



PERIYAR UNIVERSITY

Periyar Palkalainagar
Salem-636 011



School of Professional Studies
DEPARTMENT OF TEXTILES AND APPAREL DESIGN

Bachelor of Vocation (B.Voc)
Choice Based Credit System

REGULATIONS AND SYLLABUS
Effective from the academic year 2018 - 2019 and thereafter

**B.Voc Textiles and Apparel Design
Regulations and Syllabus
Effective from the academic year 2018 - 2019 and thereafter**

The department was established during the year 2015-2016. The Undergraduate course offered by the Department is B.Voc in Textiles and Apparel Design which gives an in-depth knowledge of fashion designing, Basics of textiles, Sewing Machine Operator, Production Supervisor, Draping, Garment Construction, Textile Analysis, Textile Processing, Sourcing Manager, Apparel merchandising, Industrial Engineering and Computer Application in Designing.

Duration of the Programme

The three-year undergraduate program in B.Voc Textiles and Apparel Design consists of six semesters under Choice Based Credit System with NOS/QP packs approved by the Sector Skill Council.

Eligibility for Admission

A Pass 10+3 Year Diploma, A Pass in Higher Secondary Examination (Academic or Vocational Stream) conducted by the Government of any state. No age Limit.

Teaching Methodologies

The teaching method will be “Student Centered approach” like On-the-Job Training, Internship, field trip and demonstration.

Examinations

Semester pattern is followed. The examination for the Semester I, III and V will be held in November/December and for Semester II, IV and VI will be in the month of April/May. NSDC Assessment will be held on the Sewing Machine Operator, Production Supervisor, Industrial Engineering and Sourcing Manager Levels followed by NOS.

Scheme for valuation

Evaluation will be done on a continuous basis and will be evaluated four times for a course. The first evaluation will be in the 7th week, the second in the 11th week, third in the 16th week and the end – semester examination in the 19th week. Evaluation will be done by multiple choice questions, analytical and descriptivetypes.

Credit Calculation

	Method of teaching	Hours	Credit
Lecture		1	1
Tutorial/Demonstration		1	1
Practical/Internship/On the job training/ self-Learning		2	1

Scheme for Internal Marks in Theory (Maximum marks - 25)

Attendance	- 05 marks
Assignment	- 05 marks
Internal Tests Best one of two tests	- 10 marks
Model Exam	- 05 marks

Scheme for Internal Marks in Practical (Max.marks-40)

Record	- 20 marks
Model Exam	- 20 marks

Question Paper Pattern (Theory)

Duration of the Examination - 03 hours

Maximum Marks: 75 Marks

Part A MCQ	Answer All Questions	20 x 1 = 20 marks
Part B Analytical	Answer any 3 out of 5 questions	03 x 5 =15 marks
Part C Descriptive	Answer All Questions (Either or Choice)	05 x 8 = 40 marks

PROGRAMME OUTCOMES

1. The graduates will be employable at various levels (Certificate, Diploma, Advanced Diploma and Degree) of the programme.
2. The graduates have creative and innovative skills in the field of Textiles, Design and Apparel Industry.
3. The graduates can start up their business, freelance and consultancy
4. The graduates are capable of dealing with the recent developments and research in Textiles and Apparel Industry

GRADUATE ATTRIBUTES:

1. Analysis of fibre to end use:

Analyze the structure and processes of the fibre, yarn, and fabric.

2. Professional sewing skills:

Apply essential knowledge and abilities in sewing, sewing machine operations, various industrial apparel machine maintenance, and Standard operating procedures in Apparel manufacturing units.

3. Design Development:

Execute the core fashion designing skill sets for the work function of a fashion designer, such as colour concepts, design elements and principles, customised, industrial pattern making and portfolios.

4. Research and inquisition

Develop research abilities for market research, trend analysis and forecasting, novel product development and design consulting.

5. Vocational and Industrial Exposure:

Effortlessly obtain placements with skills acquired in Textiles, Apparel and Design which prepare the students to be technical experts in their chosen field.

6. Sustainable Development:

Competent to work on up-to-date requirements in the Textile and Apparel Industries with expertise in quality norms and systems connected to Sustainable Apparel Production.

7. Innovation and Entrepreneurship:

In an organization the graduates perform as a capable leader, able administrator and innovative design thinker. With their entrepreneurship knowledge, graduates can become Entrepreneurs and also become creative freelancers with design innovation in clothes and computer applications.

8. Management Techniques

Administer the managerial responsibility by following the Standard Operating Procedures. The graduates will help to reduce waste, enhance factory efficiency, productivity and solve problems by applying their knowledge and skills of the lean manufacturing process and Six Sigma.

9. Personality Development:

Achieve consistent performance in professional context with the use of Communication skills, etiquettes and adaptable awareness

10. Value Education

By practising yoga and physical fitness and raising environmental consciousness, the graduates can achieve their professional and personal goals.

11. Digital literacy:

Demonstrate their proficiency by using software like Photoshop, Corel Draw, TUKA-CAD, and MS-Excel.

PROGRAMME SPECIFIC OUTCOMES:

PSO1. Make use of acquired knowledge to analyse fibre to its end use.

PSO2. Apply their key knowledge in their professional Sewing skills.

PSO3. Execute the fundamental design development skills.

PSO4. Apply research skills for design and market needs.

PSO5. Acquire employment with their vocational and industrial exposure.

PSO6. Apply sustainable quality standards in Textile and Apparel production.

PSO7. Become an entrepreneur, act as an efficient leader and apply design thinking in innovation and carryout freelancing opportunities.

PSO8. Apply management tools and techniques to improve processes and products.

PSO9. Achieve consistent performance in working environment with effective communication and etiquettes

QP	5	Production Supervisor	High	High	Medium	High	High	Low	Low	High	Medium	Nil	Nil
LEC	5	Textile Processing	High	Nil	High	High	Medium	High	High	High	Nil	High	Medium
LAB	3	Industrial Pattern Making (P)	Low	High	High	High	High	High	High	Medium	Nil	Nil	High
LEC	5	Industrial Garment Machineries	Nil	High	Low	Medium	Medium	Medium	Nil	Nil	Nil	Nil	Nil
LAB	3	Fashion illustration (P)	Nil	Nil	High	High	Low	Low	High	Nil	Nil	High	High
LAB	3	MS Excel (P)	Nil	Nil	Nil	Medium	Medium	High	High	High	Nil	Nil	High
LEC	5	Textile and Apparel Quality Control	High	Low	High	High	High	Medium	High	High	Medium	Low	Low
LAB	3	Garment Construction (P) - I	High	High	High	High	High	Medium	High	Medium	Low	Low	Low
LAB	3	Draping (P)	High	High	High	High	Medium	Medium	Low	High	Low	Low	Low
LEC	5	Knitting Technology	High	High	High	High	Medium	High	High	Medium	Low	Nil	Low
LAB	3	Corel Draw (P)	Nil	Nil	High	Low	High	Medium	Low	Low	Nil	Nil	High
LEC	5	Principle of Management	Nil	Nil	Nil	High	Medium	Medium	High	High	High	Nil	Nil
QP	5	Industrial Engineer	Low	High	Nil	High	High	Low	Low	High	Low	Nil	High
LEC	5	Industrial Garment Costing	High	High	High	High	High	High	High	High	Medium	Nil	High
LEC	5	Lean Management	High	High	High	High	High	Medium	Medium	High	Low	Nil	Low
LAB	3	Garment Construction (P) – II	High	High	High	High	High	High	High	Medium	Low	Low	Low
LAB	5	Adv. Fabric Structure Analysis (P)	High	Nil	High	High	High	Medium	Medium	Medium	Medium	Nil	Medium
LAB	3	Graphic Design (P)	Nil	Nil	High	Medium	High	High	High	Nil	Nil	Medium	High
LEC	5	Size and Fit Analysis	Nil	Nil	High	High	High	High	High	High	Medium	High	High
LEC	5	Sustainable Apparel Production	High	Nil	Medium	High	High	High	High	High	High	Medium	High
LEC	5	Entrepreneurship Development - I	Low	High	Medium	High	Medium	High	High	High	High	Low	High
LAB	3	Traditional Embroidery (P)	Medium	High	High	High	High	High	High	High	Medium	High	Low
LAB	3	Garment Construction (P) – III	High	High	High	High	High	High	High	Medium	Low	Low	Low
LEC	5	Design Thinking for Innovation	Nil	Low	High	High	High	Medium	Medium	High	Low	Low	Nil
LAB	3	Fashion Portfolio (P)	High	High	High	High	High	High	High	Medium	Medium	Medium	High
LEC	5	Six Sigma	Nil	High	High	High	High	Medium	Medium	High	Low	Nil	Low
LAB	3	Computerized Pattern Making (P)	Nil	Nil	High	High	High	High	High	High	Medium	Nil	High
LEC	5	Color and Design Forecasting	Medium	Medium	High	High	Low	High	High	High	Low	Nil	Nil
LEC	5	Entrepreneurship Development - II	Medium	Medium	High	High	High	High	High	High	High	Medium	High
LEC	5	Apparel Production and Planning	High	High	Low	High	High	High	High	High	High	Nil	Nil
LAB	3	Dyeing and Printing (P)	High	Low	High	High	High	High	High	Medium	Nil	High	Medium
QP	5	Sourcing Manager	High	Low	Nil	High	High	High	Medium	High	High	Nil	Medium

LEC - Lecture, LAB -Laboratory, EL- Experiential Learning, QP – Qualification Pack

High
71-100%
 Medium
31-70%
 Low
1-30%
 Nil
0

SCHEME OF EXAMINATION

Semester I									
Certificate :Textile Basics and Industrial Sewing Techniques							Duration: 06 Months		
Part	Subject code	Title of the Paper	HRS			Credit	Marks		
			L	T	P		CIA	EA	TOTAL
General Education Component									
I	18UPTAD2L01	Language - I Tamil - I	3	-	-	3	25	75	100
	18UPTAD2H01	Language - III Hindi - I							
II	18UPTAD2F01	Language – II Functional English Practical - I	1	1	2	3	40	60	100
III	18UPTAD2C01	Core – I Basics of Textiles	2	1	-	3	25	75	100
	18UPTAD2A01	Allied – I Basic Fabric Structure Analysis Practical	-	1	2	2	40	60	100
IV	18UPTAD2V01	Value Education – I Yoga and Fitness Practical	-	1	-	1	40	60	100
Skill Component									
V	18UPTAD2S01	QP – Sewing Machine Operator Level – 4 (Ref.ID: AMH/Q0301)	5	5	6	13	-	100	100
VI	18UPTAD2I01	Internship Assessment	-	-	-	1	20	30	50
VII	18UPTAD2P01	Portfolio Assessment	-	-	-	2	20	30	50
VIII	18UPTAD2M01	Mini Project and Viva Voce	-	-	-	2	20	30	50
Total			30			30			750

Semester II									
Diploma: Apparel Production							Duration: 01 Year		
Part	Subject code	Title of the Paper	HRS			Credit	Marks		
			L	T	P		CIA	EA	TOTAL
General Education Component									
I	18UPTAD2L02	Language - I Tamil - II	3	-	-	3	25	75	100
	18UPTAD2H02	Language - III Hindi - II							
II	18UPTAD2F02	Language – II Functional English Practical - II	1	1	2	3	40	60	100
III	18UPTAD2C02	Core – II Apparel Seams and Stitches Practical	-	1	2	2	40	60	100
	18UPTAD2A02	Allied – II Fashion Designing	1	1	-	2	25	75	100
IV	18UPTAD2V02	Value Education – II – Environmental Studies	1	1	-	2	25	75	100
Skill Component									
V	18UPTAD2S02	QP – Production Supervisor – Sewing Level – 5 (Ref.ID: AMH/Q2101)	5	5	6	13	-	100	100
VI	18UPTAD2I02	Internship Assessment	-	-	-	1	20	30	50
VII	18UPTAD2P02	Portfolio Assessment	-	-	-	2	20	30	50
VIII	18UPTAD2M02	Mini Project and Viva Voce	-	-	-	2	20	30	50
Total			30			30			750

Semester III									
Advanced Diploma: Industrial Engineering							Duration: 02 Years		
Part	Subject code	Title of the Paper	HRS			Credit	Marks		
			L	T	P		CIA	EA	TOTAL
General Education Component									
III	18UPTAD2C03	Core - III Textile Processing	2	1	-	3	25	75	100
	18UPTAD2C04	Core - IV Industrial Pattern Making Practical	-	1	2	2	40	60	100
	18UPTAD2C05	Core - V Industrial Garment Machineries and Equipments	3	-	-	3	25	75	100
	18UPTAD2A03	Allied - III Fashion illustration Practical	-	1	2	2	40	60	100
	18UPTAD2N01	Non-Major Elective -I MS Excel Practical	-	1	2	2	40	60	100
Skill Component									
V	18UPTAD2S03	QP - Industrial Engineer (IE) Executive Level – 6 (Ref.ID: AMH/Q 2001)	4	5	6	12	-	-	-
VI	18UPTAD2I03	Internship Assessment	-	-	-	1	20	30	50
VII	18UPTAD2P03	Portfolio Assessment	-	-	-	2	20	30	50
VIII	18UPTAD2M03	Mini Project and Viva Voce	-	-	-	3	20	30	50
Total			30			30			650
Semester IV									
General Education Component									
III	18UPTAD2C06	Core - VI Textile and Apparel Quality Control	2	1	-	3	25	75	100
	18UPTAD2C07	Core - VII Garment Construction Practical - I (Kids Wear)	-	1	2	2	40	60	100
	18UPTAD2C08	Core – VIII Draping Practical	-	-	2	1	40	60	100
	18UPTAD2C09	Core– IX Knitting Technology	2	-	-	2	25	75	100
	18UPTAD2A04	Allied – IV Corel Draw Practical	-	1	2	2	40	60	100
	18UPTAD2N02	Non-Major Elective – II Principle of Management	2	-	-	2	25	75	100
Skill Component									
V	18UPTAD2S03	QP - Industrial Engineer (IE) Executive Level – 6 (Ref.ID: AMH/Q 2001)	4	5	6	12	-	100	100
VI	18UPTAD2I04	Internship Assessment	-	-	-	1	20	30	50
VII	18UPTAD2P04	Portfolio Assessment	-	-	-	2	20	30	50
VIII	18UPTAD2M04	Mini Project and Viva Voce	-	-	-	3	20	30	50
Total			30			30			850

Semester V										
B.Voc Degree: Textiles and Apparel Design						Duration: 03 Years				
Part	Subject code	Title of the Paper	HRS			Credit	Marks			
			L	T	P		CIA	EA	TOTAL	
General Education Component										
III	18UPTAD2C10	Core - X Industrial Garment Costing	2	-	-	2	25	75	100	
	18UPTAD2C11	Core – XI Lean Management	2	-	-	2	25	75	100	
	18UPTAD2C12	Core – XII Garment Construction Practical – II (Women’s Wear)	-	1	2	2	40	60	100	
	18UPTAD2C13	Core – XIII Advance Fabric Structure Analysis Practical	-	1	2	2	40	60	100	
	18UPTAD2C14	Core – XIV Graphic Design Practical	-	1	2	2	40	60	100	
	Discipline Related Elective – I(Select anyone)									
	18UPTAD2E01	Size and Fit Analysis	2	-	-	2	25	75	100	
	18UPTAD2E02	Sustainable Apparel Production	2	-	-	2	25	75	100	
	18UPTAD2E03	Entrepreneurship Development - I	2	-	-	2	25	75	100	
	18UPTAD2E04	Traditional Embroidery Practical	-	2	-	2	40	60	100	
Skill Component										
V	18UPTAD2S04	QP - Sourcing Manager Level – 7 (Ref.ID: AMH/Q0920)	5	4	6	12	-	-	-	
VI	18UPTAD2I05	Internship Assessment	-	-	-	1	20	30	50	
VII	18UPTAD2P05	Portfolio Assessment	-	-	-	2	20	30	50	
VIII	18UPTAD2M05	Mini Project and Viva Voce	-	-	-	3	20	30	50	
Total			30			30			750	

Semester VI										
Part	Subject code	Title of the Paper	HRS			Credit	Marks			
			L	T	P		CIA	EA	TOTAL	
General Education Component										
III	18UPTAD2C15	Core – XV Garment Construction Practical – III (Men’s Wear)	-	1	2	2	40	60	100	
	18UPTAD2C16	Core – XVI Design Thinking for Innovation	2	-	-	2	25	75	100	
	18UPTAD2C17	Core – XVII Fashion Portfolio Practical	-	1	2	2	40	60	100	
	18UPTAD2C18	Core – XVIII Six Sigma	2	-	-	2	25	75	100	
	18UPTAD2C19	Core – XIX Computerized Pattern Making Practical	-	1	2	2	40	60	100	
	Discipline Related Elective – II(Select anyone)									
	18UPTAD2E05	Color and Design Forecasting	2	-	-	2	25	75	100	
	18UPTAD2E06	Entrepreneurship Development - II	2	-	-	2	25	75	100	

	18UPTAD2E07	Apparel Production and Planning Control	2	-	-	2	25	75	100
	18UPTAD2E08	Dyeing and Printing Practical	-	2	-	2	40	60	100
Skill Component									
V	18UPTAD2S04	QP - Sourcing Manager Level – 7 (Ref.ID: AMH/Q0920)	5	4	6	12	-	100	100
VI	18UPTAD2I06	Internship Assessment	-	-	-	1	20	30	50
VII	18UPTAD2P06	Portfolio Assessment	-	-	-	2	20	30	50
VIII	18UPTAD2M06	Mini Project and Viva Voce	-	-	-	3	20	30	50
		Total		30		30			850

Note :- L- Lecture, T-Tutorial, P- Practical, C- Credit, IA – Internal Assessment, EA – External Assessment

Part	Subject Title	Code
Part I	Tamil	T
	Hindi	H
Part II	Functional English Practical	F
Part III	Core	C
	Allied	A
	Non-Major Elective	N
	Discipline Related Elective	E
Part IV	Value Education	V
Part V	NSDC (National Skill Development Corporation) / Skill Based	S
Part VI	Internship	I
Part VII	Portfolio	P
Part VIII	Mini Project	M

முதல் பருவம்
மொழிப்பாடம் - I
தமிழ் - I

பாடக் குறியீட்டெண்:18UPTAD2L01

மதிப்பெண்:75மதிப்பெண்

Course Description:

இப்பாடநெறிமாணவர்களுக்குதமிழர் ஆடை பற்றிய நூல் இன்மையெநீக்குதற்கும்,தமிழர் ஆடையைப் பற்றியஅறிவைப் பெறுதற்கும்,அதன்வழிப் புலனாகும் தமிழரின் வாழ்வியற் கூறுகளைஅறிதற்கும் உதவுகிறது.

Course Outcomes (COs)

இப்பாடநெறி முடிவுறும்போது மாணவர்கள்,

S. No	Outcomes	Domains of Learning
CO1	தமிழர் நாகரீகம், பண்பாடு, நில அடிப்படையிலான தொழில்கள் சமூக அமைப்பு மற்றும் குடும்பவாழ்வுக் குறித்து வகைப்படுத்துவர்.	Cognitive
CO2	ஆடைகளின் தோற்றம் மற்றும் சொற்களை வகையறிந்து வேறுப்படுத்துவர்.	
CO3	சங்க இலக்கியம், காப்பியங்கள் மற்றும் பக்தி இலக்கியங்களில் ஆடைப்பற்றிய பதிவுகளைக் கண்டறிந்து கொள்வர்	
CO4	பொது ஆடைகள் மற்றும் தெய்வங்களுக்கு உடுத்தும் ஆடைகள் குறித்து தமிழ் இலக்கியங்களில் இடம் பெற்ற பதிவுகளை தெளிவாக அடையாளம் காண்பர்	
CO5	காலம், சூழல், வழிபாடுபோன்ற நிலையில் தமிழ் இலக்கியங்களில் ஆடையினைக் கையாளும் முறைகளை தீர்வுகாணும் நிலையில் மதிப்பிடுவர்.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1		L	L	L	M		L	M	M	L	
CO2	H	L	M	M	L	L	L		M	L	
CO3	L		L		L		L		M	M	
CO4	M		L		L		L		M	L	
CO5	L		L		L		L		M	L	

Unit	Unit Title	Learning Chapters
I	தமிழர் நாகரீகம்,பண்பாடு	தமிழ் மொழி- தமிழ் மக்கள் - நாகரிகமும் பண்பாடும் - தொழிற்பிரிவினரும் சமூக அமைப்பும் (தச்சுத்தொழில், கொல்லுத்தொழில், மட்பாண்டத் தொழில்,நெய்தற் தொழில் - குறிஞ்சி நிலக் குறவர்கள், முல்லை நிலத்து ஆயர்கள்,நெய்தல் நிலப் பரதவர், மருதநில உழவர்) - தமிழரின் திருமணமுறை (மரபு வழி மணம், சேவைமணம், போர் நிகழ்த்திமணம், துணங்கையாடிமணம், பரிசம் கொடுத்துமணம், ஏறு தழுவிமணம், மடலேறுமணம்)- குடும்பவாழ்வு.
II	ஆடையின் தோற்றம், வகைகள்	ஆடையின் தோற்றம் - ஆடை பற்றிய சொற்கள் (உடை- ஆடை- தழை- நாருடை- துகில்- கலிங்கம்- அறுவை- சிதார்- தாளை- காழகம்- மடி- பட்டு- பூங்காலை- நீலம்- தூசு- புட்டகம்- கம்பல்- நூல்- வாலி- துகச்சை- மெய்ப்பை- உத்தரீயம்- போர்வை- கவசம்- அர்த்தம்- ஈரங்கட்டு- கோடி- கூறை- புடைவை- வட்டுடை- வங்கச்சாதர்- வட்டம்- கோசிகம்- காம்பு- நேத்திரம்- நீவி- கலை- இரட்டு- பீதகம்- கோபம்- பரியட்டக்காசு- தேவாங்கு) ஆடை பற்றியவிளக்கம் -ஆடைகளின் வகைகள் - ஆடை பற்றிய ஆய்வு-ஆடையை தோந்தெடுக்கும் கலை.
III	ஆடை பற்றியஆய்வு, ஆடையை தோந்தெடுக்கும் கலை.	கலைக்களஞ்சியம், அபிதானசிந்தாமணியில் ஆடையை குறிக்கும் சொல் - அகராதிகள் - சங்க இலக்கியத்தில் ஆடை (நற்றிணை, ஐங்குறுநூறு, பரிபாடல், கலித்தொகை, புறநானூறு)- காப்பியங்களில் ஆடை (சிலப்பதிகாரம், மணிமேகலை, சீவகசிந்தாமணி, நீலகேசி, சூளாமணி) - பக்தி இலக்கியத்தில் ஆடை.
IV	பொதுஆடைகள் மற்றும் நம்பிக்கைகள்	குழந்தைகள் - ஆடவர் - பெண்டிர் - பொது ஆடைகள் அடையும் அணியும் - ஆடை பற்றிய பழமொழிகள் - ஆடை பற்றிய நம்பிக்கைகள் - தெய்வங்களுக்கு உடுத்தும் ஆடைகள் (சிவபெருமான், திருமால், முருகன், விநாயகன், உமை).
V	ஆடையினைக் கையாளும் முறைகள்	காலமும் ஆடையும் - ஆடையும் சடங்குச்சூழலும் - கைம்பெண்டிர் ஆடை - துறவிகள் ஆடை- வழிபாடும் ஆடையும் - ஆவலும் ஆடையும் - நிலமும் ஆடையும் ஆடையினைக் கையாளும் முறைகள்.

