pleats effect
10. Tie and dye with spiral effect
11. Tie and dye with marble effect
12. Tie and dye with 'V' shape effect

Batik Printing

13. Batik with geometric designs
14. Batik with freeform designs

Screen Printing

15. Hand Screen printing

FABRIC STRUCTURE AND DESIGN**Contact hours per week: 5****Total Number of Hours per semester: 75**

L	T	P	C
5	-	-	5

Objectives:

- To understand the fabric forming techniques and fabric design.
- To learn the classification of looms, construction of elementary weaves in textile industry.

UNIT – I:

Weaving: Fabric forming techniques – weaving. Definition – sequencing of weaving preparation process – Terms related to woven fabric – Loom – Definition – Important motions of a loom – classifications of looms – parts of loom – passage of material through looms – shuttle loom – shuttle less loom.

UNIT – II:

Woven Design: Elements of woven design, methods of fabric representation, draft and lifting plan, construction of elementary weaves – plain, warp, rib, weft rib, twill, and modification of twills, satin and sateen weaves – their derivatives.

UNIT – III:

Fancy weave: Ordinary and brighten honey comb, its modification, huck – a – back and its modifications, crepe weaves, mock leno.

UNIT – IV:

Extra warp and weft figuring: Extra warp and weft figuring – single and two colors, comparison between extra warp and extra weft figuring.

UNIT – V:

Pile fabric and Double cloth: Pile fabric – basic structure, Weft plush, terry pile. Double cloth – classification, self-stitched – face to back, back to face, stitched double cloth – warp and centre stitched double cloth.

Reference:

1. Watson's Textile Design and Colour., Grosichkli . Z. Newness
2. Textiles – fibre to fabric, Corbmann .B.P.,
3. Fabric structure and Design, N.Gokarneshan.

FIBRE TO FABRIC ANALYSIS**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	2

Objectives:

- To test the various properties of Fibre, yarn and Fabric.
- To analyse the structure of woven and knitted fabrics.

1. Fibre Testing:

Identification of textile fibres by
 Microscopical Test
 Solubility Test
 Burning Test

2. Yarn Testing:

Test the following properties and analyse the quality of yarns.
 Yarn count
 Yarn Twist
 Lea Strength
 CSP calculation

3. Fabric Analysis:

Analysis of following fabrics for Design, Draft, Peg Plan and Ends per inch and Picks per inch,
 Plain weave and its derivatives
 Twill Weaves – 2/1, 3/1
 Satin / Sateen
 Honey comb
 Huck-a-back
 Crepe weaves
 Extra Warp & Extra Weft
 Mock leno
 Pile weave
 Fancy weave
 Single Jersey Knit
 Interlock Knit
 Rib

TEXT BOOKS

- T.R. Ashenhurst, (2008). *Textile Calculation and Structure of Fabric*. Abhishek Publications.
- Sara J. Kadolph, (2009). *Textiles*. New Delhi: Pearson Education India Pvt.Ltd.
- N. Gokarneshan, (2009). *Fabric Structure and Design*. New Age International Pvt.Ltd.

REFERENCES

- Grosichkli Z Newness, (2004). *Watson's textile design and colour*. London: Butter Worths.
- W.S. Murphy, (2003). *Textile Weaving and Design*. AbhishekPublications.
- K. Green Wood, (2004). *Weaving control of Fabric Structure*. Woodhead Publications.
- MeenakshiRastogi, (2009). *Textile Forming*. SonaliPublications.
- Z.J.Grosichkli,(2004). *Watson's advanced Textile Design*. Woodhead Publications.

E-References:

IDENTIFICATION OF FIBRES:

- http://content.inflibnet.ac.in/data-server/eacharya-documents/53e0c6cbe413016f234436ed_INFIEP_8/3/ET/8_ENG-3-ET-V1-S1 lesson.pdf.
- **YARN TESTING:** http://eacharya.inflibnet.ac.in/data-server/eacharya-documents/53e0c6cbe413016f234436ed_INFIEP_8/14/ET/8_ENG-14-ET-V1-S1 lesson.pdf
- **FABRIC TESTING:** http://eacharya.inflibnet.ac.in/data-server/eacharya-documents/53e0c6cbe413016f234436ed_INFIEP_8/15/ET/8_ENG-15-ET-V1-S1 lesson.pdf
- **FABRIC ANALYSIS:** https://web.itu.edu.tr/~berkalpo/Weaving_Lecture/Weaving_Chapter1a_06S.pdf. https://www2.cs.arizona.edu/patterns/weaving/books/pea_fa_1.pdf
- **BURNING TEST:** <https://www.youtube.com/watch?v=xmKKvepQujo>

WEBSITES:

- <https://textilelearner.blogspot.com>.

