

Diploma in Garment Technology

V Semester

S no	Course Code	Course Name	Teaching Scheme					Examination Scheme						
			Instruction periods per week			Total Periods per semester	Credits	Continuous Internal Evaluation			Semester End Examination			
			L	T	P			Mid sem 1	Mid sem 2	Internal evaluation	Max Marks Min Marks	Total marks	Min marks for passing including internal	
1	18GT-501C	Indian Textiles and Costumes	3	1	0	60	3	20	20	20	40	14	100	35
2	18GT-502C	Advanced Textile Dyeing and Printing	3	1	0	60	3	20	20	20	40	14	100	35
3	18GT - 503C	Consumer Behaviour and Fashion Portfolio	3	1	0	60	3	20	20	20	40	14	100	35
4	18GT- 504E	Elective I	3	1	0	60	3	20	20	20	40	14	100	35
5	18GT-505E	Elective II	3	1	0	60	3	20	20	20	40	14	100	35
6	18GT-506P	Fashion Accessories and Indian Textiles Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
7	18GT-507P	Advanced Textile Dyeing and Printing Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
8	18GT-508P	Consumer Behaviour and Fashion Portfolio Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
9	18GT-509P	Men's Apparel Designing and Production Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50

10	18GT510	Project	1	0	2	45	1.5	20	20	20	40	20	100	50
		Skill upgradation - v	0	0	7	105	2.5	0	0	Rubrics			--	-
			20	5	17	630	25	200	200	200	400	170	1000	425
<i>student performance in skill upgradation activities is to be assessed through Rubrics</i>														

C18 D GT – V Semester - Teaching and Examination Scheme

18GT 504 A: Apparel Merchandising

18GT 504 B: Industrial Management and Entrepreneurship

18GT 505 A: Technical Textiles

18GT 505 B: Knitted and Non-Woven Textiles

18 GT-501 C INDIAN TEXTILES AND COSTUMES

Course Title	: Indian Textiles and Costumes	Course Code	: 18 GT-501 C
Semester	: V	Course Group	: Core
Teaching Scheme in Periods (L:T:P)	: 3:1:0	Credits	: 3
Methodology	: Lecture + Tutorial	Total Contact Periods	: 60
CIE	: 60 Marks	SEE	: 40 Marks

Prerequisites

Knowledge of social science acquired in school education and awareness of textiles studied in Diploma course.

COURSE OUTCOMES		CL	Teaching Periods
CO1	Describe the intricate details of Indian dyed and printed textiles and Traditional Indian saris.	R/U	09
CO2	Explain and distinguish the costumes of different states in southern region of India.	R/U/A	09
CO3	Categorize the traditional ornaments of India and different categories of ornaments worn by the rural / tribal communities of different states of India.	R/U	09
CO4	Describe and distinguish the costumes of different states in Eastern region of India.	R/U/A	09
CO5	Describe and distinguish the costumes of Northern and Western region of India.	R/U/A	12
CO6	Describe the embroidery of different states of India.	R/U/A	12

Course Content

1. **UNIT 1 Traditional Indian Textiles:** **Duration: 9 Periods**
Traditional Dyed and Printed Textiles - Bandhani textiles of Gujarat – Lehariya Textiles of Rajasthan- Odissi Ikats – Sanganeri — Pochampalli textiles of Telangana– Indian Saris : Baluchari sari - Banaras brocades – champa silk sari -Chandheri sari – Dharmavaram sari - Gadwal sari - Jamdhani sari – Paithani sari – Patola Sari - Kanjeevaram saris (Kanchi sari) Arni sari – Balaramapuram sari - Mangalgiri sari – Gollabama - Narayanapet sari - Uppada sari - udupi sari Venkatagiri sari.
2. **UNIT 2– Southern Region Costumes:** **Duration: 9 periods**
Telangana - Maharashtra - Karnataka – Tamil Nadu –Kerala.
3. **UNIT 3–Traditional Ornaments** **Duration 9 periods**
Head Ornaments – Ear Ornaments – Neck Ornaments – Waist Ornaments – Arm Ornaments – Leg Ornaments. Ornaments among rural and Tribal Communities – 1) Andhra Pradesh (Palyampalli) - 2) Kashmir (village – Zachaldara) 3) Punjab - (village – Kunran) – 4) Maharashtra (village shirvali) – 5) Tamil Nadu (village – Koottumangalam).
4. **Unit 4 - Eastern Region Costumes** **Duration 9 periods**
Sikkim – Assam – Meghalaya – Tripura - Manipur.
5. **UNIT 5 - Northern and Western Region Costumes:** **Duration: 12 periods**
Kashmir – Himachal Pradesh – Punjab – Haryana – Rajasthan –Gujarat - Uttar Pradesh – Madhya Pradesh.
6. **UNIT 6 – Indian embroidery** **Duration: 12 Periods**
Kashmir (Kashida) Karnataka (Kasuti)– Orissa – Tamil Nadu – Gujarat Embroidery – Bihar – Uttar Pradesh – Rajasthan – Himachal Pradesh. (description of embroidery work – stitches used – fabric used – articles on which used – people involved in embroidery work- terminology – colours – designs/motifs – famous areas where work is done – names of the embroidery work).

Recommended Books

1. Indian Costumes – A Biswas – Publication Division – Ministry of Information and Broad casting – Government of India.
2. Indian Embroidery – Jamila Brijbhushan.
3. Telangana State Handloom Weavers Society.
4. Shailaja D Naik, S D Naik – Traditional Embroideries of India – South Asia books.

Specific Learning Outcomes

On completion of the course, the student shall be able to:

1. Traditional Indian Textiles

- 1.1 List the traditional dyed and printed textiles.
- 1.2 Describe the traditional dyed and printed textiles intricacies (famous area of manufacture - fabric used – motifs used- colours used – people involved – technique/process – Out standing identification features).
- 1.3 Describe the traditional saris of India (famous area of manufacture – yarn/ fabric used – motifs used- colours used – people involved – technique/process – Out standing identification features)

2. Southern Region Costumes

- 2.1 Describe the costumes of the people (men and women) of Telangana.
- 2.2 Describe the costumes of the people (men and women) of Maharashtra.
- 2.3 Describe the costumes of the people (men and women) of Karnataka.
- 2.4 Describe the costumes of the people (men and women) of Tamil Nadu.
- 2.5 Describe the costumes of the people (men and women) of Kerala.

3. Traditional Ornaments

- 3.1 Describe the head ornaments –Lalatika (Panini), Tiras, Tikuli, Chudamani, makarika, crown – Kirita – mukuta, Karandamukuta.
- 3.2 Describe the head ornaments along with historical references.
- 3.3 Describe the ear ornaments, neck ornaments, waist ornaments arm and leg ornaments.
- 3.4 Describe the ornaments of Tribal /rural communities Palayampalli village of Andhra Pradesh.
- 3.5 Describe the ornaments of Tribal /rural communities zachaldara village of Kashmir.
- 3.6 Describe the ornaments of Tribal /rural communities kunran village of Punjab.
- 3.7 Describe the ornaments of Tribal /rural communities shivrvali village of Maharashtra.
- 3.8 Describe the ornaments of Tribal /rural communities Koottumangalam village of Tamil Nadu.

4. Eastern Region Costumes

- 4.1 Describe the costumes of the people (men and women) of Sikkim.
- 4.2 Describe the costumes of the people (men and women) of Assam.
- 4.3 Describe the costumes of the people (men and women) of Meghalaya.
- 4.4 Describe the costumes of the people (men and women) of Tripura.
- 4.5 Describe the costumes of the people (men and women) of Manipur.

5. Northern and Western Region Costumes

- 5.1 Describe the costumes of the people (men and women) of Kashmir.
- 5.2 Describe the costumes of the people (men and women) of Himachal Pradesh.
- 5.3 Describe the costumes of the people (men and women) of Punjab.
- 5.4 Describe the costumes of the people (men and women) of Haryana.
- 5.5 Describe the costumes of the people (men and women) of Rajasthan.

- 5.6 Describe the costumes of the people (men and women) of Uttar Pradesh.
- 5.7 Describe the costumes of the people (men and women) of Madhya Pradesh.
- 5.8 Describe the costumes of the people of Gujarat.

6. Indian Embroidery

- 6.1 Describe the embroidery of Kashmir.
- 6.2 Describe the embroidery of Karnataka.
- 6.3 Describe the embroidery of Orissa.
- 6.4 Describe the embroidery of Tamil Nadu.
- 6.5 Describe the embroidery of Gujarat.
- 6.6 Describe the embroidery of Bihar.
- 6.7 Describe the embroidery of Uttar Pradesh.
- 6.8 Describe the embroidery of Rajasthan.
- 6.9 Describe the embroidery of Himachal Pradesh.

Suggested Student Activities

1. Student visits Library to refer journals, magazines, text books, newspaper articles.
2. Visit nearby boutiques', workshop to familiarize with the making of traditional embroidery and the making of Indian costumes.
3. Visit nearby jewellery shops to see antique jewellery.
4. Quiz.
5. Group discussion.
6. Surprise test.
7. Assignments
8. Exhibition, brochure preparation, poster preparation, flash card preparation of Indian textiles and costumes (PO5)
9. Model preparation of Indian embroideries (C06, PO 10,09,05,04,03,02,01) – Embroidery Fabric samples.

List of E-Learning Sites

1. <https://www.fibre2fashion.com/industry-article/3833/embroidery>
2. <https://www.fibre2fashion.com/industry-article/4800/ethnic-indian-costumes-meet-contemporary-fashion-trends?page=2>
3. <https://www.fibre2fashion.com/industry-article/926/types-of-indian-embroideries?page=1>
4. <https://www.fibre2fashion.com/industry-article/4625/different-forms-of-indian-embroideries>

CO PO Mapping matrix											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapped POs
CO1	3	3			3		3		2	2	1,2,5,7,9,10
CO2	3	3			3		3		2	1	1,2,5,7,9,10
CO3	1	3			3		3		2	1	1,2,5,7,9,10
CO4	2	3			3		3		2	1	1,2,5,7,9,10
CO5	2	3			3		3		2	1	1,2,5,7,9,10
CO6	2	3			3		3		2	1	1,2,5,7,9,10

Board Diploma Examination(C18) 18GT501C

D G T Fifth Semester Mid 1 Examination

Indian Textiles and Costumes

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. List two features of bhandhini textiles.
2. What is the dyeing technique used in making pochampally textiles?
3. List the traditional costumes of men in Telangana State.
4. State the traditional costume of women in Telangana State.

Part B

2 X3= 6 Marks

Answer a or b choice in each question.

5. (a) Describe six outstanding features of Leharia textiles.

Or

- (b) Write the specialty features of uppada sari.

6. (a) Describe the traditional womens costumes of Maharashtra.

Or

- (b)Describe the traditional men's costumes of the people of Maharashtra

Part C

2X5=10Marks

Answer a or b choice in each question

7. (a) Why is kanghivaram sari (kanchi silk sari) most preferred by the ladies in south India for wedding ceremonies.

Or

- (b) What are important features of Pochampalli textiles which makes it to have geographical importance .(indication.)

8. (a) How do you identify the traditional men's costume of Kerala.

Or

- (b) How do you identify the traditional women's dress of Kerala.

Board Diploma Examination(C18) 18GT501C

D G T Sixth Semester Mid 2 Examination

Indian Textiles and Costumes

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. State the term tikuli.
2. Define the term chudamani.
3. State the traditional dress of women in Assam.
4. State the traditional dress of men in Assam.

Part B

2X 3=6 Marks

Answer a or b choice in each question

5. (a) Describe two traditional ear ornaments.

Or

- (b) Describe any two neck ornaments.

6. (a) Describe two features of the traditional costumes worn by the women of Sikkim.

Or

- (b) Describe two features of the traditional costumes worn by the men of Sikkim.

Part C

2 X5=10Marks

Answer a or b choice in each question.

7. (a) What are the ornaments used by the tribal people of Palyampalli village in Andhra Pradesh.

Or

- (b) What are the traditional waist ornaments used by the people in India.

- 8 (a) Describe the traditional costumes of women of Tripura.

Or

- (b) Describe the traditional costumes of men in Tripura

Board Diploma Examination(C18)18GT501C

D G T Sixth Semester End Examination

Indian Textiles and Costumes

Time 2 Hour

Marks 40

Part A 8 X1= 8 Marks

Answer all questions

1. List two features of bhandhini textiles.
2. State the term tikuli.
3. Name the stitches used in Kashmir embroidery work.
4. List the motifs used in Kashmir embroidery work
5. State two features of the embroidery work done on the Kashmir costumes
6. State two features of the headgear used by the people of Kashmir.
7. Name the stitches used in the kasuti work of Karnataka.
8. List the articles on which Kasuti embroidery work is done.

Part B 4X3 = 12 Marks

Answer a or b choice in each question

9. (a) Describe six outstanding features of Leharia textiles.

Or

- (b) Write about any three features you have observed in the traditional womens dress of Punjab.

10. (a) Describe two traditional ear ornaments

Or

- (b) Describe the procedure followed in kashmir in doing Kashmir embroidery

11. (a) Describe three salient features of the traditional costume worn by the women of Himachal Pradesh.

Or

- (b) Describe three salient features of the traditional costume worn by the menfolk in Himachal Pradesh.

12. (a) Describe kasuti work of Karnataka.

Or

(b) List the articles on which Kashmir embroidery work is done and explain the stitches used in the Kashmir embroidery.

Part C 4X5 = 20 Marks

Answer a or b choice in each question

13. (a) Why is kanchivaram sari (Kanchi silk sari) most preferred by the ladies in south India for wedding ceremonies.

Or

(b) Describe the traditional Kashmir apparel.

14. (a). What are the ornaments used by the tribal people of palyampalli village of Andhra Pradesh?

Or

(b) Describe the process of making the embroidery stitches used in kasuti work

15. (a) Describe the traditional attire of the women in Gujarat

Or

(b) Describe the traditional attire of the men in Gujarat

16. (a) Describe the articles on which TamilNadu embroidery is done

Or

(b) How do you identify Orissa embroidery.

18GT – 502 C ADVANCED TEXTILE DYEING AND PRINTING

Course Title :	Advanced Textile Dyeing and Printing	Course Code	:18GT-502 C
Semester	: V	Course Group	: Core
Teaching Scheme in Periods. (L: T:P):	3:1:0	Credits	:3
Methodology :	: Lecture + Tutorial	Total Contact Periods	:60
CIE	:60 Marks	SEE	:40 Marks

Pre-requisites: This course requires the science and mathematics knowledge acquired in school education and dyeing and printing knowledge acquired in 3rd and 4th semester.

	Course Outcome	CL	Periods
CO1:	Identify the procedures followed in the dyeing of cotton with pigment colours, aniline black and mineral khaki.	R/U/A	09
CO2:	Identify and explain the DeVore, foam and transfer printing process and related parameters.	R/U/A	09
CO3:	Describe the sources, extraction and application of natural dyes.	R/U/A	10
CO4:	Describe the vat dyes classification, properties and application of vat dyes	R/U/A	10
C05	Describe the benefits, usage and working of different textile dyeing machinery	R/U/A	11
C06	Describe the stencil, screen, roller printing.	R/U/A	11

Course content

1. Pigment colours and Aniline Black

Duration :09 Periods

Methods of dyeing aniline black on cotton - single bath -Oxidation black - steam aniline black continuous dyeing of cotton by aniline black. - drawbacks of aniline black dyeing - streaming method used to apply mineral khaki on cotton. Pigment- properties of pigments - properties of ideal binders- advantages of various resin types- continuous dyeing of cotton fabric with pigments - advantages and disadvantages of pigment dyeing. Define the following terms - Duplex printing and dye boarder, free dye contamination.

2. Devore, Transfer Printing and Foam Printing:

Duration: 09 periods

Devore or burnt out style- brosso style- raised style- transfer printing- salient features of the transfer printing process - working of flat bed transfer printing machine - advantages - disadvantages of transfer printing. - Foam printing process – advantages and disadvantages. define the terms.

3. Eco Friendly Natural Dyes:

Duration: 10 periods

advantages and disadvantages of natural dyes- sources of natural dyes - conventional and general processes to extract dyestuffs from natural indigo, madder, safflower, turmeric, tesu and lac - disadvantages of traditional methods of dye extraction - role of mordants in application of natural dyes - groups of natural tannins. colours generally produced by using tannins - raw materials from which tannins are obtained - mordanting by steeping in oil bath - three mordanting process -1 pre mordanting, simultaneous mordanting and post mordanting - dyeing of cotton with natural dyes to obtain yellow shade, red shade and blue shade- dyeing of wool with natural sources of dyes to obtain yellow shades ,scarlets, orange and black shades- dyeing of silk with natural sources of dyes to obtain yellow shades , red, brown/black shades - Define the term dyewood, dyewood extract, back tanning.

4. Vat Dyes:

Duration :10 Periods

properties of vat dyes- classification of vat dyes based on chemical constitution - four basic steps involved in the application of vat dyes to cotton goods - steps involved in vatting - Factors affecting the stability of vatted dyed solution - stock vat method - long liquor vatting- quick test for vatting - test to find the good dyeing conditions for application of vat dyes - General dyeing procedure for the application of vat dyes to cotton goods - features of the vat acid process - stripping of vat dyes- - IK – IW methods . Define the terms - debage, decalcomania, deep dyeing, heat of dyeing.