பார்வை நூல்கள்

முக்கியமானது

1. பகவதி.கு,தமிழர் ஆடைகள்,உலகத் தமிழாராய்ச்சிநிறுவனம்,சென்னை, 1980.
2. தட்சணாமூர்த்தி.அ,தமிழர் நாகரிகமும் பண்பாடும்,யாழ் வெளியீடு,சென்னை,2005.

தேவை

3. சிங்காரவேலுமுதலியார்.ஆ,அபிதானசிந்தாமணி,தில்லிஏசியன் எடுகே'னல்சர்வீஸ்ஸ்,தில்லி, 1981.
4. வித்தியானந்தன்.ச,தமிழர் சால்பு,பாரிபுத்தகப்பண்ணை,1971.

மாணவர்கள் விருப்பத்திற்கு

5. தமிழ்விக்கிப்பீடியா.காம்

SEMESTER – I

LANGUAGE – II

FUNCTIONAL ENGLISH PRACTICAL- I

Course Code:18UPTAD2F01

Marks:60 Marks

Course Description:

The course gives a practical knowledge on using English in their corporate life. It helps to understand basic language and vocabulary skills. It also helps to pen down their present ideas and thoughts in an impressive manner. It understands a situation and leads it with critical thinking.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Grasp the actual meaning or context by listening.	Psychomotor
CO2	Read and comprehend the given text with proficiency	
CO3	Communicate effectively and fluently by overcoming the hurdles.	
CO4	Write given topics effortlessly	
CO5	Use vocabulary efficiently.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1		H		H	L	H	M		H	L	M
CO2	M	M	L	H	M	L	H		L	L	H
CO3			L	H	H		H	L	H	L	M
CO4				H			H		M	L	M
CO5		L	L	H	M	M	H	L	H		M

Unit	Unit Title	Learning Chapters
I	Listening	a) Basics of listening b) Active listening c) Kinds of listening d) Factors that hamper listening e) Listening tips Activities 1. Comprehension – written and oral 2. Story narration
II	Art of Reading	a) Reading is a cognitive process b) Benefits of reading c) Different types of reading d) Tips for effective reading e) The SQ3R techniques Activities 1. Story completion 2. Letter writing

III	Art of Speaking	a) Importance of communication b) Barriers to communicate c) Tips for effective communication d) Tips for powerful presentation e) Explaining / justifying /giving reasons Activities 1. Jumbled sentence 2. Organizing apara
IV	Art of Writing	a) Importance of writing b) Note making c) Paragraph writing d) Creative writings e) Writing tips Activities 1. Précis writing 2. Paraphrasing 3. Para writing
V	Vocabulary	a) Vocabulary enrichment: homonym, homophone, and homographs b) Synonyms and antonyms c) Spelling rules d) Idioms and phrases e) Common errors / Indianism Activities 1. Note taking 2. Note making

READING LISTS AND RESOURCES

Compulsory

1. Sasikumar V., et.al., Oral Communication Skills, Foundations Books, Cambridge University Press, New Delhi, 2009.

Highly Recommended, not Compulsory

2. Michael Strumpt. The Complete Grammar. Goodwill Publishing House. Print.
3. A.J.Thomson & F.V.Martinet. A Practical English Grammar Exercise. OUP. Print.
4. Murcia, Marianne Celce, Donna M. Brinton, Janet M. Goodwin, Teaching Pronunciation. Cambridge University Press: Cambridge, 2004.

Good for Students who have Future Interests

5. Wren and Martin. High school English grammar and composition, Gupta Publications, New Delhi
6. Alex. K. 2011. Soft Skills: know yourself and know the world. S.Chand & Co: New Delhi.

SEMESTER – I

CORE - I

BASICS OF TEXTILES

Course Code: 18UPTAD2C01

Marks:75 Marks

Course Description:

This course is designed to provide a detailed overview of textile fibres, their processing and characteristics, spinning into yarns, modelling, forming various types of fabrics by weaving and other methods of fabric creation, fabric treatment with multiple types of process.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Interpret the different kinds of textile fibers production, properties, testing, and their applications.	Cognitive
CO2	Classify the process of yarn production, yarn numbering system, yarn quality parameters and the applications of fancy yarns.	
CO3	Distinguish the types of looms with its working principles and examine the woven fabric defects.	
CO4	Relate the knitting terms, their production methods, classification along with the fabric defect and remedies.	
CO5	Infer about the various types of non-woven fabric production and its application in various fields.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	H	H	M	L	H	H
CO2	H	H	H	H	H	H	H	M	L	H	H
CO3	H	H	H	H	H	H	H	H	L	H	H
CO4	H	H	H	H	H	H	H	H	L	H	H
CO5	H	M	H	H	H	H	H	M	L	H	M

Unit	Unit Title	Learning Chapters
I	Textile fibers	Definition, properties of textile fiber, classification of textile fiber, filament and staple fibers, production and properties of cotton, flax, silk, wool, viscose, polyester and nylon fibers, identification of fibers by burning and chemical tests – application of various textile fibers.
II	Spinning	Objectives and functions of various departments in ring spinning, carded and combed yarns, yarn numbering systems, yarn quality parameters, Principles of open-end, compact and air jet spinning systems, yarn properties of these spinning systems, types of fancy yarns and their uses.
III	Weaving	Objectives of cone winding, warping, and sizing, working principles, objectives and principle of weaving, types of looms, primary, secondary,

		and auxiliary mechanisms, passage of material in a plain loom, shuttle less looms: projectile, rapier and air jet weaving, woven fabric defects and remedies.
IV	Knitting	Comparison of weaving and knitting, basic terms and definitions, classification of knitting, formation of plain, rib and interlock structure, fabric properties, flat knitting, fabric defects and remedies.
V	Non-woven	Non-Woven, Introduction, History, Characteristics, Various fibers used in non-Woven industry. Bonding, Definition and Types. Non-Woven Fabric processing, Types, spun bond, Melt Blown, Water jet, Needle Punch, Applications and End uses in various fields.

READING LISTS AND RESOURCES

Compulsory

1. Textiles by Kadolph, 2009
2. Textiles Basics by Sara J. Kadolph , 2012
3. Textiles by Sara J. Kadolph, Sara B. Marcketti , 2017
4. Nonwoven Fabrics Raw Materials, Manufacture, Applications, Characteristics, Testing Processes by Hilmar Fuchs, Walter Kittelmann, 2006
5. Weaving and Knitting Technology books.google.co.in books Naik. S., Shailaja D. Naik, 2013
6. Nonwoven Fabrics Raw Materials, Manufacture, Applications, Characteristics, Testing Processes by Hilmar Fuchs, Walter Kittelmann, 2006
7. Nonwovens Process, Structure, Properties and Application, 2017

Highly Recommended, not Compulsory

8. Handbook of Textile Fibres Natural Fibres by J Gordon Cook, 1984
9. Industrial Applications of Natural Fibres Structure, Properties and Technical Applications, 2010
10. Natural Fiber Textile Composite Engineering byMagdi El Messiry, 2017
11. Handbook of Natural Fibres Volume 1: Types, Properties and Factors Affecting Breeding and Cultivation, 2020
12. The Complete Technology Book on Textile Spinning, Weaving, Finishing and Printing
By Niir Board, 2009
13. Secrets of Spinning, Weaving, and Knitting in the Peruvian Highlands by Nilda Callanaupa Alvarez, 2017

Good for Students who have Future Interests

14. TextilesBasicsBy Sara J. Kadolph , 2013
15. Handbook of Natural FibresVolume 1: Types, Properties and Factors Affecting Breeding and Cultivation, 2012

SEMESTER – I

ALLIED - I

BASIC FABRIC STRUCTURE ANALYSIS PRACTICAL

Course Code:18UPTAD2A01

Marks: 60 Marks

Course Description:

This course allows students to identify fabric structures, create design, draft and peg plan for various woven and knitted fabrics and develop a set of textile design skills by exploring various fabric structures and their applications.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Demonstrate the weave design, draft, peg plan for woven fabrics.	Psychomotor
CO2	Determine ends per inch & picks per inch for basic woven fabrics.	
CO3	Built diagrammatic representation of knitted fabrics.	
CO4	Identify direction of the course and wales in the knitted fabrics.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	M	H	H	H	H	H	M	L	L	H
CO2	H	H	H	M	M	M	H	M	M	M	M
CO3	H	H	H	M	M	M	H	M	M	M	M
CO4	H	M	H	H	M	M	H	M	M	M	M

Unit	Unit Title	Learning Chapters
I	Woven fabric design identification	Analyze the given woven fabric swatches and furnish the following details. a) Design b) Draft c) Peg-plan Fabrics: 1. Plain weave – Warp rib, Weft rib and Matt rib. 2. Twill weave – Ordinary twill, Pointed twill, Herring-bone twill, Combination twill and Broken twill. 3. Satin weave and Sateen weave (Regular & Irregular)
II	Woven fabric yarn count identification	Determine the given woven fabric swatches and furnish the following: a) Ends per inch b) Picks per inch Fabrics: 1. Plain weave – Warp rib, Weft rib and Matt rib. 2. Twill weave – Ordinary twill, Pointed twill, Herring-bone twill, Combination twill and Broken twill. 3. Satin weave and Sateen weave (Regular & Irregular)
III	Knitted fabric design identification	Analyze the given knit fabric swatches and furnish the following details. a) Design structure b) Loop formation Fabrics: 1. Plain knit

		2. Rib knit and 3. Interlock knit.
IV	Knitted fabric yarn direction identification	Identify the given knit fabric swatches and furnish the following details. a) Course direction b) Wales direction Fabrics: 1. Plain knit, 2. Rib knit 3. Interlock knit.
Laboratory Equipments: Pick Glass, Scissors, Measuring Tools and Needle/Pins/Thread separator.		

READING LISTS AND RESOURCES

Compulsory

1. Structure and Mechanics of Woven Fabrics by Jinlian Hu, 2004
2. Knitted Fabrics by John Chamberlain, James Henry Quilter, 1924
3. Corbmann B P, International students edition, Textiles – fibre to fabric, Mc Graw Hill book Co, Singapore, 1985
4. Watson's, Grosickli Z Newness, Butter worths, Advanced Textile Design London, 1989
5. Fabric Structure and Design by N. Gokarneshan, 2009
6. Woven Textile Structure Theory and Applications by B K Behera, P K Hari, 2010
7. Structural Textile Design Interlacing and Interlooping by Syed Talha Ali Hamdani, Khubab Shaker, 2017
8. "Watson's Textile Design and Colour", Vol.1, Grosicki Z. J., Woodhead Publications, Cambridge England, 2004.
9. Principles of Fabric Formation by Prabir Kumar Banerjee, 2014
10. Fundamentals and Advances in Knitting Technology by Sadhan C. Ray, 2012

Highly Recommended, not Compulsory

11. Woven Fabric Structure Design and Product Planning by J. Hayavadana, 2016
12. Woven Textiles Principles, Technologies and Applications, 2012
13. Woven Textile Design by Jan Shenton, 2014
14. Fundamentals and Advances in Knitting Technology by Sadhan C. Ray, 2012
15. Textiles Technology by Julie Messenger, Helen Wilson, 2003
16. Warp Knitted Fabrics Construction by Yordan Kyosev, 2019
17. Knitting: Colour, structure and design Alison Ellen Crowood, 21-Dec-2013

Good for Students who have Future Interests

18. Woven Textiles Principles, Technologies and Applications, 2012
19. Handbook of Weaving by Sabit Adanur, 2019
20. Fabric structure and design by Gokarneshan, D.N. New Age International (P) Ltd, New Delhi (2009)
21. Knitting Fundamentals, Machines, Structures And Developments by N. Anbumani, 2007

SEMESTER – I
VALUE EDUCATION - I
YOGA AND FITNESS PRACTICAL

Course Code:18UPTAD2V01

Marks: 60 Marks

Course Description:

This course allows students to improve their physical fitness and mental health. It leads to reduce their mental stress and improves the posture. This also helps the student to improve their inner strengths which focus in the present and make them happy as well as their self-esteem.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Demonstrate breathing exercises and different kiriyatechniques.	Psychomotor
CO2	Perform the Standing, Sitting, Prone and Supine postures of yoga	
CO3	Express dharana and meditation stages of astanga yoga techniques.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1		L		L	L		H	H	H	H	L
CO2	M	M	L		H	L	H	H	H	H	L
CO3							H	H	H	H	L

Unit	Unit Title	Learning Chapters
I	Breathing Exercises and Kiriyas	Surya Namaskar, Breathing Exercises - Thanduvada Suthi, Nadi Suthi, Kapalabathi, Kiriyas - OMM Chanting (AAA, UUUU, MMMM).
II	Different Postures of yoga	Standing Postures: Tadasana, Chakrasana, Thirikonasana, Nindra Pathasana and Ukattasana. Sitting Postures: Thandasana, Sughasana, Padmasana, Yoga Muthra, Mandookasana, Vajrasana and Maha Mudra. Prone Postures: Maharasana, Dhanurasana, Pujangasana and Salabasana. Supine Postures: Sethubanadasana, Sarvangasana, Pavanamuktasana, Halasana and Savasana
III	Astanga Stages of	Astanga Stages of Yoga - Yama, Niyama, Dharana, Prathiyagara,

	Yoga	Dhiyana (Meditation) and Samathi.
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READING LISTS AND RESOURCES

Compulsory

1. Yoga Mala, The Seminal Treatise and Guide from the Living Master of Ashtanga Yoga by Sri K. PattabhiJois, 2010
2. Ashtanga Yoga the Essential Step-by-step Guide to Dynamic Yoga by John cott, 2018
3. Bikram Yoga by J. D. Rockefeller, 2015
4. Yoga for the Three Stages of Life Developing Your Practice as an Art Form, a Physical Therapy, and a Guiding Philosophy by Srivatsa Ramaswami, 2001
5. Yoga Anatomy By Leslie Kaminoff, Amy Matthews, 2011

Highly Recommended, not Compulsory

6. The Power of Ashtanga Yoga Developing a Practice That Will Bring You Strength, Flexibility, and Inner Peace --Includes the Complete Primary Series by Kino MacGregor, 2013
7. Yoga Sutras of Patanjali by Maharishi Patanjali, 2018
8. The Complete Illustrated Book of Yoga by Swami Vishnu Devananda, 2011

Good for Students who have Future Interests

9. Yoga The Top 100 Best Yoga Poses: Relieve Stress, Increase Flexibility, and Gain Strength by Susan Hollister, 2017
10. Asanas 608 Yoga Poses by Dharma Mittra, 2002
11. Asanas The Complete Yoga Poses by Daniel Lacerda, 2015

SEMESTER -I

Qualification Pack Level - IV

SEWING MACHINE OPERATOR (Ref.ID: AMH/Q0301)

Course Code: 18UPTAD2S01

Marks: 100 Marks

Course Description:

A Sewing Machine Operator, also called a 'Stitcher or Machinist' is an important job-role associated with Apparel sector. The primary responsibility of a machinist is to sew fabric to produce apparels.

Course Outcomes:

By the end of this Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Prepare garment components as per buyer's tech pack with hands or using machines.	Psychomotor & Cognitive
CO2	Monitor the quality of the production while undertaking stitching related activities to ensure that the products meet buyer's specifications.	
CO3	Maintain tools and machines as per norms	
CO4	Comply with health, safety and security requirements at the workplace and follow procedures to prevent, control and minimize risk to oneself and others.	
CO5	Adapt with legal and ethical requirements at the workplace.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	H	H				
CO2	H	H	H	H	H	H	H				
CO3		H		H	H		H				
CO4		H		H	H		H	M	M		
CO5		H		H	H		H	M	M		

Unit	Learning Chapters (http://sscamb.com/approvedQPNo.php)
I	Reference ID:AMH/N0301 Carry out stitching activities using machine or by hand
II	Reference ID:AMH/N0302 Contribute to achieve product quality in stitching operations
III	Reference ID:AMH/N0102 Maintain work area, tools and machines
IV	Reference ID:AMH/N0103 Maintain health, safety and security at workplace
V	Reference ID:AMH/N0104 Comply with industry, regulatory and organizational requirements

READING LISTS AND RESOURCES

Compulsory

1. Qualification Pack – Occupational Standard For Apparel, Made up's And Home Furnishing Sector
2. Qualification Pack - Sewing Machine Operator (AMH/Q0301)

Highly Recommended, not Compulsory

3. The Sewing Machine By Rebekah Dorn, 2008
4. Super Stitches Sewing A Complete Guide to Machine-sewing and Hand-stitching Techniques By Nicole Vasbinder, 2014
5. Handbook for Fashion Designing: Best Drafting Techniques books.google.co.in > books Ritu Jindal, 1998
6. Sewing Threads By J. O. Ukponmwan, K. N. Chatterjee, A. Mukhopadhyay, 2000

Good for Students who have Future Interests

7. Apparel Manufacturing Technology By T. Karthik, P. Ganesan, D. Gopalakrishnan, 2017
8. Sewing for Fashion Designers By Anette Fischer, 2015
9. Couture Sewing Techniques By Claire B. Shaeffer, 2011

இரண்டாம் பருவம்

மொழிப்பாடம் -I

தமிழ் - II

பாடக் குறியீட்டெண்: 18UPTAD2L02

மதிப்பெண்:75மதிப்பெண்

Course Description:

இப்பாடநெறி மாணவர்களுக்கு இந்திய நாகரீகத்தில் ஆடைகளின் பதிவுகளையும், உடைபற்றிய நம்பிக்கையில் கனவு, மந்திரம், வினைபற்றிய அறிவைப் பெறுதற்கும், ஆடை வணிகம் மற்றும் ஆடை தொடர்பான வேலை வாய்ப்புகளைப் பெறுவதற்கும் உதவுகிறது.