APPAREL PRODUCTION MANAGEMENT**Contact hours per week: 5****Total Number of Hours per semester: 75**

L	T	P	C
5	-	-	5

Objectives:

- To learn the function and types of organizational structure.
- To acquaint the skills of production management in apparel industry.

UNIT-I

Introduction to structure and sectors of clothing industry – function and types of organizational structure. Introduction to garment industry plant location. Types of plant layout – process, product and combination layout.

UNIT – II:

Study of different production systems – batch – group – individual systems – advantages and disadvantages of complete garment system. Individual part system- progressive bundling system – synchronized straight line products.

UNIT –III:

Study and planning of process involved up to fabric storage, study and planning for processing involved in the process for various garments. Preparation of production process flow charts. Preparation of production schedule for children's, women's and men's wear. Difference between production schedule for woven and knitted garment production.

UNIT-IV:

Production planning and control of raw material – machinery- labour. Estimation of machinery requirements. Estimation of labour requirements. Study of fabric waste and utilization of fabric waste- Maintenance of machinery and equipments- Maintenance schedule for preventive maintenance.

UNIT- V:

Job shop, open job shop, closed job shop, forecasting, technological forecasting, planning to meet seasonal sales of demand. Economical batch quantity various records, charts and data used in garment industry. Production planning for Export markets.

Reference:

- 1.Ravindranath V Bedi, Prof.NarayanaseV.Bedi “ Modern Production Management” Vrinda Publications Ltd.,
- 2.RajeshBheda, Managing Productivity in the Apparel industry” CBS Publications 2003.
3. Chuter A.J. “Introduction to clothing production management Blackwell Publishing House 1995.
4. Harold Carr and Barbara Latham “Technology of clothing Manufactures” Blackwell Publishing House, 1994.

INDUSTRIAL ENGINEER**Contact hours per week: 4****Total Number of Hours per semester: 60**

L	T	P	C
-	-	4	2

Objectives:

- To impart knowledge about the concept of industrial engineering, process of work measurement.
- To know the importance of plant layout, planning tools and material handling systems related to the apparel industry.

Introduction: Definition, Benefits, Roles and responsibilities of industrial engineer in apparel industry.

1. Prepare Method study chart for a garment in apparel industry.
2. Prepare a Flow Process chart for a garment in apparel industry.
3. Prepare a Multiple activity chart and Travel Chart for apparel production.
4. Prepare a String diagram for apparel production.
5. Prepare a marker planning for readymade garment sector.
6. Prepare a chart for sewing operations sequence for Men's shirt.
7. Prepare a workflow schedule for a garment industry.
8. Prepare a sample operational bulletin for apparel production
9. Prepare a pitch diagram for production line in apparel industry.
10. Prepare a costing sheet for a garment in apparel production

Reference and Text Books:

- Gerry Cooklin, (1991). *Introduction to Clothing Manufacture*. UK, Oxford: Blackwell Science Ltd.
- Jacob Solinger, (1998). *Apparel Manufacturing Hand Book*. New York: Columbia Bobbin Media Corp.
- Johnson Maurice, (2001). *Introduction of Work Study*. Geneva: International Labour Office.
- Khan M.I (2007). *Industrial Engineering*. New Delhi: New Age International.
- Khanna, O.P. (1987). *Industrial Engineering and Management*. New Delhi: DanpatRai Publishing.
- Mary Mathews, (1974). *Practical Construction Part – I & II*. Chennai: Cosmic Press.
- Ralph M. Barnes. (1980). *Motion and Time Study Design and Management of Work*. New Jersey: JohnWiley and sons.