5. Dyeing Machinery :

Duration :11 Periods

advantages of using machines for dyeing cotton materials- Principles of dyeing machines - hand dyeing process- simplex machine working- the Klauder Weldon loose cotton dyeing machine used

for cotton dyeing- Rhode's machine and Schmidt's machine used for dyeing loose cotton- Hussong machine and Dreze machine used for loose cotton dyeing- cop dyeing machine- advantages and disadvantages of dyeing loose cotton- jigger dyeing machine - Disadvantages of jigger dyeing - Winch dyeing machine .disadvantages of winch dyeing- Two – bowl padding mangle - Three – bowl padding mangle - Basic principles of improved mangles.- working of Stand fast Monel metal dyeing machine - advantages and disadvantages of stand fast Monel metal dyeing machine - Define the following terms 1 chip dyeing 2 beam dyeing 3 beaker dyeing 4 ammonia process 5 bale dyeing 6 cop dyed 7 chromatic dyeing 8 Burl dyeing .9 hyper colour.10 Restraining agent 11 Retarding agent 12 Two bath dyeing process 13 Tailing

6. Stencil, Screen and Roller printing -

Duration 11 periods

Preparation of stencils for application of designs on cloth - stencil printing process. - advantages of stencil printing. - disadvantages of stencil printing - the functions of screen-printing equipment- screen printing procedure - methods of preparing screens 1 direct painting method 2 profilm method 3 the resist method 4 the photographic method - advantages of screen printing - disadvantages of screen printing - screen printing defects and remedies. – Roller printing – distinguishing feature of roller printing -essential parts of roller printing machine and their functions – working of roller printing machine – advantages and disadvantages of roller printing -defects and remedies -definition of terms – dye net, de painting.

Reference Books

1. R S Prayag Bleaching and Mercerising and Dyeing of Cotton, Materials.
2. DR C V Koushik Antao Irwin Josico – Chemical Processing of Textiles – NCUTE
3. S R Karmakar – Chemical Technology in the pretreatment processes of Textiles.
4. S R Karmakar – Chemical Technology in the colouration of Textiles – vol 1 colour Publications Mumbai
5. R S Prayag – Technology of Textile Printing
6. Francis J Kafka – Batik, Tie dyeing, Stenciling, Silkscreen, Block Printing – Dover Publications – NewYork
7. Mary Paul Yates- Textiles A Handbook for Designers – W W Norton – New York.

Specific Learning outcomes: On completion of the course, the student should be able to:

1. Pigment colours and Aniline black

- 1.1 Describe the single bath method of dyeing aniline black on cotton.
- 1.2 Describe the Oxidation black method of dyeing aniline black on cotton.
- 1.3 Describe the steam aniline black method of dyeing used for applying aniline black on cotton.
- 1.4 Describe the continuous dyeing of cotton by aniline black.
- 1.5 Describe the drawbacks of aniline black dyeing.
- 1.6 Define the term pigment.
- 1.7 List the properties of pigments.
- 1.8 List the properties of ideal binders.
- 1.9 List the advantages of various resin types.
- 1.10 Describe the continuous dyeing of cotton fabric with pigments.
- 1.11 State the advantages and disadvantages of pigment dyeing.
- 1.12 Describe the streaming method used for mineral khaki dyeing on cotton.
- 1.13 Define the term duplex printing, free dye contamination, and dye boarder.

2. Devore, Transfer Printing and Foam Printing

- 2.1 Define the term Devore or burnt out style.
- 2.2 Describe the carbonized style or burnt out style or devore.
- 2.3 Describe broso style.
- 2.4 Describe the raised style
- 2.5 Define the term transfer printing.
- 2.6 Describe salient features of the transfer printing process.
- 2.7 Describe the working of flat bed transfer printing machine.
- 2.8 Describe the advantages of transfer printing.
- 2.9 Describe the disadvantages of transfer printing.
- 2.10 Describe the foam printing process.
- 2.11 Describe the advantages of foam printing process.
- 2.12 State the drawbacks of foam printing process
- 2.13 Define the terms – beryl printing, blotch checks, bleeding checks, cohra print, franklin process

3. Eco friendly Natural Dyes

- 3.1 Define natural dyes
- 3.2 State the advantages and disadvantages of natural dyes.
- 3.3 List the sources of natural dyes.
- 3.4 Describe the conventional and general processes to extract dyestuffs from natural indigo, madder, safflower, turmeric, tesu and lac.
- 3.5 State the disadvantages of traditional methods of dye extraction.
- 3.6 State the role of mordants in application of natural dyes.
- 3.7 List the two groups of natural tannins.
- 3.8 Name the colours generally produced by using tannins and list at least five raw materials from which tannins are obtained.
- 3.9 Describe mordanting by steeping in oil bath.

- 3.10 Describe the three mordanting process 1pre mordanting, simultaneous mordanting and after mordanting.
- 3.11 Describe the dyeing of cotton with natural dyes to obtain yellow shade, red shade and blue shade.
- 3.12 Describe the dyeing of wool with natural sources of dyes to obtain yellow shades, scarlets, orange and black shades
- 3.13 Describe the dyeing of silk with natural sources of dyes to obtain yellow shades, red, brown/black shades
- 3.14 Define the terms- dyewood, dyewood extract, back tanning.

4. Vat Dyes

- 4.1 List the properties of vat dyes.
- 4.2 List the classification of vat dyes based on chemical constitution.
- 4.3 Describe the four basic steps involved in the application of vat dyes to cotton goods.
- 4.4 Define the term vatting.
- 4.5 Describe the steps involved in vatting.
- 4.6 Describe the following factors affecting the stability of vatted dyed solution. (1 hydrolysis 2 over reduction 3 Dehalogenation.
- 4.7 Describe stock vat method.
- 4.8 Describe long liquor vatting.
- 4.9 State the quick test for vatting.
- 4.10 State the test to find the good dyeing conditions for application of vat dyes.
- 4.11 Describe the general dyeing procedure for the application of vat dyes to cotton goods.
- 4.12 Describe the features of the vat acid process
- 4.13 Name the chemicals used in stripping of vat dyes and explain the stripping of vat dyes.
- 4.14 List the precautions necessary while stripping vat dyes.
- 4.15 Describe the IK method of application of vat dyes.
- 4.16 Describe the IW method of application of vat dyes.
- 4.17 Define the term debage, decalcomania, deep dyeing, heat of dyeing.

5. Dyeing Machinery

- 5.1 State the advantages of using machines for dyeing cotton materials.
- 5.2 State the Principles of dyeing machines.
- 5.3 Explain the hand dyeing process.
- 5.4 Describe the process of dyeing cotton using the simplex machine.
- 5.5 Describe the Klauder Weldon loose cotton dyeing machine used for cotton dyeing.
- 5.6 Describe Rhode's machine and Schmidt's machine used for dyeing loose cotton.
- 5.7 Explain the Hussong machine and Dreze machine used for loose cotton dyeing.
- 5.8 Describe cop dyeing machine.
- 5.9 List the advantages and disadvantages of dyeing loose cotton.
- 5.10 Describe jigger dyeing machine along with disadvantages of jigger dyeing
- 5.11 Describe Winch dyeing machine.
- 5.12 State the disadvantages of winch dyeing.
- 5.13 Describe Two – bowl padding mangle
- 5.14 Describe Three – bowl padding mangle.
- 5.15 State the basic principles of improved mangles.

- 5.16 Describe the working of Stand fast Monel metal dyeing machine.
- 5.17 State the advantages and disadvantages of stand fast Monel metal dyeing machine
- 5.18 Define the following terms 1 chip dyeing 2 beam dyeing 3 beakers dyeing 4 ammonia process
5 bale dyeing 6 cop dyed 7 chromatic dyeing 8 Burl dyeing .9 hyper colour.10 Restraining agent
11 Retarding agent 12 Two bath dyeing process 13 Tailing

6. Stencil, Screen and Roller printing

- 6.1 Define stencil printing.
- 6.2 Describe the preparation of stencils for application of designs on cloth
- 6.3 Describe the stencil printing process.
- 6.4 Describe the advantages of stencil printing.
- 6.5 List the disadvantages of stencil printing.
- 6.6 Describe the functions of screen-printing equipment.
- 6.7 Describe the screen-printing procedure.
- 6.8 Describe the following four methods of preparing screens 1 direct painting method 2 profilm method
3 the resist method 4 the photographic method.
- 6.9 Describe the advantages of screen printing.
- 6.10 State the disadvantages of screen printing.
- 6.11 Describe the screen-printing defects and remedies
- 6.12 State the distinguishing feature of roller printing.
- 6.13 Describe the essential parts of roller printing machine and their functions.
- 6.14 Describe the working of roller printing machine.
- 6.15 State the advantages of roller printing.
- 6.16 State the disadvantages of roller printing.
- 6.17 Explain the roller printing defects and remedies.
- 6.18 Define the term depainting
- 6.19 Define the term dye net.

Suggested Student Activities

1. Students refer books in library, research articles.
2. Visit nearby dyeing unit.
3. Seminar
4. Quiz
5. Group discussion
6. Assignments
7. Eco friendly natural dyes exhibition/brochure preparation
8. Collect locally available plant materials suitable for dyeing and carry out dyeing process.
9. Visit weavers service centre or any dyeing unit to see the dyeing with natural dyes.
10. Prepare stencil printing samples with ecofriendly dye paste.
11. Make a brochure of stencil, screen roller printing samples and pictures.
12. Make a poster of ecofriendly dyes.
13. Make a trial to dye fabric samples with new dyeing procedures.
14. Visit library to read articles on dyes, the machinery used, latest findings related to textile dyeing.
15. Assignment on different classes of dyes.
16. Try topping of natural dyes with synthetic dyes.

List of E-Learning

<https://nptel.ac.in/courses/116104046/>

<https://nptel.ac.in/courses/103107082/40>

CO PO MAPPING MATRIX											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapped POs
CO1	2	3	3		3	3	3		2	1	1,2,3,5,6,7,9,10
CO2	2	3	3		3	3	3		2	1	1,2,3,5,6,7,9,10
CO3	2	3	3		3	3	3		2	1	1,2,3,5,6,7,9,10
CO4	2	3	3		3	3	3		2	1	1,2,3,5,6,7,9,10
CO5	2	3	3		3	3	3		2	1	1,2,3,5,6,7,9,10
CO6	2	3	3		3	3	3		2	1	1,2,3,5,6,7,9,10

Board Diploma Examination(C18) 18GT502C

D G T Fifth Semester Mid 1 Examination

Advanced Textile Dyeing and Printing

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term pigment
2. List two properties of pigments.
3. Define burnt out style.
4. Define transfer printing.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question

5. (a) Write two drawbacks of aniline black dyeing.

Or

- (b) Write the advantages of pigment dyeing.

6. (a) Describe brocco style.

Or

- (b) Describe raised style.

Part C

2X5 =10 Marks

Answer a or b choice in each question

7. (a) Describe the continuous dyeing of cotton with pigment dyes.

Or

- (b) Describe the continuous dyeing of cotton with aniline black.

8. (a) Describe the working of flat bed transfer printing.

Or

- (b) Describe transfer printing process.

Board Diploma Examination(C18) 18GT502C

D G T Fifth Semester Mid 2 Examination

Advanced Textile Dyeing and Printing

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term natural dyes.
2. State the source of alkanet.
3. Define the term vatting.
4. List two properties of vat dyes.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question

5. 5(a) Write the advantages of natural dyes.

Or

(b)Write the disadvantages of natural dyes.

6. (a) State the test to find the good dyeing conditions for application of vat dyes.

Or

(b) Write the quick test for vatting.

PART C

2 X5=10 MARKS

Answer a or b choice in each question

7. (a) Describe dyeing of cotton with natural dyes to obtain yellow shade.

Or

(b)Describe mordant by steeping in oil bath.

8. (a)Describe stock vat dyeing

Or

(b) Describe long liquor vatting.

Board Diploma Examination(C18) 18GT502C

D G T Fifth Semester End Examination

Advanced Textile Dyeing and Printing

Time 2 Hour

Marks 40

Part A

8 X1= 8Marks

Answer all questions

1. Define the term pigment
2. Define the term natural dyes.
3. List two precautions while stripping vat dyes.
4. State the source of alkanet.
5. Define chip dyeing.
6. Define beam dyeing.
7. List the materials required for stencil printing.
8. List two advantages of screen printing.

Part B

4 X3= 12 Marks

Answer a or b choice in each question.

9. (a) Write two drawbacks of aniline black dyeing.

Or

- (b) Write the basic principle of improved mangles.

10. (a) Write the advantages of natural dyes

Or

- (b) Describe the advantages of stencil printing.

11. (a) Write the advantages of standfast Monel metal dyeing machine

Or

- (b) Write the disadvantages of standfast Monel metal dyeing machine

12. (a) Describe direct painting method of preparing screens.

Or

- (b) Write the disadvantages of screen printing.

Part C

4X5 20 Marks

Answer a or b choice in each question.

13. a) Describe the continuous dyeing of cotton with aniline black

or

(b) Describe the working of Stand fast Monel metal dyeing machine.

14. (a) Describe stock vat dyeing.

Or

(b) Describe screen printing procedure.

15. (a) Describe hand dyeing.

Or

(b) Describe the simplex machine working.

16. (a) Describe stencil printing process

Or

(b) Describe screen printing process

18GT - 503 C Consumer Behaviour and Fashion Portfolio

Course Title : Consumer Behaviour and Fashion Portfolio	Course Code : 18GT-503C
Semester : V	Course Group : Core
Teaching Scheme in Periods . (L: T:P): 3:1 :0	Credits : 3
Methodology : : Lecture + Tutorial	Total Contact Periods : 60
CIE : 60 Marks	SEE : 40 Marks

PREREQUISITE: is knowledge of social science acquired in school education.

Course outcomes

- CO1: Identify Consumer Attitude and personality.
- CO2 : Recognize Motivational theories and conflicts.
- CO3: Relate Consumer Decision Making and Levels of consumer Decision making in Buying.
- CO4: Analyze the different types of presentation boards and formats
- CO5: Distinguish Consumer Learning and perception.
- CO6: Identify the Cultural influences on consumer and Diffusion of Fashion consumer Culture.

Course content:

- 1. Consumer Attitude and Personality:** **Duration : 10 Periods**
consumer - Attitude- Attitude object -The attitude functions as identified by Katz- The ABC Model of Attitude .Hierarchies of Effects – 1 The standard Learning Hierarchy – 2 The Low – Involvement Hierarchy – Levels of commitment to an Attitude- Cognitive Dissonance and Harmony among Attitudes – Self Perception theory – Attitude Measurement – Multi Attribute Attitude Models – The Fishbein model - aspects covered in The extended Fishbein model- intensions vs behavior, social pressure and attitude towards buying. Self-Concept – Components as given by Kaiser. Actual public concept actual self-concept. Trait theory.
- 2. Motivation:** **Duration:10Periods**
Motivation- Definition - Theories of motivation for wearing clothes- Modesty Theory – Immodesty Theory – Protection Theory – Adornment Theory. The motivation process – Values - the two-dimensional model developed by Sontag and Schlater for measuring clothing values (Focus, Subject

-Object inclusion)- the means - end chain model -Types of needs - Maslow's Hierarchy of Needs -
 - Drive theory - Expectancy theory- Motivational conflicts - Approach - Approach conflicts-
 Approach - Avoidance conflict- Avoidance - Avoidance conflict. Strategies to increase involvement.

3. Consumer Decision Making and Consumer Behavioural models: Duration: 09 Periods

Stages in Fashion and Traditional decision making - types /Levels of consumer Decision making (Extensive problem solving, Limited problem solving and Routinized response behavior). Types of information search: Internal versus/External Search, Deliberate versus Accidental search. Sex roles and Decision-making responsibility - Children as Decision makers: - Consumers in training - Consumer Socialization: - 1 Influence of parents - 2 Influence of media. Consumer behavior models.

4. Presentation Formats and Boards: Duration:09 periods

Describe the orientation procedure to follow in a presentation format - page relationship procedures to follow in presentation format - tips to follow for flat format- figure composition - figure format. - single figure formats - double figure formats - multiple figure - cropped figure formats - mood/theme formats fabric/colour. fold out formats customized presentations. - concept boards - product development - forecast and fibre service. planning of presentation - purpose, focus, quantity of boards, art supplies, visual materials, layout, techniques and technologies. sleep wear and lounge wear -1 lounge wear 2 brunch coat 3 flannel night gown 4 shortie pajamas 5 Chinese pajamas 6 hostess robe 7 flashy night shirt 8 blanket sleepers 9 bunny suit 10 baby doll pajamas.

5. Consumer Learning and Perception: Duration: 12Periods

Elements of consumer learning: Motivation - Cues - Response - Reinforcement. Behavioural learning/Stimulus -response learning - 1 Classical conditioning- 2 Instrumental conditioning. Information processing - information processing -. models of cognitive learning based on sequential information processing - promotional models (AIDA) - Decision making model - Innovation adoption model - Innovation decision model. Outcomes and measures of consumer learning - 1 Recognition and recall measures -2 Brand Loyalty - 3 Brand Equity. Perception: Types and Process of perception - perception - object perception - person perception - physical perception. Sensory thresholds - psychophysics - the absolute threshold - the differential threshold. Subliminal perception - subliminal techniques. Attention - Perceptual selection - Barriers to Reception of marketing messages - Personal selection factors - Stimulus selection factors. Interpretation Stimulus organization - Interpretational biases.