Course Outcomes (COs)

இப்பாடநெறிமுடிவுறும் போதுமாணவர்கள்,

S.No	Outcomes	Domains of Learning
CO1	இந்திய நாகரீகத்தில் ஆடைகளின் பதிவுகளைப் பற்றி தெளிவாகப் பட்டியலிடுவர்.	Cognitive
CO2	உடையின் தோற்றம், செயற்பாடுகள் மற்றும் ஆடையின் தத்துவம் குறித்து தெளிவாக அடையாளம் காண்பர்.	
CO3	உடை பற்றிய நம்பிக்கையில் கனவு, மந்திரம், வினைபற்றி அறிவர்.	
CO4	தமிழ் நாட்டுஆடைகளில் வேட்டிவகைகளும் நிலைகளும் குறித்தப் பதிவுகளை விளக்குவர்.	
CO5	ஆடை வணிகம் மற்றும் ஆடைத் தொடர்பான வேலை வாய்ப்புகளைக் குறித்து திட்டமிடுவர்.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	M			M				M			
CO2	M			M				M			
CO3				M				L			
CO4	M			M				M			
CO5	M	L	M	L	L		M	M	M		L

Unit	Unit Title	Learning Chapters
I	இந்திய நாகரீகத்தில் ஆடைகளின் அறிமுகம்	சிந்து வெளிநாகரிக ஆடை (கி.மு.3000) வேதகால ஆடை (கி.மு.2500) –பௌத்தர் கால ஆடை (கி.மு.5 நூற்றாண்டு) மௌரியர் கால ஆடை (கி.பி.300) – குப்தர், இராசபுத்திரர் கால ஆடை (கி.பி.320 முதல் 1300) –மொகலாயர் ஆடை (கி.பி. 12-17 நூற்றாண்டு) –கேரளம் (பண்டையதமிழகம்).
II	உடைவரலாறு	உடையின் தோற்றம் - செயற்பாடுகள் - இந்திய உடைகளின் வரலாறும் பண்பாடும் - பண்பாட்டு உடை - தொழில்சார் உடைகள் - தமிழரின் அன்றைய இன்றைய உடைகள் - அழகியல் நோக்கில் ஆடையின் தத்துவம் -மூலப் பொருட்களும் முதலாடையும் - என்னவகை ஆடை எப்போது அணிவது

III	உடை பற்றிய நம்பிக்கை	ஆடையினைக் கையாளும் விதிமுறைகள் - ஆடையில் அரசகுலவழக்கு - சூதும் ஆடைச் சூழலும் - குறிப்புக் காட்டல் - வினை-ஆடையும் கனவும் - மந்திரமும் உடையும் - பழக்க வழக்கங்கள்.
IV	வேட்டிவரலாறு	தமிழ் நாட்டு ஆடைகள் - பெண்களும் அவர்கள் உடுத்தும் உடைகளும் - வேட்டி உருவான விதம் - வேட்டியின் வகைகளும் அணியும் முறையும் - பிற மாநிலங்களில் வேட்டி - தமிழகத்தில் தற்போதுள்ள சூழலில் வேட்டியின் நிலை - தமிழர் உடுத்தும் பிற ஆடைகள்.
V	ஆடை வணிகம் மற்றும் சட்டங்கள்	வணிகம் - ஆடைத் தொழிலாளர் நிலை- ஆடை அணிவது பற்றிய சட்டங்கள் - ஆண்கள் அணிவது பெண்கள் அணிவது - ஆடை தொடர்பான தொழிற்சாலைகள்- ஆடைத்துறை தொடர்பான வேலை வாய்ப்புகள் - இன்றைய சூழலில் ஆடையின் பங்கு - உலகத்தமிழர் பேரமைப்பின் தமிழர் தேசிய உடைக்கான பரிந்துரை

பார்வை நூல்கள்

முக்கியமானது

1. பகவதி.கு.தமிழர் ஆடைகள்,உலகத் தமிழாராய்ச்சிநிறுவனம்,சென்னை, 1980.
2. தட்சணாமூர்த்தி.அ,தமிழர் நாகரிகமும் பண்பாடும்,யாழ் வெளியீடு,சென்னை, 2005.
3. மீரா முகைதீன்.அ,இலக்கியஆய்வுகள்,உலகத் தமிழாராய்ச்சிநிறுவனம்,சென்னை, 1974.

தேவை

4. சிங்காரவேலுமுதலியார்.ஆ,அபிதானசிந்தாமணி,தில்லிஏசியன் எடுகே'னல் டிசர்வீஸஸ்,தில்லி, 1981.
5. வித்தியானந்தன்.சு,தமிழர் சால்பு,பாரிபுத்தகப் பண்ணை, 1971.
6. சங்ககாலவாழ்வியல்,ந.சுப்பிரமணியன்
7. பண்பாட்டுஉடை- ஜெயமோகன்

மாணவர்கள் விருப்பத்திற்கு

8. தமிழ்விக்கிப்பீடியா.காம்
9. Journal of Tamil Studies.

SEMESTER – II

LANGUAGE - II

FUNCTIONAL ENGLISH PRACTICAL-II

Course Code: 18UPTAD2F02

MARKS: 60 Marks

Course Description:

The course gives a practical knowledge on using English in their corporate life. It helps to understand basic language and vocabulary skills. It exposes the students to the important nuances of business communication and to initiate them into the realm of professional communication.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Reveal proper etiquette in the communication context.	Psychomotor
CO2	Develop a report and interpret information into text.	
CO3	Customize information in a written format for the process of business and social activities.	
CO4	Combine creativity and language skills in form of advertisement writing and slogan writing.	
CO5	Express their thought with interviewer or assessor during an interaction.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	M	H	H	H	H		H	H	H	M	
CO2	H	H	H	H	H	M	H	H	H	L	H
CO3	H	H	L	H	H	H	H	H	H	L	H
CO4	M		H	H		H	H	L			H
CO5		H	H	H	H	H	H	H	H	H	H

Unit	Unit Title	Learning Chapters
I	Basics of communication	a) Verbal and nonverbal communication b) Nonverbal – personal appearance - gestures – eye contact c) Barriers to Effective communication Activities 1. Listen and Draw 2. Communication origami 3. Listener and talker activity
II	Official communication	a) Kinds of business letter b) Importance of internal communication

		<p>c) Using visual aids in communication</p> <p>d) Reports – definition, types, and structure</p> <p>Activities</p> <ol style="list-style-type: none"> 1. Hints development 2. General essay
III	Business & Social correspondence	<p>a) Purpose & Structure</p> <p>b) Qualities</p> <p>c) Types of correspondence</p> <p>d) Social correspondence</p> <p>Activities</p> <ol style="list-style-type: none"> 1. Letter writing 2. Mail drafting
IV	Expression and attitude	<p>a) Pair interpretation of visual</p> <p>b) Creative expression – copy writing – advertisement</p> <p>c) Writing captions and slogans</p> <p>Activities</p> <ol style="list-style-type: none"> 1. Advertisement writing 2. Slogan writing
V	Interview skills	<p>a) Extempore speech</p> <p>b) Telephonic or Job interview</p> <p>c) Team building team work – developing positive attitude</p> <p>d) Career plans – jobs – description of dream jobs and company</p> <p>Activities</p> <ol style="list-style-type: none"> 1. Interpreting Non-verbal data 2. Report writing - Incident/Event/Dialogue

READING LISTS AND RESOURCES

Compulsory

1. Current English Grammar and Usage with Composition by Sinha R.P., Oxford University Press, New Delhi, 2018.

Highly Recommended, not Compulsory

2. An Advanced Course in communication and Media Awareness by Prakash C.L., Cambridge University Press, New Delhi, 2007.
3. A Practical English Grammar Exercise by A.J.Thomson&F.V.Martinet. OUP. Print.
4. Teaching Pronunciation by Murcia, Marianne Celce, Donna M. Brinton, Janet M. Goodwin, Cambridge University Press: Cambridge 2004.

Good for Students who have Future Interests

5. High school English grammar and composition by Wren and Martin, Gupta Publications, New Delhi 1995.
6. Developing Communication Skills by Mohan, Krishna & Meera Banerji, Macmillan, India, 2009.

SEMESTER – II

CORE - II

APPAREL SEAMS AND STITCHES PRACTICAL

Course Code: 18UPTAD2C02

Marks: 60 Marks

Course Description:

This course will practically guide the students to sew basic seams and seam finishes. It also enables the students to be professionally customizing a range of styles of component parts in Apparel Industry.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Integrate the basic hand sewing techniques to produce finished samples.	Psychomotor
CO2	Perform various component parts of the garments with help of Industrial sewing machineries.	
CO3	Combine different garment components and ensure its quality.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	L	H	M	M	H	H	M	H	L	L	
CO2	L	H	M	M	H	H	M	M	L	L	L
CO3	L	H	M	M	H	H	M	M	L	L	L

Unit	Unit Title	Learning Chapters
I	Hand sewing	Sewing on buttons, hems, fasteners or hooks, tags and patch work
II	Machine sewing	Basic seams, hems, finishes, pockets, collars, plackets and cuffs
III	Assembling different garment components	Collar attaching, placket attaching, back yoke attaching, cuff attaching, sleeve placket attaching, shoulder attaching, side seam attaching, different faults in sewing and remedies in sewing operation

Laboratory equipment's:

1. Hand Needles,
2. Single Needle Lock Stitch Machine,
3. Over Lock Machine – 3T, 5T

READING LISTS AND RESOURCES

Compulsory

1. Sewing Guide: Hand Sewing, Machine Sewing and Examples books.google.co.in > books James Oszust, 2020
2. Merchant & Mills Sewing Book Hand Sewing Techniques / Machine Know-How / Tools / Notions / Projects / Patterns by Carolyn N.K. Denham , 2014
3. Handbook of Sewing Stitches An Illustrated Guide to Techniques and Materials by Lorna Knight, 2019
4. How to Sew with Over 80 Techniques and 20 Easy Projects by Mollie Makes, 2018
5. Guide to Basic Garment Assembly for the Fashion Industry by Jayne Smith, 2011

Highly Recommended, not Compulsory

6. The Sewing Machine by Rebekah Dorn, 2008
7. Super Stitches Sewing a Complete Guide to Machine-sewing and Hand-stitching Techniques by Nicole Vasbinder , 2014
8. Handbook for Fashion Designing: Best Drafting Techniques books.google.co.in > books Ritu Jindal, 1998
9. Apparel Engineering and Needle Trades Handbook, 1960
10. Sewing Threads by J. O. Ukponmwan, K. N. Chatterjee, A. Mukhopadhyay, 2000
11. Handbook for Fashion Designing: Best Drafting Techniques books.google.co.in > books Ritu Jindal, 1998

Good for Students who have Future Interests

12. Apparel Manufacturing Technology By T. Karthik, P. Ganesan, D. Gopalakrishnan, 2017
13. Sewing for Fashion Designers By Anette Fischer, 2015
14. Super Stitches Sewing A Complete Guide to Machine-sewing and Hand-stitching Techniques By Nicole Vasbinder, 2014
15. Industrial Engineering in Apparel Manufacturing By Dr. Prabir Jana, Dr. Manoj Tiwari, 2020
16. Couture Sewing Techniques By Claire B. Shaeffer , 2011

SEMESTER – II

ALLIED - II

FASHION DESIGNING

Course Code: 18UPTAD2A02

Marks:75Marks

Course Description:

This course confers about the fashion terms related to fashion industry. Further it enables the students to learn about designs and its elements, principles and applications of colour harmony. It also deals with unusual figures and its garment designing. It also helps to learn about designing garments for unique occasions.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Infer the concept of fashion and the terms related to fashion industry	Cognitive
CO2	Summarize about elements of design and practice the application of structural and decorative designs.	
CO3	Utilize the principles of design and its application in a dress.	
CO4	Make use of the colour concepts in designing a garment.	
CO5	Predict the factors and figure irregularities that influencing design application in a garment.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	L	H	H	L	M	M	H	L	L	L	M
CO2	L	H	H	H	H	M	H	M	L		M
CO3	L	H	H	H	H	L	H	M	M	L	M
CO4	L	H	H	H	M	L	H	H	L		H
CO5	M	H	H	H	H	L	H	L	L		M

Unit	Unit Title	Learning Chapters
I	Fashion industry terms	Fashion terminology: Fashion, style, design, trend, fad, classic, collection, chic, custom made, mannequin, fashion show, trend, high fashion, haute couture, prêt – a – porter, forecasting and fashion cycle.
II	Elements of design and its application	Design- definition and types – structural and decorative design, requirements of a good structural and decorative design. Elements of design line, shape, colour, size, and texture. Applications of structural and decorative designs.

III	Principles of design and its application	Principles of design- balance –formal and informal, rhythm- through repetition, radiation and gradation, emphasis, harmony, and proportion. Application of principles of design in a dress.
IV	Colour	Colour- definition, colour theories- prang colour chart and Munsell colour system, Dimensions of colour- hue, value, and intensity. Standard colour harmonies- application in dress design. Psychology of Colours
V	Figure types	Silhouettes and figure types-pear figure, hourglass figure, rectangular figure, wedge figure, overall roundness figure. Choosing the best dress for the figure types. Factors influencing design application for different age group, occasions and seasons.

READING LISTS AND RESOURCES

Compulsory

1. ISO 9000 Quality Systems Handbook - updated for the ISO 9001:2008 standard David Hoyle Routledge, 26-Oct-2009
2. Quality Planning and Analysis: From Product Development Through Use Joseph M. Juran, Frank M. Gryna Tata McGraw-Hill, 1982 - Quality assurance
3. Managing Quality in the Apparel Industry by Pradip V. Mehta, Satish K. Bhardwaj Nift Publication.
4. Quality Assurance for Textiles and Apparel 2nd Edition Sara J. Kadolph Bloomsbury Academic, 25-Jun-2007
5. Physical Testing of Textiles, Saville, B.P Woodhead Publishing Ltd and CRC Press LLC, 1999

Highly Recommended, not Compulsory

6. Managing Quality in the Apparel Industry Pradip V. Mehta, Satish K. Bhardwaj New Age International, 1998
7. Eco textiles: The Way Forward for Sustainable Development in Textiles M Miraftab, A. Richard Horrocks Elsevier, 30-Jan-2007
8. Garment Manufacturing Technology Rajkishore Nayak, Rajiv Padhye Elsevier, 26-May-2015
9. Supply Chain Safety Management: Security and Robustness in Logistics Michael Essig, Michael Hülsmann, Eva-Maria Kern, Stephan Klein-Schmeink Springer Science & Business Media, 29-Nov- 2012
10. Eco Fashion: Top-Labels entdecken die GrüneMode Kirsten Diekamp, Werner Koch Stiebner Verlag GmbH, 2010
11. Fundamentals of Total Quality Management Jens J. Dahlgaard, Ghopal K. Khanji, Kai Kristensen Routledge, 28-Jan-2008

Good for Students who have Future Interests

12. Terotechnology: 10th Conference on Terotechnology Radek, N. Materials Research Forum LLC, 25-Aug-2018

SEMESTER – II
VALUE EDUCATION - II
ENVIRONMENTAL STUDIES

Course Code: 18UPTAD2V02

Marks:75 Marks

Course Description

It discusses about the Natural Resources and equitable use of resources for sustainable lifestyles. It deals with the structure and functions of an ecosystem. Its further reviews about environmental pollution and waste management techniques.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Describe public awareness about natural resources and an individual responsibility towards environment.	Cognitive
CO2	Infer about water bodies and concept and energy flow in eco system.	
CO3	Distinguish geographical classification and preservation of endangered and endemic species of India	
CO4	Categorize environmental pollutions and its hazardous impacts and ways to control it.	
CO5	Generalize waste management and its disposal techniques.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1				M						H	
CO2			M							H	
CO3										H	
CO4		M								H	
CO5		M	M			L	L			H	

Unit	Unit Title	Learning Chapters
I	Natural resources	Definition, scope, and importance and need for public awareness. Renewable and non-renewable resources, natural resources, and associated problems - role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.
II	Ecosystems	Concept of an ecosystem - structure and function of an ecosystem. Producers, consumers, and decomposers. Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure, and function of the following ecosystem: (a) Forest

		ecosystem (b) Grassland ecosystem (c) Desert ecosystem (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
III	Biodiversity	Introduction, definition: genetic, species and ecosystem diversity. Bio geographical classification of India. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. Hot spots of biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India
IV	Environmental pollution	Definition - Causes, effects, and control measures of (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards
V	Waste Management	Management of Urban/ Municipal solid waste-Types of solid waste, sources of generation, processing/disposal/Management technologies.

READING LISTS AND RESOURCES

Compulsory

1. Fundamentals of Ecosystem Science By Kathleen C. Weathers, David L. Strayer, Gene E. Likens, 2012
2. Ecosystems A Functional Approach By Gordon Dickinson, Kevin Murphy, 2008
3. Biodiversity and Health Linking Life, Ecosystems and Societies By Serge Morand, Claire Lajaunie, 2017
4. The Elements of Environmental Pollution By John Rieuwerts, 2017
5. Waste Management and Resource Recovery By Charles R. Rhyner, Leander J. Schwartz, Robert B. Wenger, Mary G. Kohrell, 2017

Highly Recommended, not Compulsory

6. Governing Renewable Natural Resources Theories and Frameworks, 2019
7. Green Composites from Natural Resources, 2013
8. Ecosystems By William B. Rice, 2014
9. Textbook of Biodiversity By K V Krishnamurthy, 2003
10. Environmental Pollution and Control By J. Jeffrey Peirce, P Aarne Vesilind, Ruth Weiner, 1998
11. Sustainable and Economic Waste Management Resource Recovery Techniques, 2019

Good for Students who have Future Interests

12. Ecological Integrity and the Management of Ecosystems By Steven Woodley, James Kay, 2020
13. Concepts and Values in Biodiversity By Minou Friele, 2014
14. Environmental and Pollution Science By Mark L. Brusseau, Ian L. Pepper, Charles Gerba, 2019
15. Managing Environmental Pollution By Andrew Farmer, 2002

SEMESTER – II

Qualification Pack Level – V

PRODUCTION SUPERVISOR-SEWING (Ref.ID: AMH/Q2101)

Course Code:18UPTAD2S02

Marks:100 Marks

Course Description:

A Supervisor guides activities of operators and also other employees who are engaged in the process of manufacturing, inspection, processing and other related activity. Production Supervisor plans and allocates resources and monitors Machinists' schedules. Their work includes input material, checking output, equipment and ensuring process controls. They communicate, simplify, and interpret specifications, job orders, and procedures for operators and provide solutions to problems that affect the desired output and organizational goals. They also train employees for continual improvement and to achieve the organizational objectives.

Course Outcomes (COs)

By the end of the Course, students will be able to

S. No	Outcomes	Domains of Learning
CO1	Understand the production specification and processes in a sewing line. Commence production in accordance with the production planning schedule.	Psychomotor & Cognitive
CO2	Execute and monitor the production as a part of the overall plan To obtain desired product quality ensuring timeliness.	
CO3	Interact within and outside the department to manage performance and to coordinate with people and from the various departments in the production unit.	
CO4	Attain knowledge required for taking responsibility for maintaining work place and comply with health, safety and security requirements at work, Hazards and Risks, Medical Emergencies, Evacuation process	
CO5	Comply with industry regulatory and organizational requirements at workplace and adapt with organizational compliance, customer compliance and compliance with all national and international laws and regulations	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	M	H	H			
CO2	H	H	H	H	H	M	H	H	H		
CO3		H			H			H	H		
CO4		H	M	H	H			H	M		
CO5		H			H			H			

Unit	Learning Chapters (http:// sscammh.com/approvedQPNo.php)
I	Reference ID: AMH/N 2101 Understand production specification and Process Reference ID: AMH/N21 02 Coordinate and plan production as per specifications and schedule
II	Reference ID: AMH/N 2103 Execute and monitor production as per the plan, schedule and quality norms
III	Reference ID: AMH/N 2104 Manage performance and relations with people in the group and out of the group
IV	Reference ID: AMH/N2105 Maintaining tools equipments and machinery Reference ID: AMH/N0103 Maintain health, safety and security at work place
V	Reference ID: AMH/N1505 Comply with industry, regulatory and organizational essentials

READING LISTS AND RESOURCES

Compulsory

1. Qualification Pack – Occupational Standard For Apparel, Made up’s And Home Furnishing Sector
2. Qualification Pack – Production supervisor-Sewing (**AMH/Q2101**)

Highly Recommended, not Compulsory

3. Management of Technology systems in Garment Industry, GordanaColovic, Woodhead Publishing, New Delhi, 2011.
4. Apparel Manufacturing Technology T. Karthik, P. Ganesan, D. Gopalakrishnan · 2016
5. Process Selection from Design to Manufacture by K. G. Swift, J. D. Booker · 2000
6. Apparel International The Journal of the Clothing and Footwear Institute · Volume 28, 1997

Good for Students who have Future Interests

7. [http:// sscammh.com/approvedQPNo.php](http://sscammh.com/approvedQPNo.php)
8. Apparel Manufacturing IVth Edition, Ruth E Glock, Grace I Kunz, Kindersley Publcatins, New Delhi, 2005.
9. Garment Manufacturing – Processes, practices and Technologies, Prasantha Sarkar, Mudranik Technologies Pvt Ltd, New Delhi, 2015.

SEMESTER – III
CORE PAPER – III
TEXTILE PROCESSING

Course Code: 18UPTAD2C03

Marks:75 Marks

Course Description:

This Subject matter dealt with the processing and finishing of textile materials. It gives the basic knowledge about singeing, Desizing, Scouring, Bleaching, Dyeing and Printing of textile materials. It also build the concept of treating the Waste water from the textile processing sector, which is the most challengeable thing of this current environment.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Infer about pre-treatments and multitude processes involved in textile processing.	Cognitive
CO2	Formulate the several types of dyes & dyestuff and identify the different methods of dyeing with appropriate machineries.	
CO3	Generalize the working procedure of machineries and methods involved in textile printing.	
CO4	Classify the several types of textiles finishing and its applications in different fields.	
CO5	Distinguish the eco-friendly process involved in treatment of dye house effluent discharges.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H		H	H	M	H	H	H		H	
CO2	H		H	H	M	H	H	H		H	H
CO3	H		H	H	M	H	H	H		H	M
CO4	H		H	H	M	H	H	H		H	M
CO5	H		L	H	M	H	H	H	L	H	

Unit	Unit Title	Learning Chapters
I	Preparatory Process	<p>Singeing: Objectives and need - principle gas singeing machine – yarn singeing - merits and demerits.</p> <p>Desizing: Objectives and need – acid and enzyme desizing - relative advantages and disadvantages. Scouring: Objectives and principles – scour loss.</p> <p>Bleaching: Objectives, bleaching of cotton materials with hydrogen peroxide – continuous bleaching with J-box - role of optical brighteners.</p> <p>Mercerization: Objectives and principles - yarn and fabric mercerization - outline of pad-less chainless fabric mercerization.</p>

II	Dyes and dyeing machineries	Dye: Common terms, Classification of dyes and its properties, difference between dye and pigment. Dyeing: Procedure of dyeing of cotton material with direct, reactive, vat dyes - dyeing of wool and silk with acid, reactive and basic dyes – dyeing of polyester and polyester/cellulosic blended materials using disperse and reactive dyes. Dyeing machines: Principles of working with jigger, winch, jet, soft-overflow, package dyeing and garment dyeing machines
III	Printing	Printing: Introduction to Printing. Preparation of printing paste, Comparison of dyeing and printing. Styles of printing: Principles and concepts - direct, discharge and resist styles of printing. Printing Machines: Printing of cotton, wool, silk and polyester fabrics with dyes and pigments. Garment printing machines. Methods of printing: Principles of block, roller, flat bed screen, rotary-screen printing, and transfer printing techniques. Modern Printing methods: Printing inks- digital printing- sublimation printing- 3D printing concept.
IV	Finishing	Introduction, Classification of textile finishes – objectives and need of finishing - mechanical and chemical finishes: calendaring and sanforising - compacting of knitted fabric – softening with silicon - principles of functional and aesthetic finishes - wrinkle-free (durable press) finishing of cotton, UV protective finish, antimicrobial finish, flame-retardant finish, water-repellent finish, and soil release finish garment washing with enzymes.
V	Effluent treatment	Nature of effluents in chemical processing, effect of wastewater discharge on the environment, Government standards for textile chemical process effluent discharges - treatment of dye house effluent – primary, secondary, and tertiary treatments – reverse osmosis - azo dyes and major banned amines – eco-friendly textile processing – eco labels

READING LISTS AND RESOURCES

Compulsory

1. Shenai V. A., Technology of Textile Processing – Vol. III, IV, V, VII and VIII, Sevak Publications, Mumbai, 1995
2. D G Dugg and S Sinclair, “Giles's Laboratory Course in Dyeing,” Woodhead Publishing Limited (Fourth edition) December, 1989
3. Palmer John W., Textile Processing and Finishing Aids: Recent Advances, Mahajan Book Distributors, 1996
4. Ronald James W., Printing and Dyeing of Fabrics and Plastics, Mahajan Book Distributors, 1996
5. Textile Wastewater Treatment, 2016
6. Textile Finishing Basic Concepts and Application By D. Gopalakrishnan, 2018

Highly Recommended, not Compulsory

7. Textile Bleaching, Dyeing, Printing and Finishing Machinery By Archibald John Hall, 1926
8. Textile Dyeing Wastewaters Characterization and Treatment By Roderick H. Horning, 1978
9. Handbook of Textile and Industrial Dyeing Principles, Processes and Types of Dyes, 2011
10. Textile Processing with Enzymes, 2003

Good for Students who have Future Interests

11. Handbook on Printing Technology (Offset, Flexo, Gravure, Screen, Digital, 3D Printing with Book Binding and CTP) 4th Revised Edition, 2019
Textiles, Identity, and Innovation: In Touch
12. Proceedings of the 2nd International Textile Design Conference (D_TEX 2019), June 19-21, 2019, Lisbon, Portugal By Manuela Cristina Paulo Carvalho Figueiredo, 2020
13. L. W. C Wiles, “Textile Printing” (Merrow Monographs. Textile Technology Series)

SEMESTER – III

CORE - IV

INDUSTRIAL PATTERN MAKING PRACTICAL

Course Code:18UPTAD2C04

Marks: 60 Marks

Course Description:

This course will practically guide the students to make the pattern blocks in industrial standards. Also, this course will lead to customize the basic pattern into different size and styles.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Execute the basic bodice blocks for Men, Women and Children.	Psychomotor
CO2	Develop various styles of garment patterns from basic pattern blocks.	
CO3	Create different pattern sizes from the actual pattern size.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	L	H	H	H	H	H	H	M			H
CO2	L	H	H	H	H	H	H	M			H
CO3	L	H	H	H	H	H	H	M			H

Unit	Unit Title	Learning Chapters
I	Basic Bodice	Drafting of Basics bodices for Men, Women, and Children.
II	Basic bodice to garment styles.	Converting basic bodice in to garment styles. <ul style="list-style-type: none">• Men's wear (2variations styles) in knits and woven• Women's wear(2variations styles) in knits and woven• Children's wear(2variations styles) in knits and woven
III	Pattern Grading	Different types of garment grading and marker planning to be implemented. <ul style="list-style-type: none">• Men's wear• Women's wear• Children's wear
Laboratory equipments and Tools: Measuring Tools Curves Rulers Marking Tools		

READING LISTS AND RESOURCES

Required

1. Patternmaking Comprehensive Reference for Fashion Design By Sylvia Rosen, 2004
2. Techniques Of Drafting And Pattern Making Garments For Kids And Adolescents By Padmavati B., 2009
3. Pattern Cutting and Making Up The Professional Approach · Volume 1 By Martin Shoben, Janet Ward , 1987
4. Pattern Cutting and Making Up Volume 1 By Martin Shoben, Janet Ward, 2015
5. Apparel Manufacturing Technology By T. Karthik, P. Ganesan, D. Gopalakrishnan , 2016

Optional

6. Pattern-drafting for Fashion Seam Assembly & Finishing By Teresa Gilewska , 2013
7. Practical Pattern Making By Lucia Mors, Lucia Mors de Castro, Isabel Sánchez Hernández , 2015

For Students Interests

8. Factors Affecting Trade Patterns of Selected Industries, First Annual Report, Inv. 332-477
9. Apparel Engineering Industrial Engineering Methods for Apparel Industry By J. K. Akhil, 2016

SEMESTER – III

CORE – V

INDUSTRIAL GARMENT MACHINERIES AND EQUIPMENTS

Course Code: 18UPTAD2C05

Marks: 75 Marks

Course Description:

This course knowledge the student about the garment manufacturing units, departments, their activities and roles, uses of machineries in various department and importance of the equipments.

Course Outcomes (COs)

After completion of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Describe the apparel manufacturing operation involved in various departments in the apparel industry.	Cognitive
CO2	Identify the industrial machineries involved in various garment process	
CO3	Classify the special attachments of the industrial sewing machineries for high productivity	
CO4	Arrange the operation-wise machine layout for woven and knitted garments	
CO5	State the various equipments used in ironing and packing in the garment manufacturing unit.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1		H		M	H		L	H	H		
CO2		H	M	M	H	M					H
CO3		H	M	M	H	M	H				
CO4		H	M	M	H	M	M				
CO5		H		M	H	M	H				

Unit	Unit Title	Learning Chapters
I	Departments in Apparel manufacturing Unit	Merchandising, Human Resource, Industrial Engineering, Accountancy, Security, Electrical, Machine Maintenance, Accessory Stores, Fabric, Pattern making & Sampling, Cutting/Layout Sewing, Finishing, Quality Control, Packing, Final Inspection and Shipment
II	Garment industry machineries	Types of Machineries involved garment manufacturing sector or Industry. ❖ General machineries ❖ Cutting machineries ❖ Sewing machineries ❖ Finishing machineries
III	Special attachments	Garment industry used some special attachment for high productivity. There are listed below

		<ul style="list-style-type: none"> ❖ Guide attachments ❖ Position attachments
IV	Machine Layout	Stitching operation wise layout and machineries used for shirt manufacturing, Trouser, T-shirt.
V	Fusing and pressing equipment	After garment making following machine and equipment used for fold the garment <ul style="list-style-type: none"> ❖ Fusing machine ❖ Ironing machine ❖ Pressing Equipment ❖ Sucking machine

READING LISTS AND RESOURCES

Compulsory

1. Apparel Machinery and Equipment's By R. Rathinamoorthy, R. Surjit , 2015
2. Automation in Textile Machinery Instrumentation and Control System Design Principles By L. Ashok Kumar, M Senthil Kumar, 2018
3. Industrial engineering in apparel production. Babu, r. V Woodhead publishing, 2012
4. Introduction to clothing manufacture. Wiley. Cooklin, g, 2006
5. Cooklin's garment technology for fashion designers. John wiley. Cooklin, g., hayes, S. G., mcloughlin, j., & Fairclough, d, 2012

Highly Recommended, not Compulsory

6. Apparel manufacturing: sewn product analysis. Pearson/prentice hall. Glock, r. E., & kunz, g. I, 2005
7. The sewing machine attachment handbook. Krause publications. Phillips, c., 2009
8. Apparel machinery and equipment's. Rathinamoorthy, r., & surjit, r., 2015
9. Guide to basic garment assembly for the fashion industry. John Wiley. Smith, j., 2013

Good for Students who have Future Interests

10. <http://www.ngaishinhk.com/en/text.asp>
11. Carr and Latham's technology of clothing manufacture. John Wiley. Tyler, d. J., 2009
12. Complete photo guide to sewing, sewmucheasier.com/guide to your sewing machine presser feet.

SEMESTER – III

ALLIED - III

FASHION ILLUSTRATION PRACTICAL

Course Code:18UPTAD2A03

Marks:60 Marks

Course Description:

Fashion Illustration is the specialty of conveying design thoughts in a visual structure that starts with representation, drawing and painting and furthermore known as Fashion portraying. It is principally utilized by style architects to conceptualize their thoughts on paper.

Course Outcomes (COs)

By the successful completion of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Create different art styles and shadings by adapting the basic media and tools in illustration.	Psychomotor
CO2	Replicate the scenarios of the nature and other objects with various perspectives.	
CO3	Develop the Human figures by transforming the head theories	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1			H	H	L	L	H			H	H
CO2			H	H	L	L	H			H	H
CO3			H	H	H	H	H			H	H

Unit	Unit Title	Learning Chapters
I	Basic media and tools with shading	Pencil & colour mediums - Colour pencils, Poster colour/ water colour, crayon, Charcoal and Pastel. Types of brushes. Different types of Lines. Varies pencil & pen shading.
II	Nature study Object Drawing & Different view points	Sketching of natural forms - Conversion of natural forms into design forms - Copying various textures from nature. Drawing of objects - Drawing of 3-D geometrical shapes in different angles - Introduction to Perspective & its types
III	Human figure study	Basic parts of human bodies - Basic Observing figures - using lines – Head Theory – 8 Head, 10 Head and 12 Head (Stick, Block and Flesh)

READING LISTS AND RESOURCES

Compulsory

1. Fashion Illustration: Basic Techniques Julian SeamanBatsford, 1996
2. Essential Fashion Illustration: Poses, 2007
3. Fashion Illustration FlatDrawingBy Daniela SantosQuartiino, Catherine Collin . 2007
4. Fashion Illustration Inspiration and Technique By Anna Kiper, 2011
5. A Modern Perspective on Type Theory From Its Origins Until Today By F.D. Kamareddine, T. Laan, Rob Nederpelt, 2004

Highly Recommended, not Compulsory

6. Fashion Illustration Techniques A Super Reference Book for BeginnersByZeshuTakamura, 2012
7. Perspective, Projections and Design Technologies of Architectural Representation, 2013

Good for Students who have Future Interests

8. <https://schoolofsketching.com/blog-in-english/perspective>
9. <https://study.com/academy/lesson/one-point-perspective-drawing-definition-examples.html>
10. <https://www.liveabout.com/perspective-drawing-definition-1123070>
11. <https://www.craftsy.com/post/how-to-draw-3d-shapes/>
12. <https://www.skillsyouneed.com/num/3d-shapes.html>
13. <https://mymodernmet.com/perspective-drawing/>
14. <https://youtu.be/8jvea0YWDK0>

SEMESTER – III
NON MAJOR ELECTIVE - I
MS EXCEL PRACTICAL

Course Code:18UPTAD2N01

Marks:60 Marks

Course Description:

In this subject students can intellectualize the idea of Micro Soft Excel. They will learn the basic tools and usages which will help them to develop the skills in that software which in turn can be utilized for their future job roles as merchandiser, quality controller, warehouse and in many areas where data are maintained using it.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Create official spread sheet with diagrammatic representation	Psychomotor
CO2	Calculate various cost sheets used in industry using the formula and functions in Excel.	
CO3	Develop industry planning and production reports using large amount of data in Excel.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1				M	M	H	H	H			H
CO2				M	M	H	H	H			H
CO3				M	M	H	H	H			H

Unit	Unit Title	Learning Chapters
I	Spread sheet for official use	Prepare a spread sheets with excel short cuts with function key, control key and miscellaneous short cuts. <ul style="list-style-type: none"> Sales projection sheet and present with graph. Simple budget with graphical representation.
II	Calculation with Excel	Prepare a spread sheets using excel Formulas, references, references to other sheets and work book, functions, adding numbers with the SUM-function, use all functions in Excel. <ul style="list-style-type: none"> Prepare loan payment calculation sheet. Prepare operation wise costing sheet Prepare employee salary sheet
III	Working Excel with large amount of data	Search and replace, freeze panes, filters, comments, and tables. <ul style="list-style-type: none"> Prepare garment daily production cost sheet Prepare factory efficient report monthly plan

READING LISTS AND RESOURCES

Compulsory

1. Microsoft Excel Fundamentals Practical Workbook for Small Businesses By Rudy LeCorps, 2002
2. Practical Numerical Analysis using Microsoft Excel By A. Nandy, 2003
3. Advance Excel 2016 Training Guide By Ritu Arora, 2018
4. Microsoft Excel 2013 By Curtis Frye, 2013
5. Build Neural Network With MS Excel By Joe Choong

Highly Recommended, not Compulsory

6. Straight to the Point : MS Excel 2003 By Firewall Media, 2005
7. A Tutorial On Ms-Excel By V.B. Aggarwal, 2000
8. Excel 2016 bible. Walkenbach, J. (2015) Available at: (Accessed: 27 January 2017).

Good for Students who have Future Interests

9. <https://www.emsisd.com/cms/lib/tx21000533/centricity/domain/71/practicalusesexcel.pdf>
10. <http://www.johnsjc.com/IT/Excel%20Practical-1.docx>
11. <https://www.wiseowl.co.uk/excel/exercises/standard/>
12. <https://www.youtube.com/watch?v=B7-h1Rb08CI>
13. <https://www.youtube.com/watch?v=fJbzc5pj3cM>

SEMESTER IV

CORE - IV

TEXTILE AND APPAREL QUALITY CONTROL

Course Code:18UPTAD2C06

Marks: 75 Marks

Course Description:

This course expedites the students to gain knowledge towards the Quality measures, processes and management system in the Textiles and Apparel Industries. Updated facts towards Quality control make the students to explore more in the industries.

Course Outcomes (COs):

At the culmination of this course, Students will be able to

S.No	Outcomes	Domains of Learning
CO1	Summarize the concepts of quality its holistic, product, value and customer perspective.	Cognitive
CO2	Interpret standards and certificates for Textile and Apparel sector.	
CO3	Analysing quality through Inspections, testing tools of quality, its defects and inspection system.	
CO4	Categorize quality standards and its property in trims and accessories	
CO5	Interpret tools used in quality assurance in care labels, eco labels and its instruction.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H		L	H	H	M	M	H	L	L	L
CO2	L		M	H	H	H	H	H	M	L	L
CO3	H	M	H	H	H	M	H	H	M	L	L
CO4	H	M	H	H	H	M	H	H	M	L	L
CO5	H	M	H	H	H	M	H	H	M	L	L

Unit	Unit Title	Learning Chapters
I	Quality	Define Quality - Definitions of Quality – holistic Perspective, Product Perspective, Produces Perspective, Customer Perspective and Value Based Perspective, Dimensions of Quality.
II	Standards	Define Standard, Benefits Of Standard, Levels of Standard, Source of Standard - ASTM, AATCC, ANSI, BSI, ISO, ISO 9000 Series Standard, American Society for Quality, American Apparel And Footwear Asociat, Tc ² , American National Standard Quality, Advantages of registering to these Standard. OEKO Tex 100 standard.
III	Managing Quality	Managing Quality- Managing quality through Inspection, Managing quality through Testing, Seven tools of qualities. Defects: Define Defect, Defective Product, Major Defect, Minor Defect, Establishing Acceptance levels. Fabric defects, cutting defect, Sewing Defect and Finishing Defect

		Inspection: Definition of Inspection-Raw Materials- Inspection-In process Inspection-Final Inspection. Inspection system:4-point system,10-point system.
IV	Quality control & Quality standards	Quality control & Quality standards for sewing thread, seam strength, seam properties, Interlinings, elastic, waistband, zippers, sewing threads, buttons and laces. Accessories testing -Inspecting garments using spec sheets – Inspecting garments using measuring tapes - without using measuring tapes – Button quality testing - Interlining quality testing - Packing a shirt and identifying faults-Printing and Embroidery.
V	Concepts	Concepts of TQM - tools used for quality assurance - Care labels -labelling Instructions and eco labels specification- International care labelling system – Japan –Canada -British care labelling systems.

READING LISTS AND RESOURCES

Compulsory

- 1 Mehta V., "Managing quality in the apparel industry ", New Age International, Chennai, 1998
- 2 E-Study cylinder for acceptance sampling quality in control by Edward G.Schilling
- 3 Quality Management ", Textile Progress, The Textile Institute, Manchester, 1998
- 4 Mehta P.V. "An Introduction to Quality Control for the Apparel Industry ", Marcel Dekker, 1992.

Highly Recommended, not Compulsory

- 5 The Fundamentals of Quality Assurance in the Textile Industry", Stanley Bernard Brahams, First edition, published , 2016.
- 6 "The Quality Toolbox", Second Edition - Nancy R. Tague, Published 2013, ISBN: 978-0-87389-871-3
- 7 Quality Audits For Improved Performance", Third Edition, Dennis R. Arter , Published 2002, ISBN: 978-0-87389-570-5

Good for Students who have Future Interest

- 8 Process Quality Control Troubleshooting and Interpretation of Data, Fourth Edition, Ellis R. Ott, Edward G. Schilling, Dean V. Neubauer, Published, 2005

SEMESTER IV

CORE – VII

GARMENT CONSTRUCTION PRACTICAL - I (KIDS WEAR)

Course Code: 18UPTAD2C07

Marks: 60Mark

Course Description:

The Course structured to provide practical skills in pattern development and construction for children's garments also this will help students to calculate the cost calculation and fabric requirement for the respective garments.

Course Outcomes (COs)

After completing this course, the students will able to,

S. No	Learning Outcomes	Domains of Learning
CO1	Design the various children's garments and formulate the measurements.	Psychomotor
CO2	Develop the pattern blocks for different kinds of kids' garments and estimate the material calculation.	
CO3	Construct the designed children's garments and calibrate cost calculation	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	M	H	M	L	L	L
CO2		H	H	H	H	M	H	M	L	L	L
CO3	M	H	H	H	H	H	H	H	M	L	

Unit	Unit Title	Learning Chapters	
I	Garment Designing	Design the Girls kids wear and Boys kids wear	
II	Pattern Making	Drafting the pattern blocks for designed kids wear garments.	
III	Garment Construction	Construct the children garments and calculate cost calculation.	
	Garments	Girls' kids wear A-Line frock Yoke frock Pinafore Skirt and Tops	Boys' kids wear Baba suit Knickers Shirt and trouser Summer suit
Lab Equipments: Drafting Tools, Single Needle Lock Stitch Machine, Over Lock Machine & Ironing Equipments.			