6. Cultural influences and Diffusion of Fashion Consumer Culture: Duration :10 Periods

Culture- three levels of subjective culture - (supranational, national and Group) -influence on Theoretical model of culture's influence on behaviour. The measurement of culture. (Content analysis, consumer field work and value measurement survey instruments) Aspects of culture. Four dimensions responsible for variability in culture. Myths and rituals - The functions and structure of myths. Rituals - Grooming rituals - Gift giving rituals. Culture production system - components of culture production systems. Innovation - Fashion innovation - Diffusion of innovations - Adopting innovations - Types of Adopters - Types of innovations - Behavioural demands of innovations - Prerequisites for successful Adoption.

Reference Books

1. Michael R Solomon, Nancy J Rabolt – Consumer Behavior in Fashion – Pearson Education – India
2. Leon G Schiffman, Leslie Lazar Kanuk and S Ramesh Kumar – Consumer Behavior – Pearson Education – India.
3. Matin khan –Consumer Behaviour and Advertising Management – New Age International Publishers.
4. Michael Solomon - Consumer Behaviour- A European Perspective – Prentice Hall – New Delhi
5. Kitty G Dickerson – Inside the Fashion Business- Pearson Education – India
6. Linda Tain - Portfolio Presentation for Fashion Designers – Fairchild publication -

Specific Learning Outcomes

On completion of the course, the student shall be able to:

1. Consumer Attitude and Personality

- 1.1 Define the term Attitude and consumer.
- 1.2 Define the term Attitude object.
- 1.3 Identify the attitude functions as identified by Katz.
- 1.4 Explain the ABC model of Attitude.
- 1.5 Describe the hierarchies of effects (The standard Learning Hierarchy, The Low – Involvement Hierarchy.
- 1.6 Describe the levels of commitment to an attitude.
- 1.7 Explain Cognitive Dissonance and Harmony among Attitudes.
- 1.8 Explain Self Perception theory.
- 1.9 Explain Attitude measurement models (Multi Attribute Attitude Models – The Fishbein model).
- 1.10 Explain the following aspects covered in the extended Fishbein model- intentions vs behavior, social pressure and attitude towards buying.
- 1.11 Define self-concept and explain the components of self-concept as given by Kaiser.
- 1.12 Define the terms -Actual self, Ideal self, Social self, Ideal social self, Expected self and Situational self.
- 1.13 Describe trait theory.
- 1.14 Define the term consumer adoption process, consumerist movement, hedonic bias.

2. Motivation

- 2.1 Define the term motivation.
- 2.2 Explain the theories of motivation for wearing clothes (Modesty Theory, Immodesty Theory, Protection theory, and Adornment theory)
- 2.3 Explain the motivation process.
- 2.4 Define the terms values
- 2.5 Describe the two-dimensional model developed by Sontag and Schlatter for measuring clothing values.
- 2.6 Explain the means - end chain model.
- 2.7 State the types of needs.
- 2.8 Describe the Drive theory.
- 2.9 Describe the Expectancy theory.
- 2.10 Describe Maslow's Hierarchy of Needs.

- 2.11 Describe Motivational conflicts (Approach – Approach conflicts, Approach – Avoidance conflict, Avoidance – Avoidance conflict).
- 2.12 Define the term involvement
- 2.13 State the strategies to increase involvement.

3. Consumer Decision Making and Consumer Behavioural models

- 3.1 Define the terms -differential decay, evoked set, mystery shoppers, opinion receiver,
- 3.2 Explain the stages in Fashion and Traditional decision making with the help of a flow chart.
- 3.3 Explain the levels of consumer decision making.
- 3.4 Explain the types of information search.
- 3.5 Describe the relationship between amount of information search and product knowledge.
- 3.6 Explain sex roles and decision-making responsibility.
- 3.7 Explain children's role in making up three distinct markets by their decision making as consumers – in- training.
- 3.8 Describe the influence of parents and media on children's decision making.
- 3.9 Analyze the following models of consumer behavior – 1 Economic Model, 2 Pavlovian Model. 3 Sociological Model
- 3.10 Define consumer durables, consumer price index, conjunctive heuristic.

4. Presentation Formats and Boards

- 4.1 Describe the orientation procedure to follow in a presentation format.
- 4.2 Describe the page relationship procedures to follow in presentation format.
- 4.3 Describe the tips to follow for flat format.
- 4.4 Describe the tips to follow in figure composition while preparing a presentation board.
- 4.5 Define the term figure format.
- 4.6 Describe the single figure formats features.
- 4.7 Describe the double figure formats features.
- 4.8 Describe the multiple figure formats features
- 4.9 Describe the cropped figure formats features
- 4.10 Describe the mood/theme formats features.
- 4.11 Describe the fabric/colour formats features.
- 4.12 Describe the fold out formats features
- 4.13 State the purpose of customized presentations.
- 4.14 Describe the following presentation boards – concept boards, product development, forecast and fibre service.
- 4.15 Describe the different stages involved in the planning of presentation – purpose, focus, quantity of boards, art supplies, visual materials, layout, techniques and technologies.
- 4.16 Define the following sleep wear and lounge wear 1 lounge wear 2 brunch coat 3 flannel night gown 4 shortie pajamas 5 Chinese pajamas 6 hostess robe 7 flashy night shirt 8 blanket sleepers 9 bunny suit 10 baby doll pajamas.

5. Consumer Learning and Perception

- 5.1 Define the elements of consumer learning.
- 5.2 Explain Behavioural learning/Stimulus -response learning.
- 5.3 Explain the models of cognitive learning based on sequential information processing.
- 5.4 Describe promotional models (AIDA).
- 5.5 Describe the following – Decision making model – Innovation adoption model – Innovation decision model.
- 5.6 Explain the Outcomes and measures of consumer learning.
- 5.7 Define the term perception.

- 5.8 Define the term object perception.
- 5.9 Define the term person perception.
- 5.10 Define the term physical perception.
- 5.11 List the two principles underlying the study of clothing in a contextual approach.
- 5.12 State the different messages developed through garment elements as identified by Hoffman.
- 5.13 Explain physical perception through sensory system – vision.
- 5.14 Explain the learned and physiological colour responses.
- 5.15 Explain the following as means of perception (a) colour forecasting (b) colour as trade dress.
- 5.16 Explain the physical perception through translation of colour through media.
- 5.17 Explain perception by means of sound.
- 5.18 Explain the role of back ground music as source of physical perception.
- 5.19 Explain the time compression technique used to manipulate perception of sound.
- 5.20 Determine physical perception through touch.
- 5.21 Define the term psychophysics.
- 5.22 Explain the following (a) sensory threshold (b) the absolute threshold(c) the differential threshold.
- 5.23 Explain subliminal perception and subliminal techniques.
- 5.24 Define the term attention.
- 5.25 Explain the barriers to reception of marketing messages both personal selective factors and stimulus selection factors.
- 5.26 Explain stimulus organization.
- 5.27 Define the following principles 1 the closure principle 2 the principle of similarity 3 the figure ground principle.
- 5.28 State the interpretational biases.

6. Cultural influences and Diffusion of Fashion consumer Culture

- 6.1 Define the term custom, myths, ritual, etic perspective, emic perspective, desaccralization, symbolic innovation.
- 6.2 Explain the three levels of subjective culture – (supranational, national and Group).
- 6.3 Explain the influence on Theoretical model of culture's influence on behavior.
- 6.4 Explain the measurement of culture. (Content analysis, consumer field work and value measurement survey instruments)
- 6.5 Define aspects of culture.
- 6.6 Explain material culture and non material culture.
- 6.7 Explain the Four dimensions responsible for variability in culture.
- 6.8 Explain the Myths and rituals – the functions and structure of myths. Rituals – Grooming rituals – Gift giving rituals and holiday rituals.
- 6.9 Explain the Culture production system.
- 6.10 components of culture production systems.
- 6.11 Define the term innovation.
- 6.12 Explain the five stages of innovation adoption model given by Roger.
- 6.13 Explain the types of Innovation – Fashion innovation – Diffusion of innovations – Adopting innovations.
- 6.14 Explain the types of Adopters and Types of innovations.
- 6.15 Explain the Behavioral demands of innovations.
- 6.16 Describe Prerequisites for successful Adoption- Compatibility, trialability, complexity, observability, and relative advantage.
- 6.17 Define the terms cultural Gatekeepers and throughput sector, extended family, grooming rituals,
- 6.18 Define the terms 1 cross docking 2 cross shoppers, shopping centers, consumer obsolescence, consumer orientation, close out, consumer ready, customization., apparel mart

Suggested Student Activities

1. Market survey to know consumer behavior when shopping.
2. Technical quiz.
3. Group discussion.
4. Surprise test.
5. Student visit to library to refer national and international journals.
6. Seminar
7. Assignments
8. Prepare a presentation board

List of E Learning sites

1. <https://nptel.ac.in/courses/110105029/>
2. <https://nptel.ac.in/courses/110105029/25>
3. <https://nptel.ac.in/courses/110105054/18>
4. <http://14.139.172.204/nptel/CSE/Web/110105029/mod6.3lec22.html>
5. <https://nptel.ac.in/courses/110105029/2>

CO PO Mapping Matrix											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	MAPPED PO'S
CO1	2	3					2		2	1	1,2,3, 7, 9,10
CO2	2	3					2		2	1	1,2,3,7, 9,10
CO3	2	3					2		2	1	1,2,3,7, 9,10
CO4	2	3					2		2	1	1,2,3,7, 9, 10
CO5	2	3					2		2	1	1,2,3,7, 9, 10
CO6	2	3					2		2	1	1,2,3,7, 9, 10

18GT503C

Board Diploma Examination(C18)
D G T Fifth Semester Mid 1 Examination
Consumer Behaviour and Fashion Portfolio

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term attitude.
2. Define the term consumer.
3. Define the term motivation.
4. Define the term involvement.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Describe the multi attribute attitude model.

Or

- (b) Describe the Fishbein model.

6. (a) Describe modesty theory.

Or

- (b) Write the different types of needs.

Part C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Explain the components of self-concept

Or

- (b) Explain self-perception theory.

8. (a) Explain the means and end chain model

Or

- (b) Describe the drive theory.

(C18)18GT 503C

Board Diploma Examination
D G T Fifth Semester Mid 2 Examination
Consumer Behaviour and Fashion Portfolio

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term differential decay.
2. Define the term evoked set.
3. Define the term lounge wear
4. Define the term brunch coat.

Part B

2 X3= 6 MARKS

Answer a or b choice in each question.

5. (a) Describe the influence of parents and media on children's decision making

OR

- (b) Explain Pavlovian Model.

6. (a) Describe the single figure format features.

OR

- (b) Describe the double figure format features.

PART C

2 X5 = 10 MARKS

Answer a or b choice in each question.

7. (a) Explain the cognitive view of decision making

OR

- (b) Explain the emotional view of decision making

8. (a) Describe the preparation of concept board

OR

b) Describe the multiple figure format features

(C18)18GT503C

Board Diploma Examination
D G T Sixth Semester End Examination
Consumer Behaviour and Fashion Portfolio

Time 2 Hour

Marks 40

Part A

8 X1= 8 Marks

Answer all questions

1. Define the term attitude.
2. Define the term differential decay
3. Define the term perception.
4. Define the consumer.
5. Define the term object perception.
6. Define the term person perception
7. Define the term customs
8. Define the term extended family.

PART B

4 X3 =12 MARKS

Answer a or b choice in each question.

9. (a) describe the multi attribute attitude model.

OR

- (b) Explain perception by means of sound.

10. (a) Describe Fishbein model.

OR

- (b) Explain the culture production system.

11. (a) Explain physical perception through sensory system – vision.

OR

- (b) Explain learned and physiological colour responses

12. (a) Explain material culture.

OR

(b) Explain the culture production system.

PART C

4 X5 = 20 MARKS

Answer a or b choice in each question.

13. (a) Explain self perception theory.

OR

(b) Explain the outcomes and measures of consumer learning.

14. (a) Describe the influence of parents and media on children's decision making

OR

(b) Describe the promotional models.

15. (a) Explain physical perception through touch

OR

(b) Describe the tricomponent model.

16. (a) Explain behavioural demands of innovation.

OR

(b) Explain the five stages of innovation adoption model given by Roger

18GT 504A Apparel Merchandising

Course Title	: Apparel Merchandising	Course Code	: 18GT-504A
Semester	: V	Course Group	: Elective
Teaching Scheme in Periods (L:T:P)	: 3:1:0	Credits	: 3
Methodology :	: Lecture + Tutorial	Total Contact Periods:	60
CIE	: 60 Marks	SEE	: 40 Marks

Prerequisite:

School education and general awareness of business.

Course Outcome	CL	Linked PO	Teaching Hours
Make use of merchandising concepts and technology	R/U	1,2,3,10	9
Distinguish the different aspects of modern merchandising.	R/U/A	1,2,3,10	10
Explain the buying and disposing and vendor /customer relationship.	R/U/A	1,2,5,7,8,9,10	10
Compare the different pricing methods and budgets and distinguish the terms used in pricing.	R/U/A	2, 9, 10	9
Analyse the line development principles and process	R/U/A	2 3, 8,9, 10	10
Formulate a best store planning and visual merchandising plan	R/U/A	2, 3, 8,9, 10	12
			60

1. **Unit 1 : Merchandising Concepts and Technology:** **Duration 9 Periods**
 merchandising , retail target customers - categories of fashion leadership- Fashion forward stores, the main stream retailers ,and mass merchants- Define the term - above market price, Adaptive corporative culture, assortment diversity index (ADI),at- market price, back -end merchandising activities , browsing customer, change – Bridge lines – Cool hunters - intensive products, counter sample, customer response system (CRS), Diffusion line - , Job – off price, Key stone markup, model stock, open – to buy, Vintage, - week of sale. Merchandising organization-responsibilities of store line and responsibilities of buying line. Fashion merchandising direction – Definition of the term merchandise plan - the merchandise plan components. - the points to considered by a buyer while planning sales goal. – Definition of the term buying plan - Bottom – line versus - creative aspects of buying--buyer- planner system- the buyer's role in marketing (advertising, visual merchandising and special events). - short cycle buying, narrow and deep buying and broad assortment buying- Definition of independent resident buying offices. Responsibility of buyer.
2. **UNIT 2: Modern merchandising and Strategic Planning:** **Duration: 10 Periods**
 planning and control tools - (marketing calendar- merchandising calendar, line plan and shelf stock plan) – Fundamentals of quick response- Customer driven business system – Time based competition- Incorporating quick response into the behavioral theory of the apparel firm: Definition of a QR construct and constituency – Full implemented QR – Assumption of BTAF with a QR construct- merchandising in a QR universe. Definition /understanding of the following terms – product engineering, pull – through marketing, forward buying, grey market, line number, supply chain management, trial line, management information system.
3. **Unit 3 Customer and Vendor Relationships:** **Duration 10 Periods**
 State the concept of customer service- retail customer service-self-service- retail customer service-limited service- retail customer service-full service- the premier customer service- the role of personal selling services- reasons for customer to buy-the ways for handling merchandise returns.
4. **Unit 4 Pricing and Budget:** **Duration 9 Periods**
 Define the terms price –Pricing, mark ups and mark downs, additional mark-up cancellation, adjusted gross margin, below market price, billed cost, clearance price, comparison price , contract dating, distressed goods , initial mark up, keystone mark-up, trade discount ,wholesale price, premium price , ,zero based budgeting ,temporary mark down ,suggestion selling, selling period, retail method of inventory, retail merchandise cost , quick markdown pricing, quantity discount ,purchase of finished goods, promotional price ,prestige pricing ,penetration pricing ,list price ,first price, everyday low pricing(EDLP),cash discount ,market skimming pricing - Different views of price - reasons for mark downs- Pricing Strategies-- External Factors influencing price decision- Internal factors influencing price decisions- Two main methods of setting price: Cost plus pricing methods - Market-based pricing methods- mark up – mark downs – discount. Four major elements of budget. Planning of sales based on space productivity. planning reductions. planning of inventory and purchase during the selling period. Limitations of budget – sales budget.

5. **Unit 5 Line Development Principles and Process:** **Duration 10 Periods**
 Line Planning: definition – Evaluating the merchandise mix – Forecasting merchandise offerings – Planning merchandise assortments — Definitions of dimensions of merchandise assortments. - Assortment, assortment distribution, assortment diversity, assortment factors, model stock, stock keeping unit (SKU) unit, variety, volume, volume per SKU, Volume per SKU for an assortment (VSA). Analyze and update merchandise plans – Line development concept - Creative design – Technical design – Line adoption – Line presentation at wholesale Line Development and Computer Technology – Advantages of adopting computer technology – Integrated graphic systems – Pattern Design Systems – Product Information management systems.
6. **Unit 6 Store Planning and Visual Merchandising:** **Duration 12 Periods**
 Visual Merchandising - store planning- store design - floor plan or store lay out - space productivity index. Criteria for space planning- the top six elements that influence a stores image(employee, Merchandise, fixtures, sound, odour visual) - Display points in store- windows, high points, focal points, nesting tables, staircase landings, step raisers, lift area, pennants, cash counters, pillars and entrances - the points to consider for a good merchandise presentation- types of signage –Directional signage, departmental signage, category signage , point of sale signage. - Circulation plan - the rules for circulation plan - types of circulation plans. - with applications, advantages and disadvantages – free flow circulation, grid circulation, racetrack/loop circulation, herringbone circulation spine circulation- purpose of planning fixtures - tips for planning fixtures - Draw symbols/legends of fixtures. - different types of mannequins (Realistic, semi realistic, Abstract, Partial forms or Dress forms - tips to handle mannequins.

RECOMMENDED Books

1. Apparel Manufacturing and Sewn Product Analysis – Ruth E Glock- Grace I Kunz- Pearson.
2. Grace I Kunz – Merchandising Theory Principles and Practice – Fairchild Books – New York.
3. Jeremy A Rosenau, David L Wilson- Apparel Merchandising – the line starts here – Fairchild Publications, Inc, New York.
4. Doris H Kincade Fay Y Gibson – Merchandising Fashion Products- Pearson.
5. SWATHI Balla and Anuraag S – Visual Merchandising – McGraw Hill Education Private Limited – New Delhi.
6. Industrial management – O P Khanna – Dhanpat Rai Publications Ltd – New Delhi.

Specific Learning Outcomes

On completion of the course, the student shall be able to:

1. Merchandising Concepts and Technology

- 1.1 Define the term merchandising.
- 1.2 Define the term retail target customers.
- 1.3 Explain the categories of fashion leadership- Fashion forward stores, the main stream retailers, and mass merchants.
- 1.4 Define the following terms 1 above market price, 2 Adaptive corporate culture, 3 assortment diversity index (ADI), 4 at- market price, 5 back -end merchandising activities , 6 below – market price, 7 browsing customer, 8 change -intensive products, 9 counter sample, 10 customer response system (CRS), 11 first price, 12 job – off price, 13 Key stone mark-up, 14 model stock, 15 open – to buy, 16 week of sale.

- 1.5 Explain the merchandising organization-responsibilities of store line and responsibilities of buying line.
- 1.6 Explain the fashion merchandising direction.
- 1.7 Define the term merchandise plan.
- 1.8 State the merchandise plan components.
- 1.9 Explain the points to be considered by a buyer while planning sales goal.
- 1.10 Define the term buying plan.
- 1.11 Explain bottom – line versus creative aspects of buying.
- 1.12 Explain buyer- planner system.
- 1.13 Explain the buyer's role in marketing (advertising, visual merchandising and special events).
- 1.14 Explain the following – short cycle buying, narrow and deep buying and broad assortment buying.
- 1.15 Define independent resident buying offices.
- 1.16 Explain the responsibilities of a buyer.

2 Modern merchandising and Strategic Planning

- 2.1 Explain the four planning and control tools (marketing calendar- merchandising calendar, line plan and shelf stock plan).
- 2.2 Describe the fundamentals of quick response.
- 2.3 Describe Customer driven business system.
- 2.4 Describe Time based competition.
- 2.5 Explain Definition of a QR construct and constituency.
- 2.6 Explain with a diagram the Full implemented QR.
- 2.7 Explain the Assumption of BTAF with a QR construct.
- 2.8 Explain merchandising in a QR universe.
- 2.9 Define the following terms – product engineering, pull – through marketing, forward buying, grey market, line number, supply chain management, trial line, and management information system.
- 2.10 Define the terms – Strategic planning and strategic business plan.
- 2.11 Identify the steps in strategic business planning process.
- 2.12 Compare the two strategic planning paths – primary strategic planning path and alternative strategic planning path.

3 Customer and Vendor Relationships

- 3.1 Define the term vendor certification, consumer panels, consumer centric,
- 3.2 State the concept of customer service.
- 3.3 Explain retail customer service-self-service.
- 3.4 Explain retail customer service-limited service.
- 3.5 Explain retail customer service-full service.
- 3.6 Explain the premier customer service.
- 3.7 Enumerate the role of personal selling service.
- 3.8 State reasons for customer to buy.
- 3.9 List the seven stages in the selling process
- 3.10 Explain the factors that inhibit customer contact and create sales resistance.
- 3.11 Explain the prospecting stage in personal selling process.
- 3.12 Explain the greeting and approaching customer stage/component in personal selling process.
- 3.13 Explain the following component of personal selling process – Determining customers' needs and wants.
- 3.14 Explain the following stage /component of personal selling process – providing merchandise selection assistance.
- 3.15 Explain the following stage/ component of personal selling process – Handling objections.

- 3.16 Explain the following component of personal selling process – closing the sale.
- 3.17 Analyse suggestion selling.
- 3.18 Explain the following component of personal selling process – follow up.
- 3.19 Explain the ways for handling merchandise returns.
- 3.20 Explain the ways for improving customer service.

4 Pricing and Budget

- 4.1 Define the merchandising terms.
- 4.2 Explain the reasons for mark downs.
- 4.3 Explain the pricing strategies–new product pricing 2 demand consumer-oriented pricing 3 cost-oriented pricing, value-based pricing, competition-oriented pricing,
- 4.4 Explain pricing policies for pricing strategies – 1 product line pricing 2 Zone pricing 3 Promotional pricing 4 Discount and Mass merchant pricing 5 Fast fashion pricing.
- 4.5 Explain the external factors influencing price decisions.
- 4.6 Explain the internal factors influencing price decisions.
- 4.7 Explain two main methods of setting price.
- 4.8 State the five major elements of budget.
- 4.9 Explain planning of sales based on space productivity.
- 4.10 Explain planning reductions.
- 4.11 Explain planning of inventory and purchase during the selling period.
- 4.12 State the limitations of budget.
- 4.13 Explain the sales budget.

5 Line Development Principles and Process

- 5.1 Define the term line planning.
- 5.2 Explain the process of evaluating the merchandise mix.
- 5.3 Explain the forecasting of merchandising offerings.
- 5.4 Explain planning of merchandise assortments.
- 5.5 Define the dimensions of merchandise assortments. - Assortment, assortment distribution, assortment diversity, assortment factors, model stock, stock keeping unit (SKU) unit, variety, volume, volume per SKU, Volume per SKU for an assortment (VSA)
- 5.6 Describe the process of analysing and updating merchandise plans.
- 5.7 Explain line concept.
- 5.8 Explain creative and technical design.
- 5.9 Explain line adoption process.
- 5.10 Explain line presentation within a firm (internal).
- 5.11 Explain line presentation at wholesale.
- 5.12 State the advantages of computer applications in line development.
- 5.13 Explain the advantages of integrated graphic systems.
- 5.14 List the advantages of pattern design systems.
- 5.15 Explain product information management systems.
- 5.16 State the following – department store, speciality store, discount store, category killers, hyper markets, super centres, warehouse clubs, boutique.

6 Store Planning and Visual Merchandising

- 6.1 Define the term visual merchandising.
- 6.2 Define the term store planning.
- 6.3 State the criteria for space planning.
- 6.4 Define store design.
- 6.5 Define floor plan or store lay out.

- 6.6 Define space productivity index.
- 6.7 Explain the top six elements that influence a store's image (employee, Merchandise, fixtures, sound, odour visual).
- 6.8 Describe the display points in store- windows, high points, focal points, nesting tables, staircase landings, step raisers, lift area, pennants, cash counters, pillars and entrances.
- 6.9 State the points to consider for a good merchandise presentation.
- 6.10 Explain the different types of signage – Directional signage, departmental signage, category signage, point of sale signage.
- 6.11 Define circulation plan and State the rules of circulation.
- 6.12 Explain the following circulation plans along with applications, advantages and disadvantages – free flow circulation, grid circulation, race track/loop circulation, herringbone circulation, spine circulation.
- 6.13 State the purpose of planning fixtures.
- 6.14 State the tips for selecting fixtures.
- 6.15 List the tips for planning fixtures.
- 6.16 Describe the different types of feature fixtures and capacity fixtures.
- 6.17 Draw symbols/legends of fixtures.
- 6.18 Describe the different types of mannequins (Realistic, semi realistic, Abstract, Partial forms or Dress forms).
- 6.19 State the tips to handle mannequins
- 6.20 Define the term signage.
- 6.21 Describe the following signage – Directional signage, Departmental signage, Category signage, Point of sale signage.
- 6.22 State the five major materials used during displays in everyday life.

Suggested Student Activities

1. Visit library to refer journals, magazines, subject books.
2. Visit nearby apparel units.
3. Quiz.
4. Group discussions.
5. Seminar.
6. Surprise test.
7. Assignments
8. Plan for display of merchandise following all necessary rules.

List of E Learning Sites

1. <https://www.fibre2fashion.com/industry-article/5743/merchandising-in-an-apparel-industry>
2. <http://www.internationalvisual.com/download/Visual%20Merchandising%202.pdf>

CO-PO Mapping Matrix

Course Outcome	CL	Linked PO	Teaching Hours
Make use of merchandising concepts and technology	R/U/A	1,2,3,10	9
Distinguish the different aspects of modern merchandising.	R/U/A	1,2,3,10	10
Explain the buying and disposing and vendor /customer relationship.	R/U/A	1,2,5,7,8,9,10	10
Compare the different pricing methods and budgets and distinguish the terms used in pricing.	R/U/A	2,9, 10	9
Analyse the line development principles and process	R/U/A	2 3 ,8,9,10	10
Formulate a best store planning and visual merchandising plan	R/U/A	2, 3 ,8,9,10	12
			60

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Board Diploma Examination

D G T Fifth Semester Mid 1 Examination

Apparel Merchandising

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term above market price.
2. Define the term at market price.
3. Define the term product engineering.
4. Define the term pull through marketing.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Write the merchandise plan components.

OR

- (b) Write about fashion forward stores and main stream retailers

6. (a) Explain marketing calendar

OR

- (b) Explain merchandising calendar

PART C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Explain fashion merchandising direction.

Or

- (b) What are the points to be considered by a buyer while planning sales goal.

8. (a) Explain with a diagram the Full implemented QR

Or

- (b) Explain merchandising in a QR universe

(C18) 18GT504A

Board Diploma Examination(C18)
D G T Fifth Semester Mid 2 Examination
Apparel Merchandising

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term consumer centric.
2. Define the term consumer panels.
3. Define the term price.
4. Define the term pricing.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Write the concept of customer service.

Or

- (b) Write the reasons for customers to buy.

6. (a) Write the limitations of budget.

Or

- (b) Write the five major elements of budget.

Part C

2X5=10Marks

Answer a or b choice in each question.

7. (a) what is meant by self-service and how is it helpful.

Or

- (b) what are the ways to be adopted for handling merchandise returns.

8. (a) What external factors have a bearing on price decision.

Or

- (b) What is the procedure for planning reduction

18GT504A

Board Diploma Examination(C18)

D G T Fifth Semester End Examination

Apparel Merchandising

Time 2 Hour

Marks 40

Part A

8 X1= 8 Marks

Answer all questions

1. Define the term above market price.
2. Define the term consumer panel.
3. Define the term line planning.
4. Define the term price.
5. Define the term department store.
6. Define the term specialty store.
7. Define the term visual merchandising.
8. Define the term store planning.

Part B

4 X3 = 12 Marks

Answer a or b choice in each question.

9. (a) Describe marketing calendar
Or
(b) Write the advantages of pattern design system.
10. (a) write the reasons for customers to buy.
Or
(b) describe the criteria for space planning.
11. (a) What are the advantages of computer applications in line development.
Or
(b) Describe line concept.
12. (a) Write the purpose of planning fixture.
Or
(b) Write the tips for selecting fixtures.

Part C

4 X5= 20 MARKS

Answer a or b choice in each question.

13. (a) Explain with a diagram the Full implemented QR

OR

(b) Explain planning of merchandise assortments

14. (a) what is meant by self-service and how is it helpful

OR

(b) what are the different types of mannequins used in the market for display of merchandise.

15. (a) Describe the process of analyzing and updating merchandise plans

OR

(b) describe line adoption process.

16. (a) different types of signages

OR

b) suggest two circulation plans with reasons.

18GT -504 B Industrial Management and Entrepreneurship

Course Title : Industrial Management and Entrepreneurship	Course Code :18GT-504B
Semester :V	Course Group : Elective
Teaching Scheme in Pds . (L: T:P): 3:1:0	Credits :3
Methodology : Lecture + Tutorial	Total Contact Periods :60
CIE :60 Marks	SEE :40 Marks

Pre-requisites: This course requires the social science knowledge acquired in school education

	Course Outcome	CL	Linked PO	Teaching Hrs.
CO1:	Explain the management principles, functions, and different ownership organizations.	R/U/A	1,2,5,6,7,8,9,10	9
CO2:	Summarize the small-scale industries working procedures and the scheme available to start the enterprise, the expectations and risks faced by an entrepreneur.	R/U/A	1,2,3,4,7,8,9	9
CO3:	Compare the merits and demerits of different plant locations, buildings and choose different maintenance procedures based on requirement.	R/U/A	1,2,5,9,10	9
CO4:	Explain the professional and business ethics.	R/U/A	1,2,5,7,9,10	9
CO5	Summarize the material management procedures	R/U/A	1,2,9,10	12
CO6	Explain the industrial legislations and examine the safety procedures to be adopted in industries.	R/U/A	1,2,9,10	12

Course Content:

1. Unit 1 Management and Ownership:

Duration: 09 Periods

Definitions of management, administration and organization. Principles of management - Functions of management: Ownership: Single Ownership: Concept, Advantages, Disadvantages, Applications. Partnership: Concept, Kinds of partners, Types of partnership: General Partnership: advantages & disadvantages, Limited Partnership. Joint Stock Company: Concept, Types of Joint Stock company: Private Limited Company and Public Limited Company, Advantages and Disadvantages of Joint Stock Company, difference between shares and debentures.

2. Unit 2 Small Scale Industries and Entrepreneurship:

Duration: 09 Periods

The steps involved in starting a small-scale industry. The procedure for registration of small-scale industries. The role of SFCs, NSIC, SSICs, SDIs, IDBI, NABARD and other commercial banks in

providing financial assistance to small scale industries. The assistance provided to small units. The different self-employment schemes. The different self-employment schemes developed for the benefit of entrepreneurs. 'Entrepreneur', 'Entrepreneurship'- the qualities of an Entrepreneur. - Functions of Entrepreneur. - The role of Entrepreneur in a business- The characteristics and traits providing working profile of an entrepreneur- The factors influencing entrepreneurial failure - The expectations from an entrepreneur- rewards. DIC – APITCO TS i pass- startup unit

3. **Unit3 Plant Location and Maintenance:**

Duration: 09 Periods

The concept of plant - The factors governing plant location - The advantages of plant site in a city. The disadvantages of plant site in a city - The advantages of plant site in rural area- The disadvantages of plant site in rural area - The requirements of a good factory building. The considerations in building design. The different types of factory buildings. The suitability of different types of factory buildings. The advantages and disadvantages of Single storey buildings, High bay and monitor type buildings and multistory buildings. The types of building construction. The objectives of plant maintenance. The types of maintenance: the typical causes of equipment break down. Predictive maintenance.

4. **Unit4 Professional and Business Ethics:**

Duration 09 Periods

The concept of Professional/professionalism. The concept of ethics. The need for professional and business ethics. The importance of ethics. The need for business to be ethical. The ethical dilemmas. The ethical problems in business. The ways to make business ethical. The codes of business and professional ethics. The chief provisions of a professional code. The ethics training programmed. The ways to communicate ethical values. The role of professional bodies in influencing professionals on ethical values.

5. **Unit 5 Material management:**

Duration 12 Periods

importance - functions - objectives of material management. The types of stores. The organization of stores. duties of store keeper. Stores location. Stores layout. points to consider in protection of stores. stores equipment. - store records. Bin card. CARDEX method. - objectives of purchase management. - functions of purchasing department. - methods of purchasing along with advantages and disadvantages. - general purchasing procedure adopted by an industry. Purchase records. Different tenders. Security deposit and earnest money deposit. - procedure for opening of tenders, comparative statement, purchase order and bills/invoice. Physical verification of stores: necessity for physical verification of stores. - disadvantages of physical stock taking.

6. **Unit6 Industrial Legislation and Safety:**

Duration 12 periods

the Importance and necessity of labour legislation. - principles of labour legislation- List of the Laws concerning with the working conditions in factories: (List the Laws related to wages, welfare. List the Laws related to workers associations, List the Laws related to social insurance.) The object and scope of The Factories Act1948- The procedure stated in The Factories Act1948 regarding Approval, Licensing and registration of Factories- The following main provision of the Factories Act 1948 – Health, Safety, Welfare, working hours, Wage- The responsibility for payment of wages as given in the payment of Wages Act 1936- The deductions from wages. The employer – employee relations. - The rights and responsibilities of employer and employee. The objectives of safety management. The importance of safety at work place- Accident. - The direct and indirect costs of an accident- the methods for prevention of accidents. The industrial Hazards (Fire hazards and electric hazards 2 Operational hazards 3 Chemical and special hazards.) - First Aid.