READING LISTS AND RESOURCES

Compulsory

1. Garment Construction A Complete Course on Making Clothing for Fit and Fashion By Peg Couch, 2011
2. The Complete Book of Sewing By Chris Jeffreys, DK Publishing, Inc, 2003
3. The New Complete Guide to Sewing Step-by-Step Techniques for Making Clothes and Home Accessories Updated Edition with All-New Projects and Simplicity Patterns By Editors of Reader's Digest, 2010
4. The Dressmaker's Companion A Practical Guide to Sewing Clothes By Elizabeth M. Haywood
5. The Dressmaker A Complete Book on All Matters Connected with Sewing and Dressmaking from the Simplest Stitches to the Cutting, Making Altering, Mending and Caring for the Clothes By Butterick Publishing Company , 1916
6. Illustrated Guide to Sewing: Garment Construction A Complete Course on Making Clothing for Fit and Fashion By Fox Chapel Publishing, Colleen Dorsey, 2011
7. Practical Pattern Making By Lucia Mors, Lucia Mors de Castro, Isabel Sánchez Hernández, 2015
8. Patternmaking For Fashion Design And DVD Package, 4/E (DVD)By Helen Joseph, 2008
9. Metric Pattern Cutting for Children's Wear and Baby wear By Winifred Aldrich, 2009

Highly Recommended, not Compulsory

10. Pattern Making for Kids' Clothes All You Need to Know about Designing, Adapting, and Customizing Sewing Patterns for Children's Clothing By Carla Hegeman Crim, 2014
11. Oliver + S Little Things to Sew 20 Classic Accessories and Toys for Children By Liesl Gibson, Liesl and Company, Inc., 2011
12. Children's costume in America, 1607-1910 1980
13. Fashion Patternmaking Techniques for Children Dresses, Shirts, Bodysuits, Trousers, Jackets and Coats By Antonio Donnanno , 2018

Good for Students who have Future Interests

14. Laser Cutting for Fashion and Textiles By Laura Berens Baker , 2016
15. <http://www.madehow.com/Volume-4/Children-s-Clothing.html>
16. <https://sewguide.com/sewing-for-children/>
17. <https://www.thesprucecrafts.com/techniques-for-sewing-clothing-2978471>
18. <https://www.garnethill.com/kids-size-charts/content>
19. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=121322>
20. <https://www.muellerundsohn.com/en/allgemein/pattern-construction-for-baby-basics/>

SEMESTER IV

CORE – VIII

DRAPING PRACTICAL

Course Code:18UPTAD2C08

Marks: 60 Marks

Course Description:

The course provides unique training for the role of Costume Designer, allowing students to visualise three-dimensional views of imaginative designs and examine the fit of the dress for personalised designs using draping techniques. The students are learning basic draping techniques to develop uniquely in the apparel field of design.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Prepare muslin cloth and recognize the measurements for pattern blocking	Psychomotor
CO2	Demonstrate basic front bodice, basic back bodice, Skirt and Sleeve in the selective dress form.	
CO3	Develop the darts variations in draped pattern bodice.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	M	M	L	H	L	L	L
CO2	H	H	M	H	M	H	L	M	L	L	L
CO3	H	H	H	H	H	M	M	H	L	L	L

Unit	Unit Title	Learning Chapters
I	Basic Preparation For Draping	Preparation of muslin for draping, blocking and pressing
II	Basic Pattern bodice	Basic Front bodice, Basic Back bodice, Basic Skirt Basic Sleeve.
III	Fullness in Bodices	Darts variations in Front bodice Back bodice and basic Skirt

READING LISTS AND RESOURCES

Compulsory

1. Draping Techniques for Beginners By Francesca Sterlacci, 2019
2. Fitting Patterns Using Draping Techniques By Connie Amaden-Crawford, 2011
3. Precision Draping A Simple Method for Developing Designing Talent By Nelle Weymouth Link, 1948
4. Draping Art and Craftsmanship in Fashion Design By Annette Duburg, Rixt van der Tol, 2010
5. Designing by Draping Methods, Designing Techniques By Woman's Institute of Domestic Arts and Sciences (Scranton, Pa.), 1948

Highly Recommended, not Compulsory

6. Cutting and Draping Party and Eveningwear Dressmaking and Pattern Cutting for Special Occasion Clothes By Dawn Cloake , 2016

7. Cutting and Draping Special Occasion Clothes Designs for Eveningwear and Partywear By Dawn Cloake, 1998
8. Lingerie Design on the Stand Designs for Underwear and Nightwear By Dawn Cloake, 2000
9. Draping for Fashion Design By Hilde Jaffe Professor Emeritus, NurieRelis Retired, 2011

Good for Students who have Future Interests

10. <https://www.universityoffashion.com/disciplines/draping/>
11. <https://www.moodfabrics.com/blog/a-quick-guide-to-draping-tips-and-fabrics/>
12. <https://style2designer.com/apparel/draping-mannequin/what-is-draping-technique-and-its-process/>
13. <https://www.thecuttingclass.com/draping-and-moulage/>

SEMESTER IV

CORE – IX

KNITTING TECHNOLOGY

Course Code:18UPTAD2C09

Marks: 75 Marks

Course Description:

This leads the manufacturing process and machinery working mechanism for various types of knitted fabrics to the learners. This course will develop the students' understanding in high level of knitted fabrics varieties and their care.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Learning Outcomes	Domains of Learning
CO1	Discuss the characteristics, terms used in knitting along with its classification.	Cognitive
CO2	Classify the structures and working machineries involved in weft knit fabric production	
CO3	Distinguish the fabric properties of weft knit structure and infer about jacquard knitting.	
CO4	Categorize the fundamentals of warp knitting and the machineries used in fabric production.	
CO5	Examine the knitted fabric defects and their care.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	M	M	H	M	L		L
CO2	H	H	H	H	M	M	H	M	L		L
CO3	H	H	H	H	M	M	H	M	L		L
CO4	H	M	H	H	M	M	M	M	L		L
CO5	H	M	H	H	M	M	H	M	L		L

Unit	Unit Title	Learning Chapters
I	Introduction to Quality	Knitting - Definition - History of knitting - Characteristics of knitted goods - Terms and definitions used in knitting, Classification of warp and weft knitting machines - Knitting needles – Spring, beard , Latch and Compound needles.
II	Standards and specifications	Classification of Weft knit structures, Characteristics of Plain, Rib, Interlock and Purl knit structures, Working of Single jersey, Rib, Interlock and Purl circular knitting machines.

III	Inspection Procedures & Defects	Symbolic representation of Weft knit structure - CAM system - 3 way techniques to develop design- Effect of knit, tuck, float stitches on fabric properties. Jacquard knitting - pattern wheel, pattern drum, tape patterning device, electronic devices.
IV	Quality control standards	Warp knitting fundamentals, Basic warp knitted structure– Classification of Warp knitting machines - Tricot, Raschel, Simplex and Milanese, Points of difference between Raschel and Tricot knitting machine.
V	Knitted fabric defects	Yarn quality requirements for knitting; Defects in Weft and Warp knitted fabrics - causes and remedies; Care and maintenance of knitted material.

READING LISTS AND RESOURCES

Compulsory

1. Knitting technology By David J. Spencer, 2014
2. Watson's Textile Design and Colour Elementary Weaves and Figured Fabrics, 1975
3. Warp Knitting Production By S. Raz · 198
4. An Introduction to Weft Knitting By John Arthur Smirfitt, 1975
5. Fundamentals and Advances in Knitting Technology By Sadhan C. Ray · 2012

Highly Recommended, not Compulsory

6. Dictionary of Knitting technology By Ines Wünsch, 2009
7. Circular Knitting Technology, Process, Structures, Yarns, Quality By Chandrasekhar Iyer, Bernd Mammel, Wolfgang Schäch, 1995
8. Knitting Fundamentals, Machines, Structures And Developments By N. Anbumani, 2007
9. The Knitting Book Yarns, Techniques, Stitches, Patterns By Vikki Haffenden, Frederica Patmore, 2011
10. Knit Step by Step More Than 200 Techniques and Stitch Patterns with 10 Easy Projects By Frederica Patmore, Vikki Haffenden, 2012
11. Translating Between Hand and Machine Knitting By Vikki Haffenden, 2018

Good for Students who have Future Interests

12. <https://www.textileworld.com/textile-world/features/2020/05/innovations-in-knitting-2/>
13. <https://www.textilebook.com/2019/10/introduction-to-knitting-technology-by.html>
14. <https://patents.google.com/patent/US3260073>
15. https://nurdSPACE.nl/images/c/cd/KNITTING_TECHNOLOGY.pdf
16. <https://www.cooperativepatentclassification.org/cpc/definition/D/definition-D04B.pdf>

SEMESTER IV
ALLIED- IV
COREL DRAW PRACTICAL

Course Code:18UPTAD2A04

Marks: 60 Marks

Course Description:

Corel Draw is designed to edit two-dimensional images such as logos, posters etc., Corel graphics suites which include bitmap- images editor Corel Photo-Paint as well as other graphics related programs. This is a drawing program for windows in which we can create professional artwork like Logos, all types of cards, calendar, stationery, magazines, books.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Execute the garments designs over 2 dimensional flat sketches using Corel Draw tools.	Psychomotor
CO2	Perform various design studies in Corel Draw.	
CO3	Develop logo, labels and printing designs in Corel Draw.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1			H		H	L	M	L	L		H
CO2			H		H	L	M	L	L		H
CO3			H	H	H	L	M	L	L		H

Unit	Unit Title	Learning Chapters
I	Create and Manipulate garment flat sketches	Coral draw models and applications. Working environment – Tool box, Menu bar, Property bar, Docker, Page layout, Status bar. Creating garment flat sketches using shaping options Creating merchandising spec sheet using garment flat sketches. Manipulating flat sketches for style changes – Collar, Sleeve, Placket, Pocket, Hemline, Stitch line.
II	Design studies in coral	Structural design - create fabric swatches, Handkerchief designs. Decorative design creation, Embroidery designs and Creation of stencil designs.
III	Logo creation and develop printing designs	Labels – Style label, Size label. Logo – Brand logo, Style logo. Monograms. Transfer sticker designing, Developing screen for spot, all over border designs

READING LISTS AND RESOURCES

Compulsory

1. COREL DRAW TRAININGGUIDE By Satish Jain/M.Geetha, 2018
2. Inside CorelDRAW! The Practical Guide to Computer-aided Graphic Design By Daniel Gray, 1991
3. Straight to the Point :Corel DRAW 12 By Firewall Media, 2010
4. CorelDRAW X6 The Official Guide By Gary David Bouton, 2012
5. Fashion Artist Drawing Techniques to Portfolio Presentation By Sandra Burke, 2003

Highly Recommended, not Compulsory

6. Fashion Computing Design Techniques and Cade by Sandra Burke, 2006
7. The CorelDRAW Wow! Book By Linnea Dayton, Shane Hunt, Sharon Steuer, 1999

Good for Students who have Future Interests

8. https://www.coreldraw.com/static/cdgs/pdfs/dx4/CDTS_Case_Study_Lindex_EN_Letter.pdf
9. <https://www.coreldraw.com/en/pages/items/17700700.html>
10. <https://www.youtube.com/watch?v=fxjpHaBVEHM>

SEMESTER IV
NON-MAJOR ELECTIVE – II
PRINCIPLES OF MANAGEMENT

Course Code:18UPTAD2N02

Marks: 75 marks

Course Description:

This course enables the students to learn about evolution of management theory, roles of managers. This course helps to know about basic principles and functions of management, leadership and human resource management.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Learning Outcomes	Domains of Learning
CO1	Define various thoughts of management, Management process and system approaches of business	Cognitive
CO2	Compute Planning and Organizing strategies for various departments in an organization.	
CO3	Infer about leadership and communication flows in Management.	
CO4	Interpret the various and modern methods of controlling functions of management.	
CO5	Outline the functions of Human Resource management and career development & modern management thoughts.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1				H	M	M	H	H	H		
CO2				H	M	M	H	H	H		
CO3				H	M	M	H	H	H		
CO4				H	M	L	H	H	H		
CO5				H	M	L	H	H	H		

Unit	Unit Title	Learning Chapters
I	Management Process	Management- Definition, Administration. Management thoughts of FW Taylor, Henry Fayol, Abraham Maslow, Herzberg. Management Process, Systems approach of business
II	Management Planning & Organizing	Planning – Process, Types, Objectives Planning levels-important of planning. Organizing – Organization chart..
III	Leadership & Communication	Leadership – Types, Leader Vs Manager. Communication – flow of communication, types, directing

IV	Functions of Controlling	Controlling – Meaning and definition controlling. Nature of control- Process of control, methods of control –modern methods.
V	Human Resource and Career Development	Human Resource management – recruitment, selection process, training methods, Career development – career stages. Modern management thoughts.

READING LISTS AND RESOURCES

Compulsory

1. Principles of Management, P.C. Tripathi, P.V. Reddy, McGraw Hill Education, Jan 2012.
2. Principle of Management, M.Govindarajan & S.Natarajan, PHI Learning Private Learning., 2008.
3. Essentials of Management, H. Koontz, H. Wehrich, and Ramachandra Aryasri A., 9th Edition, Tata McGraw - Hill Publishing Company Ltd., 2006.
4. Principles of Management, Tripathy PC & Reddy PN, Tata McGraw Hill, 5th Edition.

Highly Recommended, not Compulsory

5. Principles and Practice of Management, R.S.Pillai & S.Kala, S.Chand Publication, 2013.
6. Principle of Management, R.N. Gupta, S. Chand & Company Ltd., 2008. B.Sc. fashion Apparel Mgt. -2018-19 onwards-colleges Annexure No:36D Page 7 of 36 Scaa dated: 11.06.2018
7. Principles of Management, Charles W.L. Hill, McGraw Hill Education, 1 July 2017.
8. Principles of Management, Charles W.L. Hill, Steven L. McShane, Tata McGraw-Hill Education Pvt. Ltd., 2007.
9. Principles and Practice of Management, L M Prasad, Sultan Chand & Sons, 9th Edition, 2016.

Good for Students who have Future Interests

10. <https://www.easymnotes.in/principles-of-management/>
11. <https://www.toppr.com/guides/business-studies/principles-of-management/concept-of-principles-of-management/>
12. <https://www.iedunote.com/14-management-principles-henri-fayol>
13. <https://learn.saylor.org/course/view.php?id=88§ionid=859>
14. https://saylor.org.github.io/text_small-business-management-in-the-21st-century/s16-01-principles-of-management-and-o.html

SEMESTER -IV

Qualification Pack Level - VI

INDUSTRIAL ENGINEER(IE) (Ref.ID: AMH/Q 2001)

Course Code:18UPTAD2S03

Marks:100 Marks

Course Description:

An Industrial Engineer is responsible for determining the most effective ways to create a product in sewing line. Their work includes analysis of the sewing method & process, machine and supervision of production floor to improve efficiency.

Course Outcomes (COs)

By end of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Carryout planning for sewing line in production floor based on production target	Psychomotor &Cognitive level
CO2	Analyse all the activities performed by operators and evaluate their performance in production floor	
CO3	Identify and troubleshoot the production problem for better production system	
CO4	Build managing data and completing the requisite documentation at each stage of operation.	
CO5	Comply with industrial regulation, organizational health and safety requirements at workplace and cover procedures to prevent, control and minimize risk.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	H	H	H			H
CO2		H		H	H		M	H	H		M
CO3	M	H		H	H			H			L
CO4				H	H	M		H			H
CO5		H		H	H			H	H		H

Unit	Learning Chapters (http://sscammh.com/approvedQPNo.php)
I	Reference ID: AMH/N 2001 sewing Line Planning based on production target
II	Reference ID: AMH/N 2002 Supervise, analyses and evaluate performance on sewing floor
III	Reference ID: AMH/N 2003 Research and Resolve production problems to implement better production system
IV	Reference ID: AMH/N 2004 Manage data, forms and instructions for recording, evaluating and reporting quality and reliability data
V	Reference ID: AMH/N 0104 Comply with industry regulatory and organisational requirements Reference ID: AMH/N 1605 Maintaining a healthy, safe and secure working environment in the organisation

READING LISTS AND RESOURCES

Compulsory

1. Qualification Pack – Occupational Standard For Apparel, Madeup's And Home Furnishing Sector
2. Qualification Pack –Industrial Engineering (IE) Executive (AMH/Q2001)

Highly Recommended, not Compulsory

3. Strategic Supply Management: Principles, Theories and Practice by Paul Cousins, Richard Lamming, Published February 1st 2008 by Prentice Hall
4. Operations Management by Jay Heizer, Barry Render Published February 1st 2003 by Pearson (first published August 26th 1998) ISBN0131209744 (ISBN13: 9780131209749)
Designing And Managing The Supply Chain by David Simchi-Levi Published November 1st 2002 by McGraw-Hill Higher Education (first published 1999)
5. Original Title Designing and Managing the Supply Chain ISBN 0071214046 (ISBN13: 9780071214049)
6. Production Ergonomics by Cecilia Berlin, Caroline Adams - Ubiquity Press Ltd. , 2017

Good for Students who have Future Interests

7. <http://sscamh.com/approvedQPNo.php>
8. Manufacturing Processes and Materials: Exercises by Miltiadis A. Boboulos - BookBoon , 2010

SEMESTER – V

CORE –X

INDUSTRIAL GARMENT COSTING

COURSE CODE: 18UPTAD2C10

Marks:75Marks

Course Description:

This course updates the students about the garment costing techniques available in the industry for charging the price estimation of the garment production in each and every operation like cutting, stitching, packing, shipping etc., also updates the students about the cost sheet preparation for different kinds of garments. As an entrepreneur they can use variety of pricing strategies in their Textile and Apparel business.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Generalize costing and its techniques for the various cost application methods.	Cognitive
CO2	Generalize cost sheet for various kinds of garment production and their uses.	
CO3	Analyze the Garment cost regarding the various Compositions and processes to manufacture the Garment.	
CO4	Categorize various pricing formula and pricing strategy levels in a garment export/import business.	
CO5	Formulate Standard allocate Minute using General Sewing Data for woven and knitted garments.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	H	H	H	M		H
CO2	H	H	H	H	H	H	H	H	M		H
CO3	H		H	H	H	M	H	H	M		H
CO4	H		H	H	H	M	H	H	M		H
CO5		H	M	H	H	M	H	H	M		H

Unit	Unit Title	Learning Chapters
I	Introduction to Costing	Definition of Costing, Costing Principles. Costing Terminology: Costing Methods and their applications, Costing Techniques, Classification of Costs
II	Elements of Cost and Cost Sheet	Elements of Costing and General Operating Expenses, Cost Sheet: Meaning of cost sheet, Contents of Cost Sheet, Uses of Cost Sheet, Types of Cost Sheet
III	Cost of Garment and Cost Estimation	Composition of Cost of Garment: Fabric, Parameters that affect the Fabric Cost, Minimum Order quantity, Incoterm used, Calculating the Cost of fabric, Cost Calculation of Fabric in a garment, Fabric consumption for woven fabric and Knits, Calculation for trims, CMT, Value Added Service. Cost Estimation for Production: Cutting, Stitching, Packing, shipping and Insurance.
IV	Pricing and Costing Strategies	Pricing Formula: Cost of Goods, Markup, Wholesale selling price, Pricing Strategies: Rigid Calculation, Subjective Pricing, Pricing Variables, Costing Strategies: Managerial Accounting, Direct Costing, Absorption Costing, Activity Based Costing, Costing Levels: Quick Costing, Costing for sale, Production costing, Accounting Costing
V	GSD & SAM Calculation	Define General Sewing Data and Standard Allocate Minutes, How to Calculate Standard allocate Minute using General Sewing Data. Prepare Cost Sheet for Woven (Shirt and Trouser) and Knit Garments (T-Shirt)

READING LISTS AND RESOURCES

Compulsory

1. A Textbook of Costing Principles, Norman spencer, East officer publisher,1986.
2. Costing for the Fashion Industry by Michael Jeffrey Nathalie Evans ,2011.
3. Cost Accounting byTulsian, Tata publisher McGraw-Hill Education, 2006.
4. Apparel Manufacturing Technology, By T. Karthik, P. Ganesan, Gopalakrishnan, CRCPress,2016
5. Beyond Design: The Synergy of Apparel Product Development, Sandra Keiser , Myrna B.Garner A & C Black
6. Garment Manufacturing Technology edited byRajkishoreNayak, Rajiv Padhye

Highly Recommended, not Compulsory

7. Beyond Design: The Synergy of Apparel Product Development, Sandra Keiser , Myrna B.Garner A & C Black
8. Garment Manufacturing Technology edited byRajkishoreNayak, Rajiv Padhye
9. <https://www.businessmanagementideas.com/cost-accounting/costing-meaning-aims-and-methods-cost-accounting/7265>
10. <https://www.toppr.com/guides/fundamentals-of-accounting/fundamentals-of-cost-accounting/elements-of-cost/>
11. <https://makersrow.com/search?q=cost+of+goods>

Good for Students who have Future Interests

12. <https://www.textileschool.com/181/garment-costing/>
13. <https://textilecalculation.blogspot.com/2014/11/calculation-of-garment-costing.html>
14. <https://www.textiletoday.com.bd/fashion-merchandising-garment-costing/>
15. <https://techpacker.com/blog/design/apparel-and-garment-costing/>
16. <https://apparelcareer.blogspot.com/2016/11/how-to-calculate-garment-costing-and.html>

SEMESTER V**CORE –XI****LEAN MANAGEMENT****Course Code:** 18UPTAD2C11**Marks:**75Marks**Course Description:**

The Students gain insights about the importance of lean manufacturing and practices. It helps to improve the production, eliminate the non-value-added product and works towards customer's view.

Course Outcomes (COs):

By successfully completing this course, the students will be able to

S. No	Outcomes	Domains of Learning
CO1	Identify the basic tools used in the lean system	Cognitive
CO2	Discuss the lean Techniques used to eliminate the waste	
CO3	Compute the Lean Strategy for improving processes.	
CO4	Describe process production layout for improving quality systems.	
CO5	Differentiate the Lean Quality Systems and production uses in various field	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	M	H	M	L		L
CO2	H	H	H	H	H	M		H	L		L
CO3	H	H	H	H	H	M	M	H	L		L
CO4	H	H	H	H	H	M	H	H	L		L
CO5	H	H	H	H	H	H	M		L		L

Unit	Unit Title	Learning Chapters
I	Introduction of basic lean and lean concept	What is Lean? -Principles of Lean -Benefits of Lean-History of Lean -Lean thinking- Lean Metric-what is Toyota Production System?-Ford root of lean- What is lean manufacturing system? Value and waste definition. What is Value added and non-value added activity
II	Lean tools and techniques	Kaizen-GEMBA-5'S system-visualization and tools -Quick change over - TPM-(total productive maintenance) -TPM deployment stage-Preparatory stage-Introduction stage-Implementation stage –what is Kanban? pull system- types of kan-ban-hijunka box- JIDOCA Pillar -JIT-pillar

III	Lean management System	Work & Waste- Seven Wastes in Lean and the impact of WIP. (Muda, Mura and Muri)-Continuous Flow / Single Piece Flow- Value Stream Mapping-7 tools of quality-TPS(Toyota Production System)-Pull system-Push system—Continuous flow-Pull production -Levelling the production-SMV-(Standard minutes value)
IV	Lean in Manufacturing system	Levels of layout-layout design-types of layout-basic layout-product layout-process layout -fixed position layout-mixed model layout-hybrid layout-combination layout -continuous quality improvement -cause & effect diagram-Flowchart and its types-histogram
V	Lean Quality Systems	Lean Organization- Toyota Production System- Critical to Quality and Value Stream Mapping: Critical to Quality (CTQ) – defining process objectives important to customer as CTQ. Supplier Input – Process Output – Customer (SIPOC) – SIPOC and Process Flow- Poka yoke.