Recommended Books

1. O P Khanna – Industrial Management and Entrepreneurship- Dhanpat Rai Publications (P) Ltd Delhi (recommended book)
2. M Anita – Industrial Management and Entrepreneurship – Radiant Publishing House
3. M Zakria Baig – Industrial Management and Entrepreneurship – Radiant Publishing House – Hyderabad

Specific Learning Outcomes

On completion of the study of the course, the student shall be able to:

1. Management and Ownership

- 1.1 Define the terms – Management, administration and organization.
- 1.2 List and describe the scientific principles of management.
- 1.3 List and explain functions of management.
- 1.4 Define Sole Proprietorship.
- 1.5 Explain the formation of Sole proprietorship organization.
- 1.6 List the main features of sole Proprietorship.
- 1.7 State the application areas for sole Proprietorship.
- 1.8 Explain the merits and demerits of Sole Proprietorship.
- 1.9 Define the term Partnership.
- 1.10 Explain the salient features or characteristics of partnership form of organization.
- 1.11 Explain the formation of Partnership.
- 1.12 Explain the different types of partners.
- 1.13 Define the term Partnership Deed.
- 1.14 State and explain the details given in partnership Deed.
- 1.15 List and explain the merits and demerits of partnership.
- 1.16 Define the term Joint stock Company.
- 1.17 State the chief characteristics of Joint Stock Company.
- 1.18 State the demerits/disadvantages of joint stock companies.
- 1.19 Define the term Private Limited Company.
- 1.20 Explain the formation of private limited company.
- 1.21 State the ventures for which Private company organization is suitable.
- 1.22 Define share.
- 1.23 List the differences between shares and debentures.

2. Small Scale Industries and Entrepreneurship

- 2.1 Explain the steps involved in starting a small-scale industry.
- 2.2 Explain the procedure for registration of small-scale industries.
- 2.3 Explain the role of SFCs, NSIC, SSICs, SDIs, IDBI, NABARD and other commercial banks in providing financial assistance to small scale industries.
- 2.4 Explain the assistance provided to small units.
- 2.5 List the different self-employment schemes.
- 2.6 Explain the different self-employment schemes developed for the benefit of entrepreneurs.

- 2.7 Define the term 'Entrepreneur', 'Entrepreneurship'.
- 2.8 State the qualities of an Entrepreneur.
- 2.9 List the functions of Entrepreneur.
- 2.10 Describe the role of Entrepreneur in a business.
- 2.11 List the characteristics and traits providing working profile of an entrepreneur.
- 2.12 Explain the factors influencing entrepreneurial failure.
- 2.13 Explain the expectations from an entrepreneur.
- 2.14 Analyze the reasons for entrepreneurial failure.
- 2.15 State the functions of DIC and APITCO
- 2.16 Define the term startup company
- 2.17 Explain the Telangana state industrial policy.
- 2.18 Define the term TS i PASS.
- 2.19 List the features of TS i PASS

3. Plant Location and Maintenance

- 3.1 State the concept of plant.
- 3.2 Explain the factors governing plant location.
- 3.3 List the advantages of plant site in a city.
- 3.4 List the disadvantages of plant site in a city.
- 3.5 List the advantages of plant site in rural area.
- 3.6 List the disadvantages of plant site in rural area.
- 3.7 State the requirements of a good factory building.
- 3.8 Explain the considerations in building design.
- 3.9 Compare the suitability of different types of factory buildings.
- 3.10 Explain the advantages and disadvantages of Single storey buildings, High bay and monitor type buildings and multistory buildings.
- 3.11 Explain the types of building construction.
- 3.12 State the objectives of plant maintenance.
- 3.13 State the importance of plant maintenance.
- 3.14 List the typical causes of equipment break down.
- 3.15 Explain predictive maintenance.

4. Professional and Business Ethics

- 4.1 State the concept of Professional/professionalism.
- 4.2 State the concept of ethics.
- 4.3 Explain the need for professional and business ethics.
- 4.4 Explain the importance of ethics.
- 4.5 Describe the need for business to be ethical.
- 4.6 State the ethical dilemmas.
- 4.7 Explain the ethical problems in business.
- 4.8 Explain the ways to make business ethical.
- 4.9 Explain the codes of business and professional ethics.
- 4.10 Describe the chief provisions of a professional code.
- 4.11 State the ethics training programme.
- 4.12 Explain the ways to communicate ethical values.
- 4.13 State the role of professional bodies in influencing professionals on ethical values.

5. Material management

- 5.1 State the importance of material management.
- 5.2 State the functions of material management.
- 5.3 State the objectives of material management.
- 5.4 List the types of stores.
- 5.5 Explain the organization of stores.

- 5.6 Mention the duties of store keeper.
- 5.7 Explain stores location.
- 5.8 Explain stores layout.
- 5.9 Explain the points to consider in protection of stores.
- 5.10 Explain the different stores equipment.
- 5.11 Explain different store records.
- 5.12 Explain Bin card.
- 5.13 Explain CARDEX method.
- 5.14 Mention the objectives of purchase management.
- 5.15 State the functions of purchasing department.
- 5.16 Explain the methods of purchasing along with advantages and disadvantages.
- 5.17 Explain the general purchasing procedure adopted by an industry.
- 5.18 Describe purchase records.
- 5.19 Define different tenders.
- 5.20 Define security deposit and earnest money deposit.
- 5.21 Explain the procedure for opening of tenders, comparative statement, purchase order and bills/invoice.
- 5.22 State the necessity for physical verification of stores.
- 5.23 State the disadvantages of physical stock taking.

6. Industrial Legislation and Safety

- 6.1 State the importance and necessity of labour legislation.
- 6.2 State the principles of labour legislation
- 6.3 List the Laws related to wages, welfare.
- 6.4 List the Laws related to workers associations.
- 6.5 List the Laws related to social insurance
- 6.6 State the object and scope of The Factories Act 1948.
- 6.7 Explain the procedure stated in the Factories act 1948 regarding Approval, Licensing and registration of Factories.
- 6.8 Explain the following main provision of the Factories Act 1948 – Health, Safety, Welfare, Working hours,
- 6.9 Define the term wage.
- 6.10 State the responsibility for payment of wages as given in the payment of Wages act 1936.
- 6.11 List the deductions from wages.
- 6.12 Describe the employer – employee relations.
- 6.13 Explain the rights and responsibilities of employer and employee.
- 6.14 State the objectives of safety management.
- 6.15 Explain the importance of safety at work place.
- 6.16 Define the term accident.
- 6.17 Explain the direct and indirect costs of an accident.
- 6.18** Explain the methods for prevention of accidents.
- 6.19 List and explain the industrial Hazards (Fire hazards and electric hazards 2 Operational hazards 3 Chemical and special hazards.)
- 6.20 Define the term First Aid.

List of E Learning sites

1. <https://nptel.ac.in/courses/112107143/22>

Suggested Student Activities

1. . Student visits Library to refer Text books, trade newspapers, journals.
2. Visit nearby Industry to familiarize with various management techniques, maintenance procedures, etc.
3. Meet entrepreneurs.
4. Quiz.
5. Group discussion.
6. Surprise test.
7. Assignments
8. Seminars
9. Prepare a project report on starting an apparel industry.

CO PO Mapping matrix											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	MAPPED PO'S
CO1	2	3					3	3	2	1	1,2,5,6,7,8,9,10
CO2	2	3					3	3	2	3	1,2,3,4,7,8,9
CO3	2	3						2	2	2	1,2,5,9,10
CO4	2	3					3				1,2,5,7,9,10
CO5	2	3									1,2,9,10
CO6	2	3						1	1	1	1,2,9,10

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Board Diploma Examination
D G T Fifth Semester Mid 1 Examination
Industrial Management and Entrepreneurship

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term management.
2. Define the term administration.
3. Define the term entrepreneur
4. Define the term entrepreneurship.

PART B

2 X3= 6 Marks

Answer a or b choice in each question.

5. (a) Write the ventures for which private company organization is suitable.

OR

(b) Write the merits of joint stock company.

6. (a) Write six qualities of an entrepreneur.

OR

(b) Write the features of TS iPASS

PART C

2X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Explain the advantages of sole proprietorship.

Or

(a) Describe the different types of partners.

8. (a) Describe the role of Entrepreneur in a business.

Or

(b) Explain the factors influencing entrepreneurial failure

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Board Diploma Examination
D G T Fifth Semester Mid 2 Examination
Industrial Management and Entrepreneurship

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Mention two advantages of single storey building for industry.
2. State the concept of plant.
3. State the concept of ethics.
4. State the concept of professionalism.

Part B

2 X3=6 Marks

Answer a or b choice in each question.

5. (a) State the objectives of plant maintenance.

Or

- (b) State the importance of plant maintenance

6. (a) State the ethical dilemmas.

Or

- (b) State the ethics training programme

Part C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Explain the considerations in building design.

Or

- (b) Explain predictive maintenance

8. (a) Explain the ethical problems in business.

Or

- (b) Explain the ways to make business ethical.

Board Diploma Examination
D G T Fifth Semester End Examination
Industrial Management and entrepreneurship

Time 2 Hour

Marks 40

Part A

8 X1= 8 Marks

Answer all questions

1. Define the term entrepreneur
2. State the concept of plant.
3. Define the term wage.
4. Define the term management
5. List the types of stores.
6. Define the term security deposit.
7. Define the term first aid
8. List two laws related to wages.

Part B

4X3 12 Marks

Answer a or b choice in each question.

9. (a) Write six qualities of an entrepreneur

OR

- (b) Explain CARDEX method.

10. (a) Write the objectives of plant maintenance.

OR

- (b) List the laws relating to workers association.

11. (a) State the necessity for physical verification of stores.

OR

- (b) State the disadvantages of physical stock taking.

12. (a) State the importance and necessity of labour legislation.

OR

- (b) State the principles of labour legislation

PART C

4 X5 =20 Marks

Answer a or b choice in each question.

13. (a) what are the factors influencing entrepreneurial failure

OR

(b) Explain the points to consider in protection of stores.

14. (a) Explain predictive maintenance

OR

(b) Describe the employer and employee relations.

15. (a) Describe the procedure for opening of tenders, comparative statement, purchase order and bills/invoice

OR

(b) Describe the different stores equipment

16. (a) describe the direct costs of an accident

OR

(b) Explain the direct and indirect costs of an accident.

18GT - 505 A TECHNICAL TEXTILES

Course Title : TECHNICAL TEXTILES	Course Code : 18GT-505A
Semester : V	Course Group : Elective
Teaching Scheme in Pds . (L: T:P): 3:1.:0	Credits : 3
Methodology : : Lecture + Tutorial	Total Contact Periods : 60
CIE : 60 Marks	SEE : 40 Marks

Prerequisite

Science knowledge acquired in school education and knowledge of textile fibres manufacturing and properties.

Course Objectives:

1. Differentiate the requirements of textiles for different end uses in various fields like military, sports, acoustics, transportation agriculture, filtration medical, safety and geoapplications.

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Classify the military textiles based on end use and manufacturing and properties.	R/U/	1,2,10	10
CO2	Relate the geotextiles usage for various end uses based on their properties.	R/U/	1,2,10	10
CO3	Distinguish the essential qualities of textiles for uses in acoustic, sports and transportation.	R/U/A	1,2,10	10
CO4	Identify the uses of technical textiles for safety and protective end uses.	R/U/A	1, 2,10	10
CO5	Identify the use of technical textiles for agriculture related activities and filtration work	R/U/A	1, 2,10	10
CO6	Identify the uses of medical textiles for medical uses.	R/U/A	1, 2,10	10
				60

- 1. Unit 1 Military Textiles:** **Duration 10 Periods:**
 Technical textiles - definition – fibres used in making technical textiles - fabric formation methods used in making technical textiles - Typical military textiles and apparel items – minimum 30 items. Requirements of military textiles along with reasons. physical - environmental camouflage, concealment and deception - flame, heat and flash protection - specific battle field hazards - economic considerations. Textiles for Ballistic Protection- Principles of ballistic protection-Fibres and fabrics used in ballistic protective clothing manufacture. Important design considerations for ballistic protection. Nuclear protective fabric Military textiles for personal protection – under wear materials the uses of textiles in defense for various purposes like camouflaging. - chemical and biological protection, personal wear
- 2. Unit 2 Geotextiles:** **Duration 10 Periods**
 Definition of geotextiles- Fibres used in geotextiles (only list of names of textile fibres used in making geotextiles) Classification of geotextiles based on manufacture - 1. Woven geotextiles - Knitted geotextiles - Nonwoven geotextiles (a) Needle punching 2 Thermal bonding, 3 Chemical bonding - 4. Stitch-bonded geotextiles - 5. Geogrids-6. Geonets - 7. Geomembranes - 8. Geocomposites- 9. GCLs - Properties of Geotextiles – Physical properties – mechanical properties - Endurance, Degradation, and Survivability Properties - Hydraulic Properties- (the selection criteria) methods used by a geotextile designer in selection of a geotextile for a particular application - important criteria and principal properties required for geotextile evaluation.- table showing steps for designing with geotextiles using a geotextile design chart. - applications of geotextiles in (a) road work (b) railway work (c) river canals and coastal works (d) drainage (e) agriculture (f) sports field construction.
- 3. Unit 3 Acoustics Sports and Transportation Textiles:** **Duration: 10 Periods**
 Define the term sound. The four principles behind the methods used to reduce sound -- the reasons for using acoustic textiles. Textile properties /factors affecting sound absorption – (1) material thickness, fibre size, porosity, density, compression airflow resistance, surface impedance, position of sound absorbers, density and tortuosity. Aspects of sports uniform – requirements, fibre and fabric used - the general requirements of sports textiles. The fibres/ fabrics, manufacturing methods used in sports textiles. The uses of textiles in footwear. The uses and properties of textiles for use in sports surfaces like – field covers and hot – air ballooning. requirements of textiles for use in transportation.
- 4. Unit 4 Safety and Protective Textiles :** **Duration : 10 Periods**
 :Conditions for which safety and protective clothing is required – High temperature textiles- Factors to consider in selecting a high temperature fibre/fabric- Flame resistant protective clothing – ways to achieve flame resistance in fabrics- flame resistance fibres and fabrics- flame resistant cotton – Nomex – Trinex- Requirements for flame resistant textiles- Applications of FR Textiles- Fire fighters protective clothing- Mechanical protection – gloves- chain saw clothing – Clean room textiles- clean room classification and required garment types- fabrics for clean rooms.
- 5. Unit 5 Agri Textiles and Textiles in Filtration :** **Duration : 10 Periods**
 List of textile fibres used in making textiles for agricultural use- properties required for agro textiles- manufacturing process of agro textiles- weaving- knitting – non woven- advantages of agro textiles- applications of agro textiles- agro textiles for production of crops: sun screen- bird protection net –

plant net- ground cover- wind shield- root ball net – insect meshes- mulch mats – monofil nets- anti hail stone net- harvesting net - cold and frost control fabric- nets for covering pallets- packing materials for agricultural products.- Agro textiles for horticulture and floriculture: Agro textiles for animal husbandry-Hail protection fabrics -Mulch net - Rain protection fabrics - Wind control fabrics -Harvesting nets – agro textiles for animal husbandry. Define the following terms - filtration, pressure drop, filter efficiency, filter capacity, cleaning efficiency- degree of filtration. The principles of filtration. The classification of filtration - the methods of filtration with examples. The reason for using non – woven's in filtration. The reasons for using synthetic fibres for filtration

6. : **Unit 6 Medical Textiles :**

Duration: 10 Periods

medical textiles- fibres used in making medical textiles – classification of medical textiles – materials used in bio textiles- characteristics of materials for medical use- biodegradability and bio absorbability- blood compatibility – textiles for implantation – cardio vascular implants - sutures – soft tissue implants – tendons and ligaments – skin dressings – hard tissue implants – vascular implants – bio materials in ophthalmology- dental bio materials – non implantable textiles – non implantable textile materials - surgical dressings – bandages – textiles for extracorporeal devices – materials used in extracorporeal devices- health care and hygiene products – product application – fiber type - protective health care garments/Products. Define the following terms: 1 autograft 2 biodegradation 3 bio textile 4 hydrolysis 5 in vitro 6 invivo 7 limited oxygen index 8 scaffold 9 tissue engineering 10 phase changing material.11 chromism

Recommended Books

1. Geotextile: its application to civil engineering – overview - National Conference on Recent Trends in Engineering & Technology - Dr. Bipin J Agrawal - Department of Textile Chemistry, Faculty of Technology & Engineering, - The Maharaja Sayajirao University of Baroda, Vadodara-390 001; IND – May 2011. (unit 2 reference)
2. Rajiv Padhye – Acoustic Textiles – Springer Science+Business Media Singapore Pvt Ltd
3. . “Handbook of Technical Textiles”, Ed. A R Horrocks and S C Anand, Woodhead Publication Ltd., Cambridge (2000).
4. Engineering with Geosynthetics, Ed. G V Rao and G V S Raju, Tata McGraw Hill Publishing Co. Ltd., New Delhi (1990).
5. Indian journal of Fibre and Textile Research – vol 22 December 1997 – pp 348 -352 – SabitAdanur and AshutoshTiwari.
6. Eugene Wilusz – Military Textiles – Wood head Publishing Limited – England (reference book).
7. Handbook for Geosynthetics – 2013 Ministry of textiles – Govt of India.
8. International Journal of Advance Research in Science and Engineering vol No 2 Issue No 7 July 2013 – Applications of textiles in Agriculture – Sunil K Agarwal.
9. Indian Textile Journal – May 2011

specific Learning Outcomes

On completion of the course, the student shall be able to:

1. Military Textiles

- 1.1 Define the term technical textiles.
- 1.2 List the natural fibres used in making of technical textiles.
- 1.3 List the man-made fibres used in making technical textiles.
- 1.4 List the fabric formation methods used in making technical textiles.

- 1.5 List the typical military textiles and apparel items – minimum 20 items.
- 1.6 Explain the physical requirement of military textiles along with reasons.
- 1.7 Explain the environmental requirements of textiles along with reasons (comments).
- 1.8 Explain the camouflage, concealment and deception requirements of military textiles along with reasons.
- 1.9 Explain the requirements for flame, heat and flash protection of military textiles along with reasons.
- 1.10 Explain the specific battle field hazards requirements of military textiles along with reasons.
- 1.11 Explain the economic considerations of military textiles along with reasons. Explain the principles of ballistic protection.
- 1.12 List the fibres and fabrics used in ballistic protective clothing manufacture.
- 1.13 Explain the important design considerations for ballistic protection.
- 1.14 Explain the following aspects of nuclear protective clothing – (a) requirements (b) fibres and fabrics used.
- 1.15 Explain the requirements of underwear materials for use by defense people.
- 1.16 Explain the requirements of military textiles for personal protection.
- 1.17 Explain the nuclear protective fabric.
- 1.18 Explain the uses of textiles in ballistic protection.
- 1.19 Explain the uses and requirements of textiles for camouflaging.
- 1.20 Explain the uses and requirements of textiles for chemical and biological protection in defense field.

2. GEOTEXTILES:

- 2.1 Define geotextiles.
- 2.2 Define the term geosynthetics.
- 2.3 Draw the flow chart to show geotextiles/ classification.
- 2.4 List the fibres used in making geo textiles and the reasons for using geotextiles.
- 2.5 List the five categories of geo textiles.
- 2.6 List the two most common fibre polymers used in the manufacture of geotextiles.
- 2.7 Explain the woven geotextiles.
- 2.8 Explain the following properties of geotextiles - Physical properties, mechanical properties, Endurance, Degradation, and Survivability Properties, filtration properties and Hydraulic Properties.
- 2.9 Explain the (selection criteria) method used by a geotextile designer in selection of a geotextile for a particular application.
- 2.10 Tabulate the important criteria and principal properties required for geotextile evaluation.
- 2.11 Explain the steps for designing with geotextiles using a geotextile design chart.
- 2.12 State the applications of geotextiles in (a) road work (b) railway work (c) river canals and coastal works (d) drainage (e) agriculture (f) sports field construction.

3. Acoustics Sports and Transportation Textiles

- 3.1 Define the term acoustics.
- 3.2 Define the term sound.
- 3.3 Explain the four principles behind the methods used to reduce sound.
- 3.4 List the reasons for using acoustic textiles.
- 3.5 Explain the following textile properties /factors affecting sound absorption – (1) material thickness, fibre size, porosity, density, compression airflow resistance, surface impedance, position of sound absorbers, density and tortuosity.
- 3.6 Explain the use of acoustic textiles in vehicles.
- 3.7 Explain the following aspects of sports uniform – requirements, fibre and fabric used
- 3.8 Explain the general requirements of sports textiles.
- 3.9 List the fibers/ fabrics, manufacturing methods used in sports textiles.

- 3.10 Explain the uses of textiles in footwear.
- 3.11 Explain the uses and properties of textiles for use in sports surfaces like – field covers and hot – air ballooning.
- 3.12 List three requirements of textile fibres for use in transportation.

4. Safety and Protective Textiles:

- 4.1 Define the term safety and protective textiles.
- 4.2 State the conditions for which safety and protective clothing is required.
- 4.3 Define the term high temperature textiles.
- 4.4 List the high temperature textile fibres.
- 4.5 Explain the typical applications of high temperature fibres along with desirable properties.
- 4.6 Explain the factors to consider in selecting a high temperature fibre/fabric.
- 4.7 Explain the ways to obtain flame resistance in fabrics.
- 4.8 Explain flame resistant fibres and fabrics.
- 4.9 State the requirements of flame-resistant textiles.
- 4.10 Describe the features of fire fighters protective clothing.
- 4.11 State the uses of FR fabric in furniture manufacturing.
- 4.12 State the purpose of chemical protective clothing.
- 4.13 Explain the four levels of protection against chemicals as given by environmental protection agency.
- 4.14 Explain the requirements of gloves and chain saw clothing for mechanical protection
- 4.15 Define clean room textiles.
- 4.16 Explain the garment requirements for different clean room classification.
- 4.17 Explain the fabrics used for clean rooms.

5. Agri Textiles and Textiles in Filtration

- 5.1 List the textile fibres used in making textiles for agricultural use.
- 5.2 Explain the desirable properties required for agro textiles-.
- 5.3 Explain the manufacturing of agro textiles by the following methods - weaving- knitting – non-woven.
- 5.4 Explain the advantages of agro textiles.
- 5.5 Explain the various applications of agro textiles.
- 5.6 Explain the uses of Agro textiles for horticulture, floriculture: Agriculture and animal husbandry.
- 5.7 Define the following terms filtration, pressure drop, filter efficiency, filter capacity, cleaning efficiency
- 5.8 Define degree of filtration.
- 5.9 Explain the principles of filtration.
- 5.10 Explain the mechanism by which particles are removed by fabric media (screening or staining, Depth filtration, Cake filtration).
- 5.11 Explain the classification of filtration.
- 5.12 Explain the filtration equipment considerations.
- 5.13 State the methods of filtration with examples.
- 5.14 State the reason for using non – woven's in filtration.
- 5.15 State the reasons/advantages for using synthetic fibres for filtration.
- 5.16 State the following terms 1 Cartridge filtration 2 Centrifugal separators 3 chemical filtration 4 Electostatic filtration 6 ultra filtration.7 Filtrate throughput.

6. Medical textiles

- 6.1 Define Medical textiles.
- 6.2 List the fibres used in making medical textiles.
- 6.3 Explain the classification of medical textiles with examples (implantable, non implantable, extra corporeal devices, health care and hygiene products).

- 6.4 Explain the materials used in bio textiles.
- 6.5 Explain the characteristics of materials for medical use.
- 6.6 State the essential properties of medical textiles.
- 6.7 Define the following: biodegradability, bio absorbability- blood compatibility.
- 6.8 Explain the different surgical clothing – gowns, caps, masks, gloves, aprons.)
- 6.9 Explain the surgical covers – drapes, clothes.
- 6.10 Explain the following health care and hygiene products – bedding (blanket, sheets, mattress, pillow covers), diapers, sanitary napkins and wipes.
- 6.11 State the requirements of health care and hygiene products.
- 6.12 Explain the uses of textiles for medical implantation. (orthopedic and cardiovascular implants)
- 6.13 Explain soft tissue implants.
- 6.14 Explain the functions, system fibre type and key points for the use of the following extra corporeal devices- artificial kidney, liver, mechanical lung
- 6.15 State the requirements of suture thread.
- 6.16 State the performance requirements for face mask.
- 6.17 List the face masks into three levels based on the standard performance specifications.
- 6.18 Explain the main functions of wound dressings.
- 6.19 Analyze the use of textiles for non-implantable applications. (absorbent pads, wound contact layers, bandages, plasters, gauze, wadding)
- 6.20 State the properties of primary wound dressing materials.
- 6.21 Explain the use of textiles for extracorporeal devices.
- 6.22 Explain the various health care and hygiene products.
- 6.23 State the uses of bandages, stocking
- 6.24 Explain the standards specified for the elastic stocking used for medical care.
- 6.25 Classify surgical sutures based on chemical and physical characteristics.
- 6.26 Define the following terms: 1 autograft 2 biodegradation 3 bio textile 4 hydrolysis 5 in vitro 6 invivo 7 limited oxygen index 8 scaffold 9 tissue engineering 10 phase changing material.11 chromism. 12 inflammation 13 hemostasis

SUGGESTED STUDENTS ACTIVITIES

1. Visit library to refer books, journals and scientific articles in newspaper.
2. Visit nearby hospitals, to see usage of technical textiles.
3. Collect samples of technical textiles.
4. Group discussion.
5. Seminar.
6. Surprise test.
7. Assignments
8. Poster preparation on any one category of technical textiles.

List of E Learning Sites

1. www.nptel.as.in
2. <https://www.technicaltextile.net/articles/automotive-textile-4712>
3. <https://en.wikipedia.org>
4. www.fibre2fashion.com
5. indiantextilejournal.com/articles/FAdetails.asp?id=3557

Board Diploma Examination
D G T Fifth Semester Mid 1 Examination
Technical Textiles

Time 1 Hour

Marks: 20

Part A

4 X1 = 4 Marks

Answer all questions and each question carries one mark

1. Define the term technical textiles.
2. List the natural fibres used in making of technical textiles.
3. Define geotextiles.
4. Define the term geosynthetics.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Explain the requirements of underwear materials for use by defense people

Or

- (b) Explain about the nuclear protective fabric.

6. (a) Explain physical properties of geotextiles.

Or

- (b) Write the applications of geotextiles in road work.

Part C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) what are the various textile and apparel items used in military

Or

- (b) Explain the uses and requirements of textiles for camouflaging

8. (a) what are the essential mechanical properties of geotextiles

Or

- (b) Tabulate the important criteria and principal properties required for geotextile evaluation.

Board Diploma Examination
D G T Fifth Semester Mid 2 Examination
Technical Textiles

Time 1 Hour

Marks: 20

Part A

4 X1 = 4 Marks

Answer all questions and each question carries one mark

1. Define the term acoustics.
2. Define the term sound.
3. Define the term safety and protective textiles.
4. Define clean room textiles.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Write the reasons for using acoustic textiles.

Or

- (b) Explain the use of acoustic textiles in vehicles

6. (a) Write the conditions for which safety and protective clothing is required.

Or

- (b) State the requirements of flame-resistant textiles

Part C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Explain the general requirements of sports textiles.

Or

- (b) what are the uses of textiles in footwear.

8. (a) Explain the garment requirements for different clean room classification.

Or

(b) Explain the fabrics used for clean rooms

Board Diploma Examination(C18)
D G T Fifth Semester End Examination
Technical Textiles

18GT505A

Time 2 Hour

Marks: 40

Part A

8 x 1 = 8 marks

Answer all questions and each question carries one mark

1. List the natural fibres used in making of technical textiles.
2. Define the term sound.
3. Define the term cartridge filtration.
4. Define the term centrifugal separation.
5. Define chemical filtration define electrostatic filtration.
6. Define the term ultrafiltration.
7. Define the term medical textiles.
8. List the fibres used in making medical textiles.

Part B

4 X3 = 12 Marks

Answer a or b choice in each question.

9. (a) Explain the requirements of underwear materials for use by defense people

Or

(b) Explain the advantages of agro textiles

10. (a) Explain the use of acoustic textiles in vehicles

Or

(b) Explain the materials used in bio textiles

11. (a) Explain the uses of Agro textiles for horticulture

Or

(b) Explain the uses of Agro textiles for floriculture

12. (a) Write the requirements of suture thread.

Or

(b) Write the performance requirements for face mask

Part C

4 X5 = 20 MARKS

Answer a or b choice in each question.

13. (a) Tabulate the important criteria and principal properties required for geotextile evaluation.

OR

(b) Explain the filtration equipment considerations

14. (a) Explain the garment requirements for different clean room classification.

Or

(b) Explain the main functions of wound dressings

15. (a) Explain the manufacturing of agro textiles by the following methods – weaving

Or

(b) Explain the mechanism by which particles are removed by fabric media (screening

16. (a) Explain the use of textiles for extracorporeal devices.

Or

(b) Explain the various health care and hygiene products.

18GT – 505B – KNITTED AND NON-WOVEN TEXTILES

Course Title : Knitted and Non-Woven Textiles	Course Code : 18GT-505B
Semester : V	Course Group : Elective
Teaching Scheme in Periods (L:T:P) : 3 :1:0	Credits : 3
Methodology : : Lecture + Tutorial	Total Contact Periods : 60
CIE : 60 Marks	SEE : 40 Marks

Prerequisite: knowledge of science acquired in school education.2 textiles knowledge acquired in previous semesters of the diploma

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Indicate the concepts involved in making of fabric by knitting	R/U/	1,2,10	08
CO2	Identify the technology involved in making weft knitted fabrics.	R/U/	1,2,10	10
CO3	Distinguish the warp knitting techniques.	R/U/A	1,2,10	10
CO4	Examine the knitted fabrics based on the quality aspects	R/U/A	1, 2,10	10
CO5	Distinguish the methodology involve in making non – woven fabrics.	R/U/A	1, 2,10	12
CO6	Distinguish the finishing treatments given to non-woven fabrics.	R/U/A	1, 2,10	10
				60

Course content:

1. **UNIT 1 - Knitting Basics :** **Duration: 8 Periods**
 Definition of knitting- wale- course- stitch density- warp knitting- weft knitting- technical upright – fabric draw off - needle loop - principles of hand knitting - Drawings to show direction of movement of yarn in warp and weft knitting- - Classification of weft knitting machines- Classification of warp knitting machines-Flow chart of weft knitting - advantages of knitting- reasons for growth of knitting- Four main types of knitting industry. Comparison between weaving and knitting-Comparison between warp knitting and weft knitting.
2. **UNIT 2– Weft Knitting:** **Duration: 10 Periods:**
 jack sniker loop- overlap – underlap closed lap -open lap - wrapping -needles used in knitting- latch -bearded- compound or bi-partite needle-main parts of bearded and compound needles- classification of latch needle based on manufacturing -wire needle- die cut needle- sinkers- shapes of sinkers- main parts of sinker- functions of sinker- functions of holding down sinker - Phases of operation of sinkers in weft knitting- knitting cam system- knitting action of latch needle- knitting action of bearded needle- single and double jersey knitting- Features of plain (single jersey) knitting (machine, process and structure)- features of rib knitting(machine, process and structure) – features of purl knitting(machine, process, structure)- comparison between rib and interlock knitting- comparison between rib and purl knitting .
3. **UNIT 3 Warp Knitting:** **Duration 10 Periods**
 knitted stitch – single faced structure – double faced structure – balanced structure – selvaged fabric -cut edge fabric comparison between tricot and Raschel type warp knitting machine- knitting elements- latch guard or wire- sinkers and sinker bar- guides and guide bars- trick plates- pattern wheels and chain links- warp beam- tricot knit process- properties of tricot knits- uses of tricot knit- tricot knit fabric types- plain tricot, or tricot jersey- satin tricot- mesh and fancy open effect tricot- clipped dot tricot- upholstery tricot- napped or brushed tricot- Raschel knits- KettenRaschel knit- Milanese knit- Simplex knit.
4. **Unit 4 Quality Aspects in Knitting:** **Duration 10 Periods**
 important checking points in knitting – checking/testing of yarn- checking of machine- checking/setting of process and machine parameters- checking of knitted fabrics- tests for knit fabric quality – checking of knit wear / garments- Faults in knitted fabric - sources of faults- types of faults in knitted fabrics((vertical lines, horizontal lines , holes and cuttings , drop stitches , distorted stitches , press off , bursting, barre , off pattern bias , soiling ,big knots, motes and foreign matter, snagging , colour fly , winder line and oil stains) - causes for the faults- spirality in knitted structures – factors affecting spirality – – relationship between yarn properties and knitted fabric qualities – pre requisites for faultless production in knitting- main factors affecting the dimensional properties of knitted fabric/ garment- on line quality control – sensors and controllers found in modern knitting machines.
5. **UNIT5Non-WovenFabricFormation–** **Duration12Periods:**
 web formation: Three key features of non wovens- Criteria for selection of fibres for non-woven manufacturing- definition of composite non woven- - Web formation – parallel laid web- cross laid – web- random laid web- high – velocity sprayed web- air laid web- wet lay web - Bonding the web: Resin bonding- latex foam bonding- gelatin bonding- thermoplastic bonding- spun bonding- spun laced bonding- melding- radiation bonding- composite bonding- stitch through bonding- printed adhesive bonding.

6. Unit 6 Finishing Process of Non-Woven's:

Duration 10 Periods

Mechanical finishing: splitting and winding - perforating drying - compressive finishing.- calendaring - singeing - shearing - flocking - raising - seuding- polishing - softening- heat setting finish .**chemical** finishes – 1 antistatic 2 antimicrobial 3 flame proof , water proof – lubricants - softener - the advantage of using stiffeners in the chemical finishing of non woven's - purpose of using u v stabilizers. Methods of applying chemical finishes to non wovens – 1 dyeing 2 printing 3 padding 4 coating,5 lamination.

Specific Learning Outcomes:

On completion of the course, the student shall be able to:

1. Knitting Basics:

- 1.1 Define the following terms – knitting, Wales, course, stitch density, warp knitting and weft knitting, technical upright.
- 1.2 Illustrate the movement of yarn in warp and weft knitting.
- 1.3 Explain the principles of hand knitting.
- 1.4 Explain the classification of weft knitting machines
- 1.5 Explain the classification of warp knitting machines.
- 1.6 Explain the reasons for the growth of knitting industry.
- 1.7 State the four main types of knitting industry.
- 1.8 Compare the features / techniques, machines and products of knitting with weaving.
- 1.9 Explain the advantages of knitting.
- 1.10 Compare warp knitting with weft knitting.
- 1.11 Define the following terms: dipped hosiery, closed toe knitting and seamless hosiery.
- 1.12 Define hosiery yarn.
- 1.13 Define the term loop, needle loop, sinker loop, fabric draw off

2. Weft Knitting

- 2.1 Define the terms: jack sniker loop- overlap – underlap closed lap -open lap - wrapping
- 2.2 Explain the parts of a latch needle.
- 2.3 List the advantages of latch needle.
- 2.4 Explain the parts of bearded needle.
- 2.5 List the main parts of Compound needle.
- 2.6 Describe the classification and specifications of latch needle based on manufacturing.
- 2.7 Define the term sinker.
- 2.8 State the function of sinker.
- 2.9 State the main parts of the sinker.
- 2.10 State the functions of the holding down sinker used in circular weft knitting machine.
- 2.11 Explain the phases of operation of sinker in weft knitting.
- 2.12 Describe the knitting cam system.
- 2.13 Describe the knitting action of the latch needle.
- 2.14 Describe the knitting action of bearded needle.
- 2.15 Describe the features of plain (single jersey) knitting (machine, process and structure).
- 2.16 Explain the features of rib knitting (machine, process and structure).
- 2.17 Explain the features of purl knitting (machine, process, structure).
- 2.18 Compare rib and interlock knitting.
- 2.19 Compare rib and purl knitting.