READING LISTS AND RESOURCES

Compulsory

1. Lean Management and Kaizen Fundamentals from Cases and Examples in Operations and Supply Chain Management By Marc Helmold · 2020
2. The Lean practitioners handbook, Mark Eaton,2013,U.K Womack, J. P., & Jones, D. T. (1997). Lean thinking—banish waste and create wealth in your corporation. Journal of the Operational Research Society, 48(11), 1148-1148.
3. Womack, James P. and Roos, Daniel T. (2003); Lean Thinking; Simon and Schuster, New York
4. Lean Manufacturing Implementation in Garment Industry2013
5. Lean Tools in Apparel Manufacturing2021
6. Lean Management Beyond Manufacturing Holistic Approach By Sanjay Bhasin · 2015

Highly Recommended, not Compulsory

7. Forrest W. BreyfogleIII ,Implementing Six Sigma: Smarter Solutions Using Statistical Methods ,1999
8. Feld, W. M. (2000). Lean manufacturing: tools, techniques, and how to use them. CRC press.
9. James P. Womack , Daniel T. Jones ,Lean Thinking, Free press business,2003.
10. Forrest W. Breyfogle III, Implementing Six Sigma: Smarter solutions Using Statistical Methods, 1999.
11. Thomas Pyzdek,The Six Sigma Handbook ,McGraw-Hill, 2000
12. Michael L. George, David Rowlands, Bill Kastle ,What is Lean Six Sigma, McGraw-Hill, 2003
13. James P. Womack, Daniel T. Jones, Lean Thinking, Free press business, 2003.
14. Successfully Implementing Lean Six Sigma The Lean Six Sigma Deployment Roadmap By Keith Gardner · 2013
15. The Tactical Guide to Six Sigma Implementation By Suresh Patel · 2017

Good for Students who have Future Interests

16. <https://tallyfy.com/guides/lean-six-sigma/>
17. <https://www.sixsigmadaily.com/how-to-implement-six-sigma-in-an-organization/>
18. <https://www.greycampus.com/blog/quality-management/dmaic-a-six-sigma-process-improvement-methodology>
19. <https://www.reliableplant.com/Read/30141/lean-six-sigma>

SEMESTER V

CORE - XII

GARMENT CONSTRUCTION PRACTICAL – II (WOMEN’S WEAR)

Course Code:18UPTAD2C12

Marks: 60 Marks

Course Description:

The Course is structured to provide practical skills in pattern development and construction for women’s garments. This will also help students to calculate the cost and fabric requirement for the respective garments.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Learning Outcomes	Domains of Learning
CO1	Design the various women’s garments and formulate the measurements.	Psychomotor
CO2	Develop the pattern blocks for different kinds of women’s garments and estimate the material calculation.	
CO3	Construct the designed women’s garments and calibrate cost calculation	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	M	H	M	L	L	L
CO2		H	H	H	H	M	H	M	L	L	L
CO3	M	H	H	H	H	H	H	H	M	L	

Unit	Unit Title	Learning Chapters
I	Garment Designing	Design the various types of women’s wear
II	Pattern Making	Drafting the pattern blocks for designed women’s wear garments.
III	Garment Construction	Construct the garments and calculate cost calculation for designed women’s wear.
	Garments	Salwar, Kameez, ShortKurta, LadiesPant, Skirt
Lab Equipment’s: Drafting Tools, Single Needle Lock Stitch Machine, Over Lock machine & Ironing Equipment’s.		

READING LISTS AND RESOURCES

Compulsory

1. Garment Construction Complete Course on Making Clothing for Fit and Fashion By Peg Couch , 2011
2. The Complete Book of Sewing By Chris Jeffreys, DK Publishing, Inc, 2003
3. The New Complete Guide to Sewing Step-by-Step Techniques for Making Clothes and Home Accessories Updated Edition with All-New Projects and Simplicity Patterns By Editors of Reader's Digest, 2010
4. The Dressmaker's Companion A Practical Guide to Sewing Clothes By Elizabeth M. Haywood
5. The Dressmaker Complete Book on All Matters Connected with Sewing and Dressmaking from the Simplest Stitches to the Cutting, Making Altering, Mending and Caring for the ClothesByButterick Publishing Company, 1916
6. Metric Pattern Cutting for Women's Wear By Winifred Aldrich, 2015

Highly Recommended, not Compulsory

7. Clothing, Simplicity-economy for the High School Girl By Laura Irene Baldt, Helen D. Harkness, 1931
8. Sew Sweet Handmade Clothes for Girls22 Easy-to-Make Dresses, Skirts, Pants & Tops Girls Will Love By Yuki Araki, 2014
9. Carefree Clothes for Girls20 Patterns for Outdoor Frocks, Playdate Dresses, and More ByJunko Okawa, 2009
10. Modern Style for Girls Sew a Boutique Wardrobe By Mary Abreu, 2015
11. Clothing for Women; Selection, Design, ConstructionA Practical Manual for School and Home By Laura Irene Baldt, 1916
12. Pattern Cutting Techniques for Ladies' JacketsBy Jo Baker-Waters, 2016
13. Making Trousers for Men &Women A Multimedia Sewing Workshop By David Page Coffin, 2009
14. Making Trousers How to Achieve Great Results By David Page Coffin, 2009
15. The Shirtmaking WorkbookPattern, Design, and Construction Resources - More Than 100 Pattern Downloads for Collars, Cuffs & PlacketsBy David Page Coffin, 2015

Good for Students who have Future Interests

16. Making Working Women's CostumePatterns for Clothes from the Mid-15th to Mid-20th Centuries By Elizabeth Friendship, 2015
17. Laser Cutting for Fashion and TextilesBy Laura Berens Baker, 2016
18. Pattern Cutting for Women's Tailored JacketsClassic and ContemporaryBy Winifred Aldrich, 2002
19. <https://www.thesprucecrafts.com/techniques-for-sewing-clothing-2978471>
20. <https://study.com/academy/lesson/clothing-construction-terms-basics-methods.html>

SEMESTER V

CORE – XIII

ADVANCED FABRIC STRUCTURE ANALYSIS PRACTICAL

Course Code:18UPTAD2C13

Marks: 60Marks

Course Description:

The course is structured to provide intensive practical skills in the area of Fabric structure and defect identification in woven and knitted fabrics. Also this leads to determine fabric particulars like crimp, count, GSM and cover factors in woven and knitted fabrics.

Course Outcomes (COs):

By the End of the Course, Students will be able to

S.No	Outcomes	Domains of Learning
CO1	Demonstrate the weave design, draft, peg plan for the fabrics.	Psychomotor
CO2	Determine ends per inch, picks per inch and crimp percentage for woven fabrics.	
CO3	Build diagrammatic representation of knitted fabrics.	
CO4	Determine course per inch, wales per inch, and GSM for the knitted fabrics.	
CO5	Identify defects in the given woven and knitted fabrics.	

Course Outcomes (COs)	Programme Specific Outcomes (PSO)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H		H	H	H	M	M	M	M		M
CO2	H		H	H	H	M	M	M	M		M
CO3	H		H	H	H	M	M	M	M		M
CO4	H		H	H	H	M	M	M	M		M
CO5	H		H	H	H	M	M	M	M		M

Unit	Unit Title	Learning Chapters
I	Woven Fabric Design Identification	Analyse the given woven fabric swatches and furnish the following details. a) Design b) Draft c) Peg-plan Fabrics: Honeycomb Weave, Huck a back Weave, Crepe Weave, Double Cloth, Pile Weaves, Extra Warp and Weft Figuring.
II	Woven Fabric particulars	Determine the given woven fabric swatches and furnish the following: a) Ends per inch b) Picks per inch c) Crimp Percentage Fabrics: Honeycomb Weave, Huck a back Weave, Crepe Weave, Double Cloth, Pile Weaves, Extra Warp and Weft Figuring.

III	Knitted fabric Design Identification	Analyze the given knit fabric swatches and furnish the following details. a) Design Structure b) Loop Formation Fabrics: Milanese, Tricot, Raschel, Purl, Net, Mesh
IV	Knitted fabric particulars	Identify the given knit fabric swatches and furnish the following details. a) Course direction b) Wales direction c) GSM Fabrics: Milanese, Tricot, Raschel, Purl, Net, Mesh
V	Defect Identification	Defect Analysis for given fabrics – Major and Minor defects occurred.
Laboratory equipments: Pick Glass, Scissors, Measuring Tools, Needle or Pins or Thread separator.		

READING LISTS AND RESOURCES

Compulsory

1. Textiles Technology By Barbara Lawler, Helen Wilson · 2002
2. Advanced Woven Fabric Design By J. Hayavadana · 2019
3. Tensile Fabric Structures Design, Analysis, and Construction By Craig G. Huntington · 2013
4. Specialist Yarn and Fabric Structures Developments and Applications 2011
5. Fabric Structure and Design By N. Gokarneshan · 2009

Highly Recommended, not Compulsory

6. Innovative Jacquard Textile Design Using Digital Technologies By Frankie Ng, Jiu Zhou · 2013
7. Textile Design and Colour, Elementary Weaves and Figured Fabrics, By William Watson (F.T.I.) · 1912

Good for Students who have Future Interests

8. <https://textilelearner.blogspot.com/2012/02/analysis-of-woven-fabric-structure.html>
9. <https://www.scribd.com/document/287922225/Advanced-Fabric-Structure-pdf>
10. <https://www.slideshare.net/sakthidamodaran/fabric-structureanddesign-by-n-gokarneshan>

SEMESTER V

CORE - XIV

GRAPHIC DESIGN PRACTICAL

Course Code: 18UPTAD2C14

Marks: 60 Marks

Course Description:

Knowing the fundamentals of graphic design would allow the students to create excellent graphic design texture in just a few clicks. This subject will provide the students with some graphic design lessons and tips to develop exceptional graphic design styles. Understanding the fundamentals of graphic design and improving texture in design work can elevate students' work from mediocrity to greatness.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Develop Colour palate, Scanning, Layer and Mask in Photoshop workspace.	Psychomotor
CO2	Create checks, prints and weave designs using different tools in Photoshop.	
CO3	Modify 3-D images by changing the textures and apply into the flat sketches.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1			H	M	H		H			M	H
CO2			H	M	H		H			M	H
CO3			H	M	H		H			M	H

Unit	Unit Title	Learning Chapters
I	Photoshop Workspace and its basics	Photoshop need for Fashion industry, Work Space Overview, Photoshop Tool Palette, Shortcut keys and uses. Preparing Files and Creating a colour Palette Basics, Scanning and Aligning Fabrics, Use and Function in Design, Exercises on Layers, Use mask in Adobe Photoshop
II	Textiles Design and Flat Sketches	Checks and Prints. Application of Weave designs to Flat Sketches
III	Texture Mapping	Merging 3-D Images Modifying the textures.

READING LISTS AND RESOURCES

Compulsory

1. Drawing for Graphic Design Understanding Conceptual Principles and Practical Techniques to Create Unique, Effective Design Solutions by Timothy Samara, 2012
2. Adobe Photoshop CC Classroom in a Book (2019 Release) By Andrew Faulkner, Conrad Chavez , 2018

Highly Recommended, not Compulsory

3. The Adobe Photoshop CS4 Layers Book Harnessing Photoshop's Most Powerful Tool By Richard Lynch, 2009

Good for Students who have Future Interests

4. Creative Workshop 80 Challenges to Sharpen Your Design Skills, 2010

SEMESTER V

ELECTIVE –I

SIZE AND FIT ANALYSIS

Course Code:18UPTAD2E01

MARKS:75 Marks

Course Description:

This course will guide the students to understand about standard measurements for human body as per industrial standards. Also this course will enable to determine fit mapping and common fitting problem for different size and styles.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Distinguish the size scales and size scale apparatus used to measure human body.	Cognitive
CO2	Differentiate the Standard measurement chart for human body	
CO3	Infer about Modern sizing method using different human modelling software.	
CO4	Analyse the standards of good fit and critique fit test method with fit measurement techniques.	
CO5	Determine Fit mapping and Common fitting problem and their remedies.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1			H	H	H	H	H		M		H
CO2			H	H	H	H	H		M		H
CO3			H	H	H	H	H		M		H
CO4			H	H	H	H	H		M		H
CO5			H	H	H	H	H		M		H

Unit	Unit Title	Learning Chapters
I	Size Scale for Apparel and Accessories	Size scale-Indian size scale for apparel and accessories, size scale uses of different countries for apparel and accessories, Conversion of size scale, size scale apparatus use to measure human body.
II	Standard measurements	Standard measurement chart for human body- infants, children's, women's, and men. Anthropometry analysis of human body measurement.

III	Modern sizing methods	Modern sizing method- 3D scanning, 3D human measurement system- types and specification of 3D human measurement system-working principles, human modelling –developing 3D human model online mode, developing 3D human model using human modelling software.
IV	Fit analysis	Fit analysis-standards of good fit-Ease, line, grain, set, balance. Fit test method, fit measurement techniques, fit testing, plotting and analysis of data using excel sheet.
V	Common fitting problem and their remedies.	Fit mapping- mapping against a target model- stress mapping, strain mapping. Common fitting problem and their remedies.

READING LISTS AND RESOURCES

Compulsory

1. Fan J, Yu W and Hunter L, “Clothing Appearance and Fit”, The Textile Institute, Wood head Publishing Limited, England, 2004.
2. Ashdown S P, “Sizing in clothing”, The Textile Institute, Woodhead Publishing Limited, England, 2007.
3. Sandra Betzina, ”Fast Fit-Easy pattern alterations for every figure”, The Taunton Press, Inc., Singapore, 2003.
4. Patty Brown and Janett Rice, “Ready-To-Wear Apparel Analysis”, Prentice Hall, 2001
5. Editors of Creative publishing,” The Perfect Fit- classic guide to alter patterns”, Creative publishing international, USA, 2005.
6. Anthropometry, Apparel Sizing and Design, 2014
7. Anthropometry, Apparel Sizing and Design By Deepti Gupta, 2019

Highly Recommended, not Compulsory

8. Modelling and Motion Capture Techniques for Virtual Environments International Workshop, CAPTECH'98, Geneva, Switzerland, November 26-27, 1998
9. Modelling and Simulating Bodies and Garments By Nadia Magnenat-Thalmann, 2010
10. Virtual Clothing Theory and Practice By Pascal Volino, Nadia Magnenat-Thalmann, 2012
11. Clothing for Children and Teenagers Anthropometry, Sizing and Fit ByNorsaadah Zakaria, 2016
12. Lynn Macintyre and Mary Tilton, “Easy Guide to sewing”, Taunton press, USA, 2009.

Good for Students who have Future Interests

13. <https://www.sciencedirect.com/topics/engineering/clothing-fit>
14. <https://www.studyblue.com/notes/note/n/apparel-analysis-size-and-fit/deck/15578245>
15. https://fits.me/wp-content/uploads/2018/06/Rakuten-Fits-Me-White-paper_ir_report.pdf
16. <https://sizer.me/>
17. <https://towardsdatascience.com/would-this-clothing-fit-me-5c3792b7a83f>

SEMESTER V

ELECTIVE –I

SUSTAINABLE APPAREL PRODUCTION

Course Code:18UPTAD2E02

Marks:75 Marks

Course Description:

This course expedites the students to gain knowledge towards the Sustainable measures, processes and certification in the textiles and apparel industries. Updated facts towards this make the students to explore more in these industries.

Course Outcomes (COs):

At the culmination of this course, Students will be able to

S.No	Outcomes	Domains of Learning
CO1	Summarize the concepts of environmental and social sustainability and its impacts over Textile sector. Generalize consumer behaviour and influence in sustainable living	Cognitive
CO2	Explain Carbon foot prints of different fibres, its causes and methods to reduce Carbon foot prints in sustainable apparel production.	
CO3	Describe sustainable materials, various sustainable design strategies, and its challenges in implementing apparel production.	
CO4	Outline the solutions for sustainable process, sourcing and production	
CO5	Interpret sustainable standards and certificates for textile sector.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	M		M	H	H	H	H	M	H	L	H
CO2	H		M	H	L	H		H	H	M	H
CO3	M		M	H	H	H	H	M	H	L	H
CO4	H		H	M	M	H		H	H	M	H
CO5	M		M	H	H	H	H	M	H	L	H

Unit	Unit Title	Learning Chapters
I	Sustainability	Definition, Types& Pillars of sustainability, Purpose of sustainability, Primary Goals of Sustainability. Sustainable system: Environmental Sustainability, Economic Sustainability, Social sustainability. Difference between Textiles and Clothing Supply chain and Green supply chain management (GSCM). Product - Life cycle assessment (LCA). Role & requirement of sustainability manager / in charge - Consumer behaviour in sustainable living The Consumer Behaviour Influence –Attitude, Knowledge and Behaviour Gap – Three theories behaviour – Forms of Sustainable Consumption Behaviour– Impacts of sustainability over industries – positive & Negative Impacts.

II	Sustainable Designs for Apparel	What is Green House Gas? List the Types and Sources of Greenhouse gas. Define Global warming potential and Carbon footprint. Global Carbon Footprint and its effects, Carbon footprint of various textile processes, Carbon footprint of natural fibres and their products: Carbon footprint of Cotton fibre products, Carbon footprint of white long shirt, Carbon footprint of wool, jute, linen. Carbon footprint of Synthetic fibres and their products: Regenerated fibres and PP shopping bags. Methods to reduce carbon footprint-3R's Reuse / Reduce / Recycle
III	Sustainable Designs for Apparel	Sustainable Materials: Smart materials (e.g.) Pinnatex, Biodegradable, reuse, Organic, Recycled /Upcycled/down cycled, Deadstock, Compare different eco-friendly materials. Design for waste minimization/ Zero waste, Design for disassembly (DfD), Design for Slower Consumption/Longevity, Design for Social Well-being, Design for User Participation (Co-Design), Design for Product/Service System (PSS), Design for End-of-Life (EoL) Strategies, Challenges in implementing sustainable design strategies, Essential design aspects for expanding clothing lifespans and Existing Sustainable Design Practices in the Fashion Industry: Case Studies.
IV	Sustainable Processes, Sourcing and Production	Sustainable Processes: Waterless dyeing, 3D printing, Natural Dyeing, Printing (ink types). Advantages of Spin-dyeing compared to conventional dyeing, Sustainable coloration like Enzymatic synthesis and plasma pre-treatment.Sustainable Sourcing: Criteria for evaluating and selecting sustainable suppliers.Sustainable Production: Adopting Resource efficiency and Cleaner Production strategy in apparel manufacturing: Dematerializing products, Increasing process efficiency (Reducing operational cost and process waste through lean manufacturing),minimizing process emissions (Minimizing Air pollution) switching to low carbon inputs (Use of Renewable energy and energy saving)Closing the carbon loop (Recycling hard waste) Recyclability: Recycling possibilities for End of life products (EOL)
V	Sustainable Standards and Certification	Social sustainable practices in Apparel industry: Aspects of 1) Labor practices and decent work,2) Human rights, 3) Society, 4) Product responsibility in Apparel industry. Sustainable Standards and Certification <u>Holistic</u> : Remake, Eco stylist, B. Corporation, Sustainable Apparel Coalition, The Higg Index. <u>Fibre Standards</u> : Global Organic Textiles Standard (GOTS), Fair trade Certified Cotton, Better Cotton Initiative (BCI), Cotton Made in Africa (CMiA), Global Recycle Standard, Organic Content Standard, Responsible Wool Standard <u>Chemical Control</u> : Oeko-Tex 100, Bluesign <u>Labor rights and working conditions</u> : SA8000 Standard, Fairtrade Textile Standard, WRAP, Ethical Trading Initiative, The Social Accountability Accreditation Services (SAAS), Fair Wear Foundation <u>Circular Standards</u> : Cradle to Cradle <u>Fair Trade</u> : Fairtrade Certified Textiles, Fairtrade Certified Cotton, Fair Trade USA, World Fair Trade Organisation (WFTO) Guarantee System. <u>Vegan</u> : PETA Approved Vegan

READING LISTS AND RESOURCES

Compulsory

1. Ann Hagggar, "Pattern Cutting for Lingerie, Beach Wear and Leisure Wear", Black Well Science Limited, France, 2001
2. Handbook of Sustainable Apparel Production, Subramanian Senthil Kannan MuthuCRC Press, 2015
3. Sustainability in the Textile and Apparel Industries: Sustainable Textiles, Clothing Design and Repurposing, Subramanian Senthil Kannan Muthu, Miguel Angel Gardetti, Springer Nature, 2020
4. Consumer Behaviour and Sustainable Fashion Consumption, Subramanian Senthil Kannan Muthu, Springer, 2018
5. Way, J. Fan, S.C. Harlock, S.P. Ng., "Innovations and Technology of Women's Intimate Apparel", Wood head Publishing Limited, England 2006
6. Sustainability in the Textile Industry, Subramanian Senthil Kannan Muthu Springer, 2016
7. Textiles and Clothing Sustainability Sustainable Fashion and Consumption2016
8. Sustainability in Fashion and Textiles Values, Design, Production and Consumption2017
9. Sustainable Fibres for Fashion Industry Volume 12016