2.20 Define the term Fashioning.

3. Warp Knitting:

- 3.1 Define the terms: knitted stitch – single faced structure – double faced structure – balanced structure – selvedged fabric -cut edge fabric.
- 3.2 Compare tricot warp knitting machine with Raschel warp knitting machine.
- 3.3 Explain the functions of knitting elements latch guard or wire- sinkers and sinker bar- guides and guide bars- trick plates- pattern wheels and chain links- warp beam.
- 3.4 Describe tricot knit process.
- 3.5 Explain the properties of tricot knits.
- 3.6 State the uses of tricot knit.
- 3.7 Describe the different tricot knit fabrics like plain tricot, or tricot jersey, satin tricot, mesh and fancy open effect tricot, clipped dot tricot, upholstery tricot, napped or brushed tricot, Raschel knits, KettenRaschel knit, Milanese knit and Simplex knit.

4. Quality Aspects in Knitting

- 4.1 List the important checking points of the yarn used in knitting.
- 4.2 List the important checking points of the machine used in knitting.
- 4.3 List the checking of setting of process and machine parameters to be checked in knitting.
- 4.4 List the important parameters of the knitted fabric to be checked.
- 4.5 Mention the tests for knitted fabric quality.
- 4.6 Name the points to be checked in knit wear garments.
- 4.7 Name the sources of faults in knitted fabrics.
- 4.8 List the faults seen in a knitted fabric and explain the causes for the faults.
- 4.9 List the factors other than twist liveliness (high twist multiplier) which affect spirality.
- 4.10 Explain the effect of yarn faults /defect on the appearance of fabric.
- 4.11 Explain the pre-requisites for faultless production in knitting
- 4.12 Explain the main factors affecting the dimensional properties of knitted fabric/ garment.
- 4.13 Describe on line quality control.
- 4.14 List the sensors and controllers found in modern knitting machines.

5. Non – Woven Fabric Formation

- 5.1 State the three key features of non wovens.
- 5.2 State the Criteria for selection of fibres for non-woven manufacturing.
- 5.3 Define the term composite non-woven.
- 5.4 Explain the following methods of web formation - parallel laid web- cross laid – web- random laid web- high – velocity sprayed web- air laid web- wet lay random web.
- 5.5 Explain Resin bonding.
- 5.6 Explain latex foam bonding.
- 5.7 Explain gelatin bonding.
- 5.8 Explain thermoplastic bonding.
- 5.9 Explain spun bonding.
- 5.10 Describe spun laced bonding.
- 5.11 Describe melding.
- 5.12 Describe radiation bonding.
- 5.13 Describe composite bonding.
- 5.14 Explain stitch through bonding.
- 5.15 Explain printed adhesive bonding.
- 5.16 Explain needle punching the web.
- 5.17 Define the following terms: point bonding, print bonding, saturation bonding, spray bonding. Adhesive migration, anti-felting agents

6. Finishing Process of Non Wovens

- 6.1 Explain splitting and winding perforating mechanical finishes applied to non wovens.
- 6.2 Explain the drying mechanical finish given to non wovens.
- 6.3 Explain compressive finishing.
- 6.4 Explain calendaring finish given to non wovens.
- 6.5 Explain the singeing and shearing finish given to non-woven fabrics.
- 6.6 Explain the flocking and raising finish given to non-woven fabrics.
- 6.7 Explain the seuding and polishing finish given to non-woven fabrics.
- 6.8 Explain softening and heat setting finish given to non wovens.
- 6.9 Explain the following mechanical finishes – 1 antistatic 2 antimicrobial 3 flame proof, water proof.
- 6.10 State the advantage / changes brought about by softener used in mechanical finishing of non wovens.
- 6.11 List the non-woven fabrics for which softener finish is applied.
- 6.12 State the advantage of using stiffeners in the chemical finishing of non wovens.
- 6.13 State the purpose of using u v stabilizers.
- 6.14 Explain the methods of applying chemical finishes to non wovens – 1 dyeing 2 printing 3 padding 4 coating.5 lamination.

CO PO Mapping Matrix											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	MAPPED PO'S
CO1	2	3									1,2,10
CO2	2	3									1,2,10
CO3	2	3									1,2,10
CO4	2	3									1,2,10
CO5	2	3									1,2,10
CO6	2	3									1,2,10

Recommended books

1. Fundamentals and Advances in Knitting Technology-Sadhan Chandra Ray- Woodhead Publishing India Pvt Ltd- New Delhi.
2. Textiles Fiber to Fabric- Bernard P Corbman
3. Non-Woven Fabrics- Han Yong- Jeon
4. [https://nptel.ac.in/courses/116102014/13\(6th topic\)](https://nptel.ac.in/courses/116102014/13(6th%20topic))

Suggested students' activities

1. Visit library to refer books, journals and scientific articles.
2. Visit nearby knitting and non-woven units.
3. Group discussions
4. Quiz
5. Seminar.
6. Surprise test

7. Assignments
8. Collection of samples/photos.
9. Knitting basics (CO1, PO 9) – Poster preparation.
10. Weft knitting needles and machinery (CO 2, PO 9) – Brochure preparation.
11. Warp knitting fabrics (CO3, PO9) – Fabric samples brochure.
12. Quality parameters in knitting (CO4, PO 9) – Brain storming session.
13. Non-woven fabric formation methods (C05, PO 9) – brain storming session.
14. Finishing treatments given to non wovens – (CO6, PO 9) – Poster preparation.

List of E Learning sites

1. nptel.ac.in

(C18) 18GT505B

Board Diploma Examination(C18)
D G T Fifth Semester Mid 1 Examination
Knitted and Non – Woven Textiles

Time 1 Hour

Marks: 20

Part A

4 x 1 = 4 marks

Answer all questions and each question carries one mark

1. Define the term knitting.
2. Define the term wale.
3. Define the term sinker
4. State the function of sinker.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Illustrate the movement of yarn in warp and weft knitting.
Or
(b) Explain the principles of hand knitting
6. (a) Compare rib and interlock knitting.
Or
(b) Compare rib and purl knitting

Part C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Explain the classification of weft knitting machines
Or
(b) Explain the classification of warp knitting machines.
8. (a) Describe the knitting action of the latch needle.
Or
(b) Describe the knitting action of bearded needle.

18GT505B

Board Diploma Examination(C18)
D G T Fifth Semester Mid 2 Examination
Knitted and Non – Woven Textiles

Time 1 Hour

Marks: 20

Part A

4 x 1 = 4 marks

Answer all questions and each question carries one mark

1. State the use of tricot knit.
2. State the function of warp beam.
3. Name the points to be checked in knit wear garments.
4. Name the sources of faults in knitted fabrics.

Part B

2 X3 = 6 Marks

Answer a or b choice in each question.

5. (a) Describe tricot jersey.

Or

(b) Describe satin tricot.

6. (a) Describe on line quality control.

Or

(b) Explain any two causes for faults in knitted fabric.

Part C

2 X5 = 10 Marks

Answer a or b choice in each question.

7. (a) Compare tricot warp knitting machine with Raschel warp knitting machine.

OR

(b) Describe clipped dot tricot, upholstery tricot and napped tricot.

8. (a) Explain the effect of yarn faults /defect on the appearance of fabric.

OR

(b) Explain the pre-requisites for faultless production in knitting

Board Diploma Examination(C18)
D G T Fifth Semester End Examination
Knitted and Non – Woven Textiles

Time 2 Hour

Marks: 40

Part A

8 x 1 = 8 marks

Answer all questions and each question carries one mark

1. Define the term knitting
2. State the function of warp beam
3. Define the term composite non-woven.
4. Define the term jack.
5. Define the term point bonding.
6. Define the term print bonding.
7. Define antistatic finish
8. Define anti-microbial finish.

Part B

4 X3 = 12 marks

Answer a or b choice in each question.

9. (a) Explain the principles of hand knitting.

Or

- (b) Explain thermoplastic bonding.

10. (a) Describe satin tricot.

Or

- (b) Explain the drying mechanical finish given to non wovens

11. (a) Explain spun bonding

Or

- (b) Explain spun laced bonding

12. (a) Explain compressive finishing

Or

(b) Explain calendaring finish given to non wovens.

Part C

4 X5 = 20 Marks

Answer a or b choice in each question.

13. (a) Explain the classification of weft knitting machines.

OR

(b) Describe radiation bonding.

14. (a) Compare tricot warp knitting machine with Raschel warp knitting machine

OR

(b) Explain the singeing and shearing finish given to non-woven fabrics.

15. (a) Explain parallel laid web formation.

OR

(b) Explain cross laid web formation

16. (a) Explain the drying mechanical finish given to non wovens

OR

(b) Explain the flocking finish given to non wovens.

18GT 506 P - Fashion Accessories and Indian Textiles Lab Practice

Course Title	Fashion Accessories and Indian Textiles Lab Practice	Course Code	18GT-506P
Semester	V	Course Group	Core/Practical
Teaching Scheme in Hrs. (L: T:P)	1:0:2	Credits	1.5
Methodology	Lecture + Practical	Total Contact Periods	45
CIE	60 Marks	SEE	40 Marks

Pre-requisites

This course requires the sewing skills and drawing skills

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Design/creativity/material selection/colour combination	Quality of Construction	Appropriate Finishing technique/ Neatness		
1	Hand Bag and Purse	15	10	25	05	40	100
2	Jewellery	15	10	25	5	40	100
3	Indian Embroidery and Smocking	15	05	30	5	40	100
Total		45				40	100

Course objective:

1. Design and develop fashion accessories and embroidery and smocking products.

Course outcomes

Course Outcome		CL	Linked PO	Teaching Periods	Experiment Linked
CO1	Design/draw, draft and stitch hand bag and hand purse	R/U/A	1,2,3 and 4	15	1
CO2	Design and make aesthetically pleasing, trendy bangles trendy necklace, and ear rings with different materials for the people of different socio-cultural background	R/U/A	1, 2, 3, 4,	15	2
C03	Demonstrate the art of doing Indian embroidery and smocking	U/A	1,2,3,4	15	3

Specific Learning Outcomes:

On completion of the course, the student shall acquire practical competency in:

1. : Hand Bag and Hand Purse

- 1.1 Identify and use the tools required for making hand bag.
- 1.2 Select the sewing machinery suitable for making hand bag.
- 1.3 Draft the pattern for making the hand bag.
- 1.4 Estimate the fabric requirement.
- 1.5 Select the fabric suitable for making hand bag
- 1.6 Select the necessary accessory materials.
- 1.7 Stitch the hand bag with suitable seams and surface enrichment.
- 1.8 Attach necessary fasteners.
- 1.9 Identify and use the tools required for making hand purse.
- 1.10 Select the sewing machinery suitable for making hand purse.
- 1.11 Draft the pattern for making the hand purse.
- 1.12 Estimate the fabric requirement.
- 1.13 Select the fabric suitable for making hand purse.
- 1.14 Select the necessary accessory materials.
- 1.15 Stitch the hand purse with suitable seams and surface enrichment.
- 1.16 Attach necessary fasteners.

2. : Jewellery

- 2.1 Make bangles and ear rings of latest fashions.
- 2.2 Make necklace with any indigenous material.

3. Indian Embroidery and Smocking

- 3.1 Prepare Kasuti embroidery samples.
- 3.2 Design and develop any product with Kasuti embroidery.
- 3.3 Prepare kutch work sample.
- 3.4 Design and develop any product with Kutch embroidery.
- 3.5 Prepare one smocking sample (any one type)

Recommended books

- 1. Mc Calls Sewing in colour- Paul Hamlyn- London.
 - 2. Practical clothing construction- part 1 and 2 - Mary Mathews.
 - 3. G K Ghosh and ShuklaGhosh – Indian Textiles – Past and Present – APH Publishing corporation – New Delhi.
 - 4. Indian Embroidery – JamilaBrijbhushan – publication division, ministry of information and broadcasting – New Delhi.
 - 5. Winefride M Bull – Introduction to Needle work – Longmans.
 - 6. Vivienne Colle’s Make it yourself Boutique – Pocket Books – New York
- Note: Record book should be maintained.

Board Diploma Examination (C18) 18GT506P
D G T Fifth Semester Mid 1 Examination
Fashion Accessories and Indian Textiles Lab Practice

Time:3hrs

Marks :20

Instructions to the Candidate:

(I)Answer any One of the following Questions.

- 1. Prepare a hand bag with the given measurements.**
- 2. Prepare a hand purse with the given measurement**

Semester Mid Examination 2 Model Question paper

DGT Fifth semester practical Examination

Course Code:18GT-506P

Duration:3hrs

Course Name: Fashion Accessories and Indian Textiles Lab Practice

Max.Marks:20

Instructions to the Candidate:

(I)Answer any One of the following Questions.

- 1. Prepare ear rings based on the latest fashion.**
- 2. Prepare a neck lace with beads.**

State Board of Technical Education and Training, Telangana
Semester End Examination Model Question paper
DGT Fifth semester practical Examination

Corse Code:18GT-506P

Duration:3 hours

Course Name: Fashion Accessories and Indian Textiles Lab Practice

Max.Marks:40

-
Instructions to the Candidate:

(I)Answer any One of the following Questions.

1. Prepare a hand bag with the given measurements.
2. Prepare a hand purse with the given measurement.
3. Prepare a pair of jumkis.
4. Prepare a kasooti embroidery sample.
- 5 prepare a smocking sample.

18GT-507 P Advanced Textile Dyeing and Printing Lab Practice

Course Title	Advanced Textile Dyeing and Printing Lab Practice	Course Code	18GT-507 P
Semester	V	Course Group	Core /practical
Teaching Scheme in Hrs. (L: T:P)	1:0:2	Credits	1.5
Methodology	Lecture, demonstration + Practical	Total Contact Periods	45P
CIE	60 Marks	SEE	40 Marks

Pre-requisites

This course requires the dyeing skills acquired in 3rd and 4th semester

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Estimation of dyes/consumables, tools selection	Proficiency in Process execution	Quality parameters		
1	Vat dyes	08	10	25	05	40	100
2	Natural dyes	08	10	25	05	40	100
3	Stencil Printing	09	10	25	5	40	100
4	Marble printing	06	05	30	5	40	100
5	Screen Printing	06	05	25	10	40	100
6	Acid Dyes on silk	08	05	25	10	40	100
Total		45				40	100

Course outcomes

Course Outcome		CL	Linked PO	Teaching Periods	Experiment Linked
CO1	Develop colours on cotton using vat dyes	R/U/A	1,2,3, 4,	08	1
CO2	Develop colours on cotton fabric with natural dyes	R/U/A	1, 2, 3, 4,	08	2
Co3	Develop single colour stencil on a cotton cloth	R/U/A	1,2,3,4	09	3
C04	Develop marble printing designs on paper	R/U/A	1,2,3,4	06	4
Co5	Develop single colour motifs on cotton fabric using screen printing	R/U/A	1,2,3,4	06	5
Co6	Develop acid dyes on silk scarf	R/U/A	1,2,3,4	08	6

Specific Learning Outcomes:

On completion of the course, the student shall acquire practical competency in:

1. Vat dyes

- 1.1 Select the chemicals necessary for applying Vat dyes.
- 1.2 Select tools and equipment's necessary for carrying out the process of applying Vat dyes.
- 1.3 Prepare the samples of light, medium and dark shades using vat dyes on cotton scarfs.

2. Natural Dyes

- 2.1 Aqueous extraction of natural dyes from fresh flowers.
- 2.2 Application of direct dyes following premordanting method on cotton scarf

3. Stencil Printing

- 3.1 Develop a small single colour stencil design on a thick paper.
- 3.2 Develop a single colour stencil design on cotton fabric using the prepared stencil.

4. Marble printing

- 4.1 Develop two colour marble printing designs on paper.

5. Screen Printing

- 5.1 Apply single colour small screen-printing designs on cotton napkin.

6. Acid dyes on Silk

- 6.1 Estimate the chemical requirement and dye requirement for dyeing a silk scarf with acid dyes.
- 6.2 Apply acid dyes on silk scarf.

18GT507P

Board Diploma Examination (C18)
D G T Fifth Semester Mid 1 Examination
Advanced Textile Dyeing and Printing Lab Practice

Time :3 hours

Marks: 20

Answer any one question

1. Apply any vat dye in light shade to the given cotton fabric.
2. Apply any vat dye in medium shade to the given cotton scarf.
3. Apply natural dye using chemical mordants.

(C18) 18GT507 P

Board Diploma Examination (C18)
D G T Fifth Semester Mid 2 Examination
Advanced Textile Dyeing and Printing Lab Practice

Time :3 hours

Marks: 20

Answer any one question

1. Apply stencil printing design in an organized manner on the given cotton fabric.
2. Apply a two colour marbled printing design on the handmade paper.