Highly Recommended, not Compulsory

10. Sustainable ApparelProduction, Processing and Recycling,2015
11. Handbook of Sustainable Apparel Production,2015

Good for Students who have Future Interests

12. <https://www.textileebook.com/2019/07/sustainable-apparel-production.html>
13. <https://www.fibre2fashion.com/industry-article/6771/intellectual-capital-on-sustainability>
14. <https://www.sgtgroup.net/expert-solutions-for-sustainable-textiles-and-apparel-production>
15. <http://article.sciencepublishinggroup.com/html/10.11648.j.sjee.20170501.11.html>
16. <https://www.jeanologia.com/sustainable-ization/>

SEMESTER V

ELECTIVE –I

ENTREPRENEURSHIP DEVELOPMENT – I

Course Code:18UPTAD2E03

Marks:75 Marks

Course Description:

Students are able to build an entrepreneurial way of thinking that helps them to recognize market opportunities that can be utilized in Market research. Market survey helps them to promote service with customer satisfaction

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Make use of Entrepreneurship career options, Competencies and National policies.	Cognitive
CO2	Predict the Entrepreneurial Eco System and Investment climate.	
CO3	Identify the Potential Market and Competitors to Improve selling in the current Market.	
CO4	Summarize the source of information into result to produce optimum success	
CO5	Recognizing long-term strategic planning in business models and Export Promotion	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	M	H	H	H	H	H	H	L	H
CO2		H	M	H	M	H	H	H	H	L	H
CO3		H	H	H	M	H	H	H	H	L	H
CO4		H	L	H	M	H	H	H	H	L	H
CO5		H	M	H	M	H	H	H	H	L	H

Unit	Unit Title	Learning Chapters
I	Entrepreneurship Career Options and Competencies	Entrepreneur – Definition, Characteristics, Factors Affecting Entrepreneurial Growth – Economic, Non-Economic Factors. Entrepreneurship Career Option & Entrepreneurial competencies – Concept of Cash flow quadrant, Needs of Entrepreneurship Career Option, Entrepreneurial concept, Understanding Entrepreneurial background, Challenges in Entrepreneurship, Entrepreneurial Competencies – Initiative, Opportunities, Persistence, Building Network Information,

		Concern for high quality of work, Commitment, Efficiency Orientation, Problem Solving, Assertiveness, Persuasion, skill set. Start-up development Process. Lean Start up Process; National Innovation and Start up Policy 2019.
II	Entrepreneurial Eco system and Investment Climate	Entrepreneurial Eco system – Quantitative Indicators for Business Ranking, Isenberg’s Domains of Entrepreneurial Ecosystem – Policy, Finance, culture, supports, human capital, Markets. Business Environment and Investment Climate – Environmental Reforms – Business Registration, Tax Policies, Financial Access, Labour Laws and Administration, Regulatory Governance, Access to commercial courts, Market Information, Financial Markets, Human Resources & Skills, Economic Predictability, Infrastructure, Political Situation, Labour Markets. Interacting Actors – Individuals, Organisations, Institutions. Entrepreneurial Culture & attitude and Mapping ecosystem. Extension motivation, Achievement motivation training, Training planning process.
III	Market Survey & Analysis	Market Survey & Analysis: Potential Competitors Analysis, Potential Market Analysis, Customer Perception/Opinion, Level of Acceptance i) Price Determination ii) Acceptability Ecosystem, iii) Value Determination. Customer Satisfaction: Post sale service expectation, Parameters of satisfaction, Cost of Customer Satisfaction, Encountering the reason for poor selling – Poor Product Design, Lack of Vision, Lack of Market Understanding, Poor Revenue Calculation, Poor Customer Understanding, Poor Projects, Replication of West. Product Improvement, Potential Market Places, Customer Perception.
IV	Market Research and Survey	Market Research: i) Primary Database, ii) Secondary Database. Census Survey: Concept, Merits and Demerits. Descriptive and Inferential Statistics. Sample: Objectives, Data Collection, Sample Classification of Samples, Sample Investigation, Requisites of good Sample, Merits and Demerits. Questions: Type of Questions Census Vs Sampling.
V	Business Opportunity	Business Opportunity: Business Opportunity Identification process, Business Model, Validating Data, Selection Process, BCG Growth share Matrix. SWOT analysis. Building Innovation Circle. Incentives and subsidies – Subsidized Services – Subsidy for market. Transport – seed capital assistance – Taxation benefit to SSI – role of Entrepreneur in export promotion and import substitution.

READING LISTS AND RESOURCES

Compulsory

Innovation Markets and Competition Analysis EU Competition Law and US Antitrust Law By Marcus Glader, 2006

Business and Competitive Analysis Effective Application of New and Classic Methods By Craig S. Fleisher, Babette E. Bensoussan, 2007

https://www.researchgate.net/publication/314540021_Business_Ethics_in_Apparel_Manufacturing_A_Literature_Review

Highly Recommended, not Compulsory

Desai, Vasant (2003). Small-Scale Industries and Entrepreneurship. Himalaya Publishing House, Delhi. 2.

Kaulgud, Aruna (2003). Entrepreneurship Management. Vikas Publishing House, Delhi.

Cynthia, L. Greene (2004). Entrepreneurship Ideas in Action. Thomson Asia Pvt. Ltd. Singapore.

David, Otes (2004). A Guide to Entrepreneurship. Jaico Books Publishing House, Delhi.

http://www.emuni.si/Files/knjiznica/78_ECEntrepreneurship-in-Higher-Education-2008.pdf

Good for Students who have Future Interests

<http://www.fashionenterprise.com/files/2010/09/CFECopyrightDownload1.pdf> on 16th Oct, 2014

<http://www.lexology.com/library/detail.aspx?g=6c596a24-e79b-4d39-a73f-9837529d9a78> on 18th Oct, 2014

<http://antwerpsex.wordpress.com/2013/09/03/fashion-101-intellectual-property-laws/> on 16th Oct, 2014

WIPO Magazine/May-June 2005

<http://www.businessoffashion.com/2011/07/fashions-intellectual-property-conundrum.html> on 18th Oct, 2014

<http://www.businessoffashion.com/2011/07/fashions-intellectual-property-conundrum.html> as viewed on 20th October, 2014

<https://antwerpsex.wordpress.com/2013/09/03/fashion-101-intellectual-property-laws/>

SEMESTER V

ELECTIVE –I

TRADITIONAL EMBROIDERY PRACTICAL

Course Code: 18UPTAD2E04 **Marks:** 60 Marks

Course Description:

This course is designed for applicants who choose to work as a traditional embroiderer, tracing specialist, hand embroiderer, or as a self-employed entrepreneur.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Perform the different types of basic hand embroidery stitches in fabric.	Psychomotor
CO2	Execute the different types of decorative hand embroidery stitches in fabric.	
CO3	Combine the basic and decorative stitches in the fabrics for representing various traditions in India.	

Course Outcomes (COs)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	M	H	H	H	H	H	H	M	H	M	L
CO2	M	H	H	H	H	H	H	M	H	M	L
CO3	M	H	H	H	H	H	H	M	H	M	L

Unit	Unit Title	Learning Chapters
I	Basic Stitches	Prepare the samples by using the following basic stitches: Running Stitch, Chain Stitch, Stem Stitch, Button Hole, Seed stitch, Feather stitch, Fly stitch and Herring Bone
II	Decorative Stitches	Prepare the samples by using the following decorative stitches: Satin Stitch, Interlace Stitch, Lazy-daisy, French Knot, Bullion Knot, Cross Stitch, Chevron Stitch and Darning.
III	Traditional Embroidery	Prepare the embroidery samples for various traditions in India: Chikankari of Lucknow, Kasida of Kashmir, Phulkari of Punjab, ChambaRumal of Himachal Pradesh, Kutch & Kathiawar of Gujarat, Kasuti of Karnataka, Lambadi Embroidery, Kantha of Bengal and Sujani of Bihar

READING LISTS AND RESOURCES

Compulsory

1. Embroidery Stitches – Mary Webb, 2006, China, Pages 28 – 34
Traditional Embroideries of India
2. By Shailaja D. Naik, 1996
Learning the Traditional Art of Hand Embroidery
3. By Dueep Jyot Singh, John Davidson, 2016
4. Ritu, Attractive Embroidery Designs, Indica Publishers, 1995.
5. Shailaja m. and Naik. D., Traditional Embroideries of India, KPH Publishing Corporation, 1996.
6. Treasury of Smocking Designs, Allyne S. Holland, New York, 1985.
7. Embroidery Stitches – Mary Webb, 2006, China, Pages 28 – 34
8. Indian Embroideries: Threads That Weave Together The Fabric Of India By Aditi Ray, 2017

Highly Recommended, not Compulsory

9. How to Teach Yourself Cutwork Embroidery by Dueep Jyot Singh, John Davidson, 2017
10. Learning the Traditional Art of Hand Embroidery by Dueep Jyot Singh, John Davidson, 2016
11. Learning Patchwork - Traditional Patchwork Techniques By Dueep Jyot Singh, John Davidson, 2016
12. Learn to Quilt By Dueep Jyot Singh, John Davidson, 2016
13. Learning Decorative Stitches The Art of Shirring and Smocking By Dueep Jyot Singh, John Davidson, 2016

Good for Students who have Future Interests

14. Traditional Embroidery of India Volume 2 By Kamala Sunderrao Kulkarni Dongerkery, 1963
Embroidery Traditional Designs, Techniques, and Patterns from All Over the World
15. By Mary Gostelow, 1983
16. Design for Embroidery, from Traditional English Sources By Constance Howard, 1956
17. Modern Embroidery Series, MBD Publishers, 1995.
18. Kit Pynan and Carole, The Harmony Guide to Decorative Needle Craft, Lyric Books Ltd., 1982

SEMESTER - VI

CORE - XV

GARMENT CONSTRUCTION PRACTICAL – III (MEN’S WEAR)

Sub Code:18UPTAD2C15 **Marks:** 60 Marks

Course Description:

The Course is structured to provide practical skills in pattern development and construction for men’s garments. This will also help students to calculate the cost and fabric requirement for the respective garments.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Learning Outcomes	Domains of Learning
CO1	Design the various men’s garments and formulate the measurements.	Psychomotor
CO2	Develop the pattern blocks for different kinds of men’s garments and estimate the material calculation.	
CO3	Construct the designed men’s garments and calibrate cost calculation	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	M	H	M	L	L	L
CO2		H	H	H	H	M	H	M	L	L	L
CO3	M	H	H	H	H	H	H	H	M	L	

Unit	Unit Title	Learning Chapters
I	Garment Designing	Develop designs for various kinds of Men’s wear garments.
II	Pattern Making	Drafting the pattern blocks for designed men’s wear garments.
III	Garment Construction	Construct the men’s garments and calculate cost calculation.
	Garments	<ul style="list-style-type: none">• Pant – Pencil Cut, Patch Pocket• Shirt - Full Open, Shirt collar, Patch pocket• Pyjama – Elastic / Tape attached in waist• Kurta - Stand collar, side pocket, half open• T-Shirt – Open collar, zip attached.
Lab Equipment’s: Drafting Tools, Single Needle Lock Stitch Machine, Over Lock Machine & Ironing Equipment’s.		

READING LISTS AND RESOURCES

Compulsory

1. Garment Construction A Complete Course on Making Clothing for Fit and Fashion By Peg Couch, 2011
2. The Complete Book of Sewing By Chris Jeffreys, DK Publishing, Inc, 2003
The New Complete Guide to Sewing Step-by-Step Techniques for Making Clothes and Home Accessories Updated Edition with All-New Projects and Simplicity Patterns By Editors of Reader's Digest, 2010
3. The Dressmaker's Companion A Practical Guide to Sewing Clothes By Elizabeth M. Haywood
The Dressmaker Complete Book on All Matters Connected with Sewing and Dressmaking from the Simplest Stitches to the Cutting, Making Altering, Mending and Caring for the Clothes By Butterick Publishing Company, 1916
4. Illustrated Guide to Sewing: Garment Construction A Complete Course on Making Clothing for Fit and fashion By Fox Chapel Publishing, Colleen Dorsey, 2011
5. Practical Pattern Making By Lucia Mors, Lucia Mors de Castro, Isabel Sánchez Hernández, 2015
6. Patternmaking For Fashion Design And DVD Package, 4/E (DVD) By Helen Joseph, 2008
7. Metric Pattern Cutting for Menswear By Winifred Aldrich, 2012
8. Menswear By John Hopkins, 2017

Highly Recommended, not Compulsory

11. Pattern Cutting for Menswear By Gareth Kershaw, 2013
12. Patternmaking for Menswear Classic to Contemporary By Myoungok Kim, Injoo Kim, 2014
13. How to Make Men's Clothes By Jane Rhinehart, 1976
14. Making Trousers for Men & Women A Multimedia Sewing workshop By David Page Coffin, 2009
15. Making Trousers How to Achieve Great results By David Page Coffin, 2009
16. Sewing Shirts with a Perfect Fit The Ultimate Guide to Fit, Style, and Construction from Collared and Cuffed to Blouses and Tunics By David Page Coffin, 2018
17. The Shirtmaking Workbook Pattern, Design, and Construction Resources - More Than 100 Pattern Downloads for Collars, Cuffs & Plackets By David Page Coffin, 2015

Good for Students who have Future Interests

18. Laser Cutting for Fashion and Textiles By Laura Berens Baker, 2016
19. The Shirtmaking Workbook Pattern, Design, and Construction Resources - More Than 100 Pattern Downloads for Collars, Cuffs & Plackets By David Page Coffin, 2015
20. Pattern Cutting for Clothing Using CAD How to Use Lectra Modaris Pattern Cutting Software. By M Stott, 2012
21. <https://www.thesprucecrafts.com/techniques-for-sewing-clothing-2978471>

SEMESTER - VI

CORE – XVI

DESIGN THINKING FOR INNOVATION

Sub Code:18UPTAD2C16

Marks:60 Marks

Course Description:

This course enables the Students to learn about design thinking and hence resolve the problem by innovate the new design strategies which encountered. It also describes the variety of approaches and concepts within the design thinking discipline. This encourages the students to construct various prototypes for different end uses and to lead project management in entrepreneurship.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Discuss the basics of Design thinking context	Cognitive
CO2	Describe the variety of design thinking concepts and mindset process and principles.	
CO3	Determine the design thinking tools to be applied in solving problems.	
CO4	Practice the appropriate strategies of design and its applications of product development.	
CO5	Explore the new idea and solutions for entrepreneurial business model	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1		L	H	M	L	M	H	M	M	L	
CO2		L	H	H	M	M	H	M	L	L	
CO3		L	H	M	L	M	H	M		L	
CO4		L	H	H	M	M	H	M	L	L	
CO5		L	H	H	M	M	H	M	M	L	

Unit	Unit Title	Learning Chapters
I	Design thinking context	Definition and Difference between Thinking, Innovation, Invention, Creativity and modernization. Design Thinking – Origin, Need, Philosophy and Rules – Human, Ambiguity, Re-design and Tangibility Rule. Principles – Various Resources – people, place, material and organizational fit. Features and Uses of Design Thinking.

II	Design thinking concepts and mindset	Fundamental Concepts in Design Thinking – Solution based and Problem focused, Scientific method and Iterative approach, Analysis and synthesis, Empathize, Divergent Thinking, Convergent Thinking, Visual Thinking – Brainstorming, Flash cards, Flow charts and other elements. Design Thinking mindset – Process and principles.
III	Design thinking tools and procedure	Design thinking tools and methods – toolbox – purposeful use of tools and alignment with process stages – what is, what if, what wows and what works. Design thinking process procedures – numerous approaches, double diamond process, 5- Stage school process and designing for growth process.
IV	Design thinking performance	Strategy and design – ten practices of strategy design – projecting – prototyping –Evaluation – experimenting – routinizing – mobilizing – realizing –connecting – scaling – Curating. Design Thinking application – role of product development and project management.
V	Design thinking for entrepreneurship	POV – Explore new ideas and shape own brand. Design thinking for revolutionizing business model – initiation, ideation, integration and Implementation. Entrepreneurial design management.

READING LISTS AND RESOURCES

Compulsory

1. Design Thinking for Innovation: Research and Practice books Walter Brenner, Falk Uebernickel, 2016
2. Design Thinking for Strategic Innovation: What They Can't books Idris Mootee, 2013
3. Design Thinking: New Product Development Essentials from the books Michael G. Luchs, Scott Swan, Abbie Griffin, 2015
4. Textiles, Identity, and Innovation: Design the Future: books Gianni Montagna, Cristina Carvalho, 2018

Highly Recommended, not Compulsory

5. Engineering Textiles: Integrating the Design and Manufacture books Yehia E. Elmogahzy, 2019
6. Creative Workshop: 80 Challenges to Sharpen Your Design Skills books David Sherwin, 2010
7. Design Thinking for the Greater Good Innovation in the Social Sector by Jeanne Liedtka, Randy Salzman, Daisy Azer, 2017

Good for Students who have Future Interests

8. <https://medium.com/think-clearly-world-tour/how-do-you-define-visual-thinking-what-is-it-what-is-it-not-b52021a94c14>
9. Visual Thinking Explained in 10 Examples | Slide Camp
10. <https://www.designbetter.co/design-thinking/why-we-need-design-thinking>
11. https://www.tutorialspoint.com/design_thinking/design_thinking_applications.htm
12. <https://www.entrepreneur.com/article/310282>
13. <https://www.innovationtraining.org/design-thinking-mindsets/>
14. <https://www.culturepartnership.eu/en/article/ten-tools-for-design-thinking>
15. https://link.springer.com/chapter/10.1007/978-3-319-20886-2_2
16. <https://uxdesign.cc/beyond-the-double-diamond-thinking-about-a-better-design-process-model-de4fdb902cf>

SEMESTER - VI

CORE - XVII

FASHION PORTFOLIO PRACTICALS

Course Code: 18UPTAD2C17

Marks: 60 Marks

Course Description:

A fashion designer's portfolio is a series of samples assembled by the designer to demonstrate his or her abilities to a potential designer or fashion school. This course will demonstrate the students how to put together a fashion portfolio.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Ideate themes for Designing portfolio appropriate for different seasons or Occasion.	Psychomotor
CO2	Build various boards necessary for fashion portfolio.	
CO3	Develop the design by Garment Construction.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	H	H	M	M	M	H
CO2	H	H	H	H	H	H	H	M	M	M	H
CO3	H	H	H	H	H	H	H	M	M	M	H

Unit	Unit Title	Learning Chapters
I	Planning Seasons and Occasion	The ideology of how to create a Fashion portfolio, planned for a season or occasion.
II	Preparation of boards	<ul style="list-style-type: none">• Inspirational/ Theme Board• Mood/Concept page• Colour Presentation Page• Textile Presentation Page• Flat drawing• 3D wear garment• Designer Profile• Customer profile
III	Final presentation	<ul style="list-style-type: none">• Number of garments in a collection 1-2 garments.