18GT507P

Board Diploma Examination (C18)

D G T Fifth Semester End Examination

Advanced Textile Dyeing and Printing Lab Practice

Time :3 hours

Marks: 40

Answer any one question

1. Apply stencil printing design in an organized manner on the given cotton fabric.
2. Apply a two colour marble printing design on the handmade paper.
3. Apply vat dye (light shade) to the given cotton fabric.
4. Apply vat dye (medium shade) to the given cotton scarf.
5. Apply natural dye using chemical mordants
6. Enrich the given cotton fabric by applying designs using screen printing technique.
7. Colour the given silk scarf with acid dye.

18GT508 P Consumer Behaviour and Fashion Portfolio Lab Practice

Course title	Consumer Behaviour and Fashion Portfolio Lab Practice	Course Code	18GT-508P
Semester	V	Course Group	Core /practical
Teaching Scheme in Periods (L: T:P)	1:0:2	Credits	1.5
Methodology	Lecture, demonstration + Practical	Total Contact Periods	45
CIE	60 Marks	SEE	40 Marks

Pre-requisites

This course requires creative sewing skills and drawing skills.

Course objective

1. Design and develop a textile/fashion portfolio

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Composition	Quality of Presentation techniques	Precision and final appearance		
1	Mood/Theme/Concept Board /Story Board	8	15	20	5	40	100
2	Colour Board	7	15	20	5	40	100
3	Fabric Swatch Board	7	15	20	5	40	100
4	Technical Flats Drawing	8	15	20	5	40	100
5	Photos and CAD Sketches	7	15	20	5	40	100
6	Illustration Board /Croquis and Customer profile	8	15	20	5	40	100
Total		45				40	100

Course outcomes and CO PO Mapping Matrix					
Course Outcome		CL	Linked PO	Teaching Periods	Experiment Linked
CO1	Prepare a Mood/Theme/Concept/Story Board	R/U/A	1,2,3 and 4	8	1
CO2	Prepare colour board for the selected theme/concept/mood/story board.	R/U/A	1,2, 3,4	7	2
CO3	Prepare a fabric swatch board with collected samples, fabric texture rendering and photos	R/U/A	1, 2, 3,4	7	3
CO4	Design and develop a flats board related to selected theme	R/U/A	1, 2,3,4,9,10	8	4
CO5	Collect relevant photos and draw draped fashion figure using CAD software.	R/U/A	1 ,2,3,4,9, 10	7	5
CO6	Prepare hand drawn sketches of draped fashion figure /Croquis and summarize Customer profile	R/U/A	1,2,3,4,9,10	8	6

Course Content:

1. **Mood/Theme/Concept Board/Story board: Planning of theme** – Preparation of Story Board/Mood Board/Concept board /theme board.
2. **ColourBoard:** Prepare colour board for the selected theme.
3. **Fabric Swatch Board:** Prepare a fabric swatch board with fabric swatches, fabric textures rendering with different media like colour pencils, crayons, sketches, paints and collection of pictures.
4. **Technical Flats Drawing:** Flats drawing for the concept selected.
5. **Photos and CAD Sketches:** Collect photos relevant to the theme and draw draped fashion figures using CAD software or any suitable software.
6. **Illustration Board/ Croquis and Customer Profile:** Draw pencil sketches of draped fashion figure. Select the target market and customer. Prepare a customer profile sheet.

Specific learning objectives:

1. Mood/Theme/Concept Board/Story board

- 1.1 Plan themes for the line.
- 1.2 Collect the necessary material for making a story board/mood board /theme /concept board.
- 1.3 Prepare the Mood/Theme/Concept Board/Story board.

2. Colour Board

- 2.1 Prepare a colour board for the theme selected.

3. Fabric Swatch Board

- 3.1 Prepare a fabric swatch board with fabric swatches, fabric textures rendering and collection of pictures.

4. Technical Flats Drawing:

- 4.1 Flats drawing for the concept selected.

5. Photos and CAD Sketches

- 5.1 Collect pictures related to your theme from newspapers, magazines etc.
- 5.2 Collect photos relevant to the theme.
- 5.3 Draw draped fashion figures using CAD software or any relevant software in case of necessity.

6. Illustration Board/ Croquis and Customer Profile:

- 6.1 Draw pencil sketches of draped fashion figure.
- 6.2 Select the target market and customer.
- 6.3 Prepare a customer profile sheet.

Recommended Books

- 1. MaiteLafuente, Elena Saez - Fashion Illustration: Flat Drawing -Parragon Inc.
- 2. MaiteLafuente (Author), AitanaLleonart - Fashion Illustration: Figure Drawing - Parragon Inc.
- 3. Linda Tain - Portfolio Presentation for Fashion Designers – Fairchild publication.

Note: Portfolio case with Portfolio should be maintained.

Model question Papers

Board Diploma Examination(C18)

Mid Semester Examination 1 Model Question paper

DGT Fifth semester practical Examination

Corse Code:18GT-508P

Duration:3 hrs

Course Name: Consumer Behaviour and Fashion Portfolio Lab Practice

Max.Marks:20

Instructions to the Candidate:

(i)Answer any One of the following Questions.

- 1. Prepare a theme board for any one Hindu festival dress collection - for girls in the age group of 6 to 8 years.**
- 2. Prepare a colour board for the graduation day celebration.**

Board Diploma Examination (C18)

Mid Semester Examination 2 Model Question paper

DGT Fifth Semester Practical Examination

Corse Code:18GT-508P

Duration:3hrs

Course Name: Consumer Behaviour and Fashion Portfolio Lab Practice

Max.Marks:20

Instructions to the Candidate:

(i)Answer any One of the following Questions.

- 1. Prepare a flats board for any one dress designed for any one Hindu festival dress collection for girls in the age group of 6 to 8 years.**
- 2. Prepare a fabric swatch board for Diwali festival celebration.**

Board Diploma Examination (C18)
Semester End Examination Model Question paper
DGT Fifth Semester Practical Examination

Corse Code:18GT-508P

Duration:3 hours

Course Name: Consumer Behaviour and Fashion Portfolio Lab Practice

Max.Marks:40

Instructions to the Candidate:

(i)Answer any One of the following Questions.

1. Prepare a flats board for the given theme.
2. Prepare a fabric textures swatch board for the given theme.
3. Prepare a customer profile and colourboard for the given theme.

18 GT509 P Men's Apparel Designing and Production Lab Practice

Course Title	Men's Apparel Designing and Production Lab Practice	Course Code	18GT-509P
Semester	V	Course Group	Core /practical
Teaching Scheme in Hrs. (L: T:P)	1:0:2	Credits	1.5
Methodology	Lecture +demonstration + Practical	Total Contact Periods	45
CIE	60 Marks	SEE	40 Marks

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods
1	Nehru shirt	14
2	Night dress pajama	08
3	KalidharKurta	08
4	Full Hands shirt	15
Total		45

Pre-requisites

This course requires the sewing skills

Course Outcome		CL	Linked PO	Teaching Periods	Experiment linked
CO1	Construct a Nehru Shirt with appropriate seams, seam finishes based on design; adopt standard drafting, following accurate fabric lay out.	R/U/A	1,2,3 4	14	1
CO2	Construct a Night Dress pajama with appropriate seams, seam finishes based on design; Adopt standard drafting ,following accurate fabric lay out.	R/U/A	1, 2, 3,4	8	2
CO3	Construct a kalidharkurta with appropriate seams, seam finishes based on design; adopt standard drafting ,following accurate fabric lay out.	U/A	1, 2,3,4,	8	3
C04	Construct a full hands shirt with appropriate seams, seam finishes based on design, adopt standard drafting, following accurate fabric lay out.	U/A	1,2,3,4	15	4

Specific Learning Outcomes:

On completion of the course, the student will acquire practical competency in

1. : Nehru Shirt

- 1.1 Identify the tools and equipment necessary for making the Nehru Shirt.
- 1.2 Record the body measurements necessary for making Nehru Shirt.
- 1.3 Draw Nehru shirt design.
- 1.4 Draft the pattern for Nehru shirt.
- 1.5 Calculate the fabric requirement for making the Nehru shirt.
- 1.6 Select suitable fabric layout for Nehru shirt.
- 1.7 Cut the fabric and assemble the cut components of Nehru shirt using suitable seams, seam finishes and fasteners.

1.8 Press and pack the Nehru shirt.

2. Night Dress Pajama

2.1 Draw night dress pajama

2.2 Select the tools and equipment necessary for making the night dress pajama.

2.3 Record the body measurements necessary for making night dress pajama.

2.4 Draft the pattern for making the night dress pajama.

2.5 Estimate the fabric requirement.

2.6 Select the suitable fabric.

2.7 Select suitable fabric layout.

2.8 Practice stitching of fly opening

2.9 Assemble the cut components of the garment with suitable seams and seam finishes and fix fasteners.

3. KalidharKurta

3.1 Draw kalidhar kurta.

3.2 Draft the pattern for kalidharkurta based on body measurements.

3.3 Estimate and select the fabric and other accessory materials for making kalidhar kurta.

3.4 Select the appropriate fabric lay out.

3.5 Stitch the garment using appropriate seams and seam finishes.

3.6 Fix fasteners.

3.7 Press and pack the garment.

4. Full Hands Shirt

4.1 Draw different shirt designs .

4.2 Record measurements necessary for making full hands shirt.

4.3 Draft the pattern for making full hands shirt.

4.4 Estimate and select the fabric for making full hands shirt.

4.5 Select suitable fabric lay out.

4.6 Stitch the garment with suitable seams and seam finishes.

4.7 Fix fasteners.

Note: In the examination, the complete stitching of full hands shirt shall be asked only when the pattern is provided to the student, otherwise only few stitching details should be asked and marks should be distributed accordingly for pattern making and the stitching details asked.

Recommended books

1. Mc Calls Sewing in colour- Paul Hamlyn- London.
2. Practical clothing construction- part 1 and 2 - Mary Mathews
3. Creative clothing constructions-Allyne Bane-McGraw Hill Book Company.
4. Sheri Doongaji and RaushniDeshpande – Basic Processes and Clothing Construction – RaajPrakashan – New Delhi.
5. Zarapkar system of Cutting.

Note: Record book should be maintained.

State Board of Technical Education and Training, Telangana

Board Diploma Examination

Semester Mid Examination 1 Model Question paper

DGT Fifth semester practical Examination

Course Code: 18GT-509P

Duration: 3hrs

Course Name: Men's Apparel Designing and Production Lab Practice

Max.Marks:20

Instructions to the Candidate:

(i) Answer any One of the following Questions.

(ii) Write the Drafting and stitching procedure.

1. Draft and stitch Nehru shirt with the given measurements

State Board of Technical Education and Training, Telangana

Board Diploma Examination

Semester Mid Examination 2 Model Question paper

DGT Fifth semester practical Examination

Course Code: 18GT-509P

Duration: 3hrs

Course Name: Men's Apparel Designing and Production Lab Practice

Max.Marks:20

Instructions to the Candidate:

(i) Answer any One of the following Questions.

(ii) Write the Drafting and stitching procedure.

1. Draft and stitch night dress pajama the with the given measurements.
2. Draft and stitch kalidhar kurta

State Board of Technical Education and Training, Telangana

Board Diploma Examination

Semester End Examination Model Question paper

DGT Fifth Semester Practical Examination

Course Code: 18GT-509P

Duration: 3 hours

Course Name: Men's Apparel Designing and Production Lab Practice

Max.Marks:40

Instructions to the Candidate:

(i) Answer any One of the following Questions.

(ii) Write the Drafting and stitching procedure.

1. Draft and stitch the kalidhar kurta with the given measurements.
2. Use the given pattern for cutting and stitching full hands shirt.
3. Draft the pattern for making full hands shirt with the given measurements and complete the following stitching details- yoke attachment, sides, collar, and one sleeve.

18GT 510 P Project

Course Title	Project	Course Code	18GT-510P
Semester	V	Course Group	Core
Teaching Scheme in periods (L: T:P)	0:0: 3	Credits	1.5
Methodology	Guidance	Total Contact Periods	45
CIE	60	SEE	40

Pre-requisites

Knowledge about the concepts learnt in all the semesters and the present-day requirements of the consumers and industry.

OBJECTIVE

On completion of the Project, the student will acquire practical competencies in

- 1.1 Planning and Executing the project
- 1.2 Writing the Project Report.
- 1.3 Presenting Seminar

Project work is intended to provide application level concepts in designing and stitching. Project work should pave way for I) implementation of Innovative Ideas ii) preparation of prototypes for commercial manufacturing or cater to the individual needs.

Project Work Plan outline

Prepare a Group project with a topic related to the Garment designing and Construction based on the present-day individual requirements or based on the requirements of the Apparel industry.

S no	Project Work - Plan outline	Periods
1	Planning of Project - Market survey and Literature Review	7
2	Garment Designing, Sample preparation and Seminar presentation	8
3	Planning of Production Activities	5
4	Costing of Garment	5
5	Production of Garment and Report Writing	17
6	Final Seminar Presentation	3
	Total	45

Project work should have the following components

1. Literature survey
2. Concept modeling
3. Abstract submission

4. Stitched Garment

5. Project Report

Note: Seminars (One Seminar to present the aim and methodology of the project to the faculty and get their approval to start the project and one Seminar after completion of the Project)

OBJECTIVES

Upon completion of the course the student will be able to

- 1.1 Identify different works to be carried out in the Project.
- 1.2 Collect relevant information required for the project work.
- 1.3 Carry out the Literature survey.
- 1.4 Select the most efficient method from the available choices based on preliminary investigation.
- 1.5 Prepare action plan and schedule for project implementation
- 1.6 Plan and execute the project work as per standard practices.
- 1.7 Prepare project report as per the standard guide lines

Project work is intended to provide students with an opportunity to study the needs of people and industry and design and make apparel which cater to the individual needs of the people or suitable for mass production.

Project work should pave way for I) implementation of Innovative Ideas ii) preparation of prototypes for commercial models.

Every student should prepare a project report and submit the same for assessment which includes her contribution in the project work.

The end examination in Project work shall consist of Seminar and Viva-voce test to be assessed by a panel of examiners comprising of an External examiner, the Head of Section, and the internal guide.

5th SEMESTER

Course title: Skill Upgradation	Course Code: V
Semester: 5	Course Group: Practical
Teaching scheme in Periods (L: T:P) : 0:0:105	Credits: 2.5
Methodology: Practical	Total contact Periods: 105
CIE	Rubrics

18GT501C

1. Visit nearby boutiques', workshop to familiarize with the making of traditional embroidery and the making of Indian costumes and present a report.
2. Visit nearby jewellery shops to see antique jewellery and design simple jewellery suitable for the college students.
3. Exhibition, brochure preparation, poster preparation, flash card preparation of Indian textiles and costumes (PO5)
4. Model preparation of Indian embroideries (C06, PO 10,09,05,04,03,02,01) – Embroidery Fabric samples.

18GT502C

1. Application of aniline black on cotton (CO1, PO 06) – Flash card preparation.
2. Dyeing of cotton with pigments (CO1, PO 6) – seminar.
3. Advantages of pigment dyeing (CO1, PO – 09) – Flash card preparation.
4. Transfer printing machinery (CO2, PO02) – Collage work on transfer printing machinery.
5. Dyeing printing (CO2, PO - 09) – Brochure preparation.
6. Eco friendly natural dyes extraction and application (C03, PO -10,09,08,06,05,04,03,02,01) – Brain storming
7. Vat dyes application (C04, PO – 10,09,08,04,03,02,01) – seminar
8. Dyeing machinery (CO 5, PO 4) – Poster preparation.

9. Stencil preparation (CO6, PO – 10,09,08,06,04,03,02,01) – Collage work.
10. Screen and roller printing machinery (CO6, PO 09) – Brochure preparation.

18GT 503C

1 Visit a market / mall and study the consumer buying behavior and present a report.

18GT504A

- 1. Visit nearby apparel units and submit a report**
- 2. Plan for display of merchandise following all essential rules.**

18GT504B

IME

1. Industry visit to study plant location and maintenance procedures followed, material management procedures followed. (PO – 10,09,08,05,04,03,02,01).
2. Project report preparation on starting a sari petticoat unit (CO2, PO 10, 09, 08,04,03,02,01). Project report preparation and presentation.
3. Dealing with a customer who wanted to return a defective product (CO 4, PO 7, 10, 09, 08, 05,) – Role play.
4. Industrial legislations (CO6, PO 10,09,08 ,05, 07) – Group discussion. /Guest lectures.

18GT505A

1. Technical textiles – (CO1, PO 09, 05,) Picture brochure.
2. Technical Textiles - Geo textile applications (CO2, PO 09) - Group discussion.
3. Technical textiles – acoustics (CO3, PO – 09, 05) flash cards preparation.
4. Technical textiles – Textile usage in sports – Brochure preparation.
5. Safety and protective textiles (CO 4, PO 09) Brain storming session.
6. Agriculture textiles and textiles usage in filtration work (CO 5, PO 09) – Group discussion.

7. Medical textiles (CO6, PO 09) – Medical textiles brochure preparation

18GT505B

1. Knitting basics (CO1, PO 9) – Poster preparation.
2. Weft knitting needles and machinery (CO 2, PO 9) – Brochure preparation.
3. Warp knitting fabrics (CO3, PO9) – Fabric samples brochure.
4. Quality parameters in knitting (CO4, PO 9) – Brain storming session.
5. Non-woven fabric formation methods (C05, PO 9) – brain storming session.
6. Finishing treatments given to non-woven – (CO6, PO 9) – Poster preparation