READING LISTS AND RESOURCES

Compulsory

1. Fashion Design Course Principles, Practice and Techniques: The Ultimate Guide for Aspiring Fashion Designers By Steven Faerm, 2010
2. The Academic Portfolio: A Practical Guide to DocumentingVPeter Seldin, J. Elizabeth Miller, 2010
3. Fashion Portfolio Design and Presentation by Anna Kiper, 2016
4. Colour Forecasting for Fashion by Kate Scully, Debra Johnston Cobb, 2012

Highly Recommended, not Compulsory

5. Portfolio for Fashion Designers By Kathryn Hagen, Julie Hollinger, 2012
6. Design Your Fashion Portfolio By Steven Faerm, 2012

Good for Students who have Future Interests

7. Portfolio Presentation for Fashion Designers By Linda Tain, 2018

SEMESTER - VI**CORE – XVIII****SIX SIGMA****Course Code:** 18UPTAD2C18**Marks:** 75 Marks**Course Description:**

This course enables the students to learn about six sigma concepts and problem-solving technique which help to improve the production, eliminate the defects and maintain to the quality in the apparel industry.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Identify six sigma techniques, DMAIC and its define phase.	Cognitive
CO2	Discuss the data collection strategies, measuring system, mapping and process capabilities using measuring phases.	
CO3	Practice the defect identification techniques and control impacts.	
CO4	Compute the solution parameters of hidden problems in garment production area by using improve phase.	
CO5	Outline solution for sustain the process in Six Sigma tool and techniques using control phase.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1		H	H	H	H	M	M	H	L		L
CO2		H	H	H	H	M	M	H	L		L
CO3		H	H	H	H	M	M	H	L		L
CO4		H	H	H	H	M	M	H	L		L
CO5		H	H	H	H	M	M	H	L		L

Unit	Unit Title	Learning Chapters
I	Introduction of Six Sigma process and concept	Fundamentals of six sigma- How six sigma work? Six Sigma Process Excellence Description, Hidden Factory, History of six sigma and six sigma DMAIC improvement process techniques
II	Define phase	Capturing voice of customer, Voice of customer methods, Kano analysis, CTQ Drill down, Six sigma project Charter, change acceleration process (CAP), Process mapping (SIPOC), Flow charting
III	Measure Phase	Identify possible project Vs types of data variation / discrete Vs continues thinking, data collection strategy - sampling methods,

		sampling Bias, Measurement System, Process capability
IV	Analysis and Improve Phase	As is process map, Data door analysis, Cause & Effect Diagram / Fish Bone Diagram / Ishikawa Diagram. Control Impact. Why Analysis, Hypothesis, Analysis Example. Solution parameter, Generate possible Solution, Conduct cost benefit analysis, Failure mode effect analysis (FMEA), Pilot solution implement, Validate measurement system, New process capability mapping.
V	Control Phase	Statistical process control, Leading indicator vs Lagging indicator, Control chart selection, Risk assessment & Mistake proofs – Poka-yoke, Control & Implementation plan review & sign off

READING LISTS AND RESOURCES

Compulsory

1. Betsiharris Ehrlich, “Transactional Six Sigma and Lean Servicing”, St. Lucia Press, 2002.
2. Donald W Benbow and Kubiak T M, “Certified Six Sigma Black Belt Handbook”, Pearson Education, 2007.
3. Jay Arthur, “Lean Six Sigma – Demystified”, Tata McGraw Hill Companies Inc, 2007.
4. James Evans and William Lindsay, “An Introduction to Six Sigma and Process Improvement”, South-Western College, 2014

Highly Recommended, not Compulsory

5. Paul Keller, “Six Sigma Demystified”, McGraw-Hill Education, 2011.
6. Howard S. Gitlow, Richard Melnyck and David M. Levine “A Guide to Six Sigma and Process Improvement for Practitioners and Students”, Pearson FT Press, 2015

Good for Students who have Future Interests

7. Sustainability: Utilizing Lean Six Sigma TechniquesbooksTinaAgustiady, Adedeji B. Badiru · 2012
8. Lean Six Sigma in Service: Applications and Case Sandra L. Furterer · 2016

SEMESTER - VI

CORE PRACTICAL – XIX

COMPUTERIZED PATTERN MAKING PRACTICAL

Course Code: 18UPTAD2C19 **Marks:**60 Marks

Course Description:

TUKA CAD Software is used by many garment designers to create elaborate computerized patterns, its grading and marker making which is the key requirement in the garment manufacturing unit. By the completion of this course students will be well skilled in the CAD which enhances their career development.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Learning Outcomes	Domains of Learning
CO1	Create basic pattern bodice for selective kids, women's and men's wear.	Psychomotor
CO2	Customize the different sizes of grade patterns for created kids, women's and men's wear.	
CO3	Build marker planning for created kids, women's and men's wear.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1			H	H	H		H	H	M		H
CO2			H	H	H		H	H	M		H
CO3			H	H	H		H	H	M		H

S.No	Unit Title	Learning chapters
1.	Pattern Preparation	Prepare pattern for ✓ Yoke frock ✓ Baba suit ✓ Summer frock ✓ Salwar kameez ✓ Tops ✓ Princess line dress ✓ Slack shirt ✓ full sleeve shirt ✓ pleated trouser
2.	Pattern grading	Prepare pattern grading for ✓ Yoke frock ✓ Baba suit

		<ul style="list-style-type: none"> ✓ Summer frock ✓ Salwar kameez ✓ Tops ✓ Princess line dress ✓ Slack shirt ✓ full sleeve shirt ✓ pleated trouser
3.	Marker Planning	Prepare marker planning for <ul style="list-style-type: none"> ✓ Yoke frock ✓ Baba suit ✓ Summer frock ✓ Salwar kameez ✓ Tops ✓ Princess line dress ✓ Slack shirt ✓ full sleeve shirt ✓ pleated trouser

READING LISTS AND RESOURCES	
Compulsory	
1.	Pattern making for fashion design, Helen Joseph Armstrong, Pearson Education, 2011
2.	Patternmaking: a comprehensive reference for fashion design, Sylvia Rosen, Pearson Prentice Hall, 2004
Highly Recommended, not Compulsory	
3.	Metric Pattern Cutting for Children's Wear and Babywear, Winifred Aldrich, John Wiley & Sons, 2012
Good for Students who have Future Interests	
4.	Metric Pattern Cutting for Men's wear, Winifred Aldrich, John Wiley & Sons, 2012

SEMESTER - VI

ELECTIVE –II

COLOUR AND DESIGN FORECASTING

Sub Code: 18UPTAD2E05

Marks:75 Marks

Course Description:

This chapter addresses Colour trends, the key factors that affect Colour trends, the significance of design and material Colour trends, and the relationship of Colour trends with our frequent design consumption or conservation of design. It also sheds light on the method of Colour forecasting and its consequences when it comes to forecasting market demand, improving product stability, and appealing to a diverse target audience. Students will learn to recognize and analyze predictive fashion trends that affect retail merchandising and marketing decisions.

Course Outcomes (COs):

By the End of the Course, Students will be able to

S.No	Outcomes	Domains of Learning
CO1	Outline towards the Colour its time period, role its perspective views both national and international.	Cognitive
CO2	Identifying the Future trend and Colour forecasting along with its market influences.	
CO3	Experiment over designs and textures.	
CO4	Explains the process of motif development and its repeat, placement and application.	
CO5	Interpret the features and functions of different type of clothing at different occasions.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	M	H	H	H	M	L	H	H			
CO2	M	H	H	H	M		H	M			
CO3	M	L	H	H	M		H				
CO4	M		H	H			H				
CO5	M	M	H	H			H				

Unit	Unit Title	Learning Chapters
I	Colour with the respective of Time	Colour - Trends and Changes. Role of colours – Culture, Time Period. Psychological and emotional aspects of colour. Selection of Colours – Most popular, Least Popular, Traditional and non-traditional colours and designs. Colour influences from an International perspective. Colours Advance and Recede in Art. Dimensions of the Colour Story; Colour in Marketing; the Language of Colour; Colour Names; Forecasting with Colour Cycles; Colour Research; Sources for Colour Ideas and Palettes.
II	Origin and Forecasting	The origin of colour trends –Colour forecasting in design, accessories, fashion, interior design, and industry. Cultural, socio-economic, art, media, fashion and entertainment world influences. Trend Analysis: Identification / Selection of target market, Trend spotting methods, Trend lifecycles, Forecast Interpretation of the current season, Forecast Interpretation of the subsequent season, Trend Reporting & Data Analysis. Colour in advertising and marketing, how Colour is used to attract and sell. Colour forecasting agencies.
III	Introduction to Design	Introduction to traditional and contemporary designs: Design profile of traditional and contemporary design, creating new textures and sketching of traditional and contemporary design using different mediums. Design forecasting agencies.
IV	Motif Development	Process of motif development: Geometrical, stylized and abstract, enlargement and reduction, various types of repeats and placements for various applications.
V	Implementing the Designs	Designing for special categories: Features and functions of formal, casual and ethnic clothing for various categories and occasions, designing for Infants, maternity wear, plus sizes, elderly citizens, uniforms and physically and mentally challenged.

READING LISTS AND RESOURCES

Compulsory

1. E. Kim, et al., Fashion Trends Analysis and Forecasting, Berg, London, 2011
2. E.L. Brannon and L. Divita, Fashion Forecasting, 4th ed. Bloomsbury, New York, 2015.
3. Colour Forecasting By Tracy Diane, Tom Cassidy, 2009
4. Colour Design Theories and Applications By Textile Institute (Manchester, England), 2012
5. J. Tan, Colour Hunting: How Colour Influences What we Buy, Make and Feel, Frame, Amsterdam, 2011

Highly Recommended, not Compulsory

6. E. Stone, The Dynamics of Fashion, 3rd ed. Fairchild, New York, 2008.
7. Indian Textiles By John Gillow, Nicholas Barnard, 2014
8. Traditional Indian Textiles By John Gillow, Nicholas Barnard, 1993
9. Design Roots Culturally Significant Designs, Products and Practices, 2018

Good for Students who have Future Interests

10. <https://www.fibre2fashion.com/industry-article/4545/the-colour-forecasting-and-its-process>
11. <https://www.tandfonline.com/doi/full/10.1080/00405167.2019.1659564>

SEMESTER - VI

ELECTIVE – II

ENTREPRENEURSHIP DEVELOPMENT II

Course Code: 18UPTAD2E06 **Marks:**75 Marks

Course Description:

This course will be enabling the students to assess the economic viability of a venture which helps them to prepare a business model to start up an enterprise. Intellectual property rights give them a vast knowledge about the legal ownership of the invention and business idea.

Course Outcomes (COs):

By the End of the Course, Students will be able to

S.No	Outcomes	Domains of Learning
CO1	Generalize the economic viability and project relevant factors.	Cognitive Level
CO2	Develop strategic management template to develop new business models.	
CO3	Organize a small enterprise with legal procedures and certifications.	
CO4	Verify laws to protect and enforce rights of the inventors.	
CO5	Interpret the trade mark secrets and grants protections.	

Course Outcomes (CO)	Programme Specific Outcomes (PSO)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	M	M	H	H	H	H	H	H	H	M	H
CO2	M	M	H	H	H	H	H	H	H	M	H
CO3	M	M	H	H	H	H	H	H	H	M	H
CO4	H	L	L	L	L	L	H	L	L	L	L
CO5	H	L	L	L	L	L	H	L	L	L	L

Unit	Unit Title	Learning Chapters
I	Financial Analysis and Methodology to assess the Feasibility:	Financial Analysis, Fundamentals of a feasibility plan, Feasibility Analysis, Objectives. Feasibility Study: Product / Service Feasibility, Industry / Market Feasibility, Organization Feasibility, Financial feasibility. Typical feasibility Study: Concept of Your venture, Technical feasibility of your idea, Market Assessment, Your Managing plan, Managing the supply situation, Conduct

		cost and Profitability assessment, Plan for future action.
II	Financial Visibility Business Model Canvas:	Business Model: Customer Segments, Value Proposition, Channels, Customer Relationships, Key Resources, Key Activities, Key Partners, Revenue Streams, and Cost Structure. Making Personal Business Model.
III	Small Enterprises and Enterprise Launching Formalities:	Definition of Small Scale, Objective, Scope; Role of SSI in Economic Development of India, SSI: Registration, NOC from Pollution Board, Machinery and Equipment Selection, Project Report Preparation, Specimen of Project Report, Project Planning and Scheduling using Networking Techniques of PERT / CPM; Methods of Project Appraisal.
IV	IPRs	IPRs: Intellectual Property Rights: Intellectual Property Rights in Fashion Business, Significance of Intellectual Property in the Fashion Industry. Incentives and subsidies – Subsidised services – subsidy for market. Transport – seed capital assistance – Taxation benefit to SSI.
V	Patents, Trade Marks, Brand & Copyrights	Patents: Meaning and Law regarding Patent, why have Patents, what can be Patented, Conditions of Patent, Rights of Patentees. Trade Marks: Meaning, Definition, Registration of Trademarks, Brand: Meaning, Definitions, Distinction between Trademark and Brand, Essentials. Copyrights: Meaning and concept, Features of Copyright, Nature and scope of Copy right.

READING LISTS AND RESOURCES

Compulsory

1. Business Model Canvas: a Good Tool with Bad Instructions? Rod King, 2017
2. Handbook of Deep Trade Agreements AadityaMattoo, Nadia Rocha, Michele Ruta, 2020
3. Entrepreneurship and Local Economic Development a Comparative Perspective on Entrepreneurs, Universities and Governments, 2018
4. Entrepreneurship and Economic Development, 2010

Highly Recommended, not Compulsory

5. Media Innovation and Entrepreneurship Michelle Ferrier, Elizabeth Mays, 2017
6. Enterprise Planning and Development by David Butler, 2006

Good for Students who have Future Interests

7. Journal of Small Business and Entrepreneurship Autumn, 1998
8. Entrepreneurship By Robert D. Hisrich, Michael P. Peters, 2002
9. <http://www.fashionenterprise.com/files/2010/09/CFECopyrightDownload1.pdf> on 16th Oct, 2014
10. http://www.lexology.com/library/detail.aspx?g=6_c596a24-e79b-4d39-a73f-9837529d9a78 on 18th Oct, 2014
11. <http://antwerpsex.wordpress.com/2013/09/03/fashion-101-intellectual-property-laws/> on 16thOct, 2014
12. WIPO Magazine/May-June, 2005
13. <http://www.businessoffashion.com/2011/07/fashions-intellectual-property-conundrum.html> on 18th Oct, 2014

SEMESTER - VI

ELECTIVE-II

APPAREL PRODUCTION PLANNING CONTROL

Course Code: 18UPTAD2E07 **Marks:**75 Marks

Course Description:

The course Apparel Production is an area of design that primarily focuses on apparel manufacturing technology and quality management. It also enhances the ability to develop product with quality norms according to the buyer's requirements in the apparel industries.

Course Outcomes (COs)

By the End of the Course, Students will be able to

S. No	Learning Outcomes	Domains of Learning
CO1	Relate production management tools for technical manufacturing system processes and operations.	Cognitive
CO2	Measure the productivity in various production departments and process involved in the apparel industry.	
CO3	Determine the managerial activities involved in the apparel production process	
CO4	Utilise systems and strategies used in the different departments in apparel industry.	
CO5	Compile Product development tools and its applications in clothing sector	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	L	H	H	M	H	H	H		
CO2	H	H	L	H	H	M	H	H	L		
CO3	H	H	L	H	H	M	H	H	H		
CO4	H	H	L	H	H	M	H	H	H		
CO5	H	H	L	H	H	M	H	H	H		

Unit	Unit Title	Learning Chapters
I	Production Management	Nature and scope for Production Management. Methods, Tools, and Technologies used in production management. Flexible manufacturing systems and Technical manufacturing system processes and operations

II	Apparel Production Process	Apparel Production industry departments and supporting departments – Process Flow chart – SOP in the respective departments – modern machinery developments – recent technologies used – future trends in apparel production. Measuring output and input – Productivity profit and Loss.
III	Dimension of Apparel Production:	Dimensions of Apparel production –Human Resource Management, Inventory Management, Management of quality, Production Planning Management, Sourcing Management, Management of Costs and is calculation, Waste Management, Equipment Management and modernization.
IV	Production Planning and Control systems	Production Planning system, Production control process system, Output measuring system, Quality performance measuring system, Production tracking and reporting system, Documentation and reporting system, Factory compliance and certification system – systems and strategies used in the respective systems.
V	Product Development Process	Product development tools and its applications in clothing sector. PLM (Product Lifetime Management), Demand-led new product development – Process model for clothing product development. Future trends and advances in apparel production.

READING LISTS AND RESOURCES

Compulsory

1. Management of Technology systems in Garment Industry, GordanaColovic, Woodhead Publishing, New Delhi, 2011.
2. Apparel Manufacturing TechnologyT. Karthik, P. Ganesan, D. Gopalakrishnan, 2016
3. Process Selection from Design to Manufactureby K. G. Swift, J. D. Booker, 2000

Highly Recommended, not Compulsory

4. Apparel International The Journal of the Clothing and Footwear Institute · Volume 28, 1997
5. Advances in Apparel Production, Catherine Fairhurst, Woodhead publications, Cambridge, UK, 2008.
6. Management of Technology Systems in Garment IndustryGordanaColovic, 2011

Good for Students who have Future Interests

7. Sourcing Practices in the Apparel Industry, Marlon Lezama, Brain Webbar, Charles Dagher, The Commonwealth Secrteriate, UK, 2004.
8. Apparel Manufacturing IVth Edition, Ruth E Glock, Grace I Kunz, Kindersley Publcatins, New Delhi, 2005.
9. Garment Manufacturing – Processes, practices and Technologies, Prasantha Sarkar, Mudranik Technologies Pvt Ltd, New Delhi, 2015.

SEMESTER - VI

ELECTIVE – II

DYEING AND PRINTING PRACTICAL

Sub Code:18UPTAD2E08 **Marks:**60 Marks

Course Description:

The Course structured to provide intensive practical skills in the area of textile processing as well as pre-treatment, dyeing and printing. Also it deals with calculation of weight loss percentage and dye affinity shade in the respective fabric samples.

Course Outcomes (COs)

After completing this course, the students will able to

S. No	Learning Outcomes	Domains of Learning
CO1	Modify grey fabric samples by preparatory process and calibrate the weight loss percentage.	Pschycomotor
CO2	Develop the pre treated fabric samples into dyed samples and formulate the percentage of shade.	
CO3	Build printed samples by various printing techniques on pre treated or dyed fabric samples.	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	L	H	H	H	H	H	M		H	M
CO2	H	L	H	H	H	H	H	M		H	M
CO3	H	L	H	H	H	H	H	M		H	H

Unit	Unit Title	Learning Chapters
I	Preparatory Process	Treat grey cotton woven / knitted fabrics by preparatory process and estimate the weight loss percentage. Scouring, Desizing, Bleaching and Mercerizing.
II	Dyeing	Dye the suitable fabric Samples using suitable dye stuff. Direct Dye, Disperse Dye, Reactive Dye (Hot/Cold), Sulphur Dyes , Acid Dye, Basic Dye and Vegetable Dye (any one)
III	Printing	Print the Samples using suitable printing method. Printing paste preparation - Cotton/Polyester/Silk Fabrics. Block printing – Vegetable and Wooden Blocks, Stencil printing – Brush, Sponge, Spray and Flock Methods Tie and Dye Method – Single/Double/Multi Colours. Batik printing – Single/Double Colours and Screen printing.

READING LISTS AND RESOURCES

Compulsory

1. Eco-Friendly Textile Dyeing and Finishing books Jam shed A Khan · 2016
2. Environmental Aspects of Textile Dyeing R M Christie · 2007
3. Textile Dyeing N. N. Mahapatra · 2019

Highly Recommended, not Compulsory

4. Water and Wastewater Examination Manual V.Dean Adams · 2017
5. Sustainability in the Textile and Apparel Industries Subramanian Senthilkannan Muthu , Miguel Angel Gardetti · 2020

Good for Students who have Future Interests

6. The Chemistry of Synthetic Dyes V6: Reactive Dyes K Venkataraman · 2012
7. Printed Textile Design Amanda Briggs-Goode · 2013

SEMESTER - VI

QUALIFICATION PACK (Level 07)

QP- SOURCING MANAGER (REF ID:AMH/Q0920)

Course Code:18UPTAD2S04

Marks:100 Marks

Course Description:

Sourcing Manager in an Apparel Industry is primarily concerned with procurement of fabrics, trims & accessories as per design needs and sample requirements received from merchandiser. The role is supervising the functionary of purchase departments. Sourcing Manager is concerned with identifying suitable suppliers for materials assessed on the basis of price, quality, reliability, time and long term business relations

Course Outcomes (Cos)

By the end of the Course, Students will be able to

S. No	Outcomes	Domains of Learning
CO1	Plan and estimate fabrics, trims and accessories procurements as per garment design's requirements from domestic and international suppliers	Psychomotor & Cognitive level
CO2	Evaluate the activities performed by subordinates as per working organizational guidelines	
CO3	Maintain records for processes related to fabrics, trims and accessories procurement	
CO4	Identify workplace, health and safety hazards and ensuring safeguard mechanism against hazards	
CO5	Comply with industry regulatory and organizational requirements in the workplace and adapt with all national and international regulations	

Course Outcomes (CO)	Programme Specific Outcomes (PSOs)										
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11
CO1	H	H	H	H	H	M	M	H			M
CO2	H	H		H	H			H	H		L
CO3	H				H		M	H	H		H
CO4	H			H	H		M	H	M	H	
CO5	H			H	H		M	H	H		M

Unit	Learning Chapters (http://sscammh.com/approvedQPNo.php)
I	Reference ID: AMH/N0920 Plan for the procurement of materials as per garment design requirements Reference ID: AMH/N0921 Procure materials from national and international suppliers related to fabrics, trims and accessories
II	Reference ID: AMH/N0922 Supervise and evaluate performance of subordinates
III	Reference ID: AMH/N0923 Maintain records about procurement of materials
IV	Reference ID: AMH/N0924 Maintain health, safety and security in the sourcing department
V	Reference ID: AMH/N0104 Comply with industry, regulatory and organizational requirements

READING LISTS AND RESOURCES

Compulsory

1. Qualification Pack – Occupational Standard For Apparel, Made up’s And Home Furnishing Sector
2. Qualification Pack – Sourcing Manager (AMH/Q0920)
3. Mastering Fashion Buying and Merchandising Management Tim Jackson, David Shaw Macmillan International Higher Education, 16-Nov-2000.
4. Retail Buying Techniques: Planning, Organising and Evaluating Retail Buying Decisions and Improving Profitability Fiona Elliott, Janet Rider Management Books 2000, 2003
5. Law for Retailers: The Legal Beagle Keeps You Straight with a Guide to Trading Within the Law W. H.Thomas Management Books 2000,

Highly Recommended, not Compulsory

6. Sourcing Manager Complete Self-Assessment Guide, Gerardus Blokdyk, 2018.
7. Retail Management: A Strategic Approach Barry Berman, Joel R. Evans Macmillan, 1983
8. Entrepreneurship and Venture Management: Text and Cases Kenneth W. Olm, George G. Eddy C.E. Merrill Publishing Company, 1985
9. Sourcing Strategy: Principles, Policy and Designs Sudhi Seshadri, 2005
10. Retailing Tony Kent, Ogenyi Omar Macmillan Education UK, 13-Dec-2002
11. Strategic Retail Management: Text and International Cases Joachim Zentes, Dirk Morschett, Hanna Schramm-Klein Springer Science & Business Media, 16-Oct-2007

Good for Students who have Future Interests

12. Global Sourcing in the Textile and Apparel Industry By Jung Ha Brookshire, 2017
13. Boutiques and Other Retail Spaces: The Architecture of Seduction David Vernet, Leontine de Wit Routledge, 17-Aug-2007
14. <https://www.slideshare.net/ujjmishra/retail-buying-merchandising-purchasing>