

C-18 - Curriculum

Diploma in Garment Technology



**State Board of Technical Education & Training
Telangana, Hyderabad**

IV Semester

Sl No	Course Code	Course Name	Teaching Scheme					Examination Scheme						
			Instructional 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-401C	Advanced Draping and Designing	3	1	0	60	3	20	20	20	40	14	100	35
2	18GT-402C	Textile Printing	3	1	0	60	3	20	20	20	40	14	100	35
3	18GT-403C	Textile Care and Ecology	3	1	0	60	3	20	20	20	40	14	100	35
4	18GT-404C	Personal Grooming	3	1	0	60	3	20	20	20	40	14	100	35
5	18GT-405C	Apparel Production Management	3	1	0	60	3	20	20	20	40	14	100	35
6	18GT406P	Advanced Draping and Women's Apparel Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
7	18GT-407P	Textile Care and Printing Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
8	18GT-408P	Personal Grooming Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
9	18GT-409P	CAD Studio Lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
10	18GT-410P	Advanced Communication Skills and Life Skills (common)	1	0	2	45	1.5	20	20	20	40	20	100	50
11		Skill Upgradation IV	0	0	7	105	2.5	0	0	Rubrics			--	-
			20	5	17	630	25	200	200	200	400	170	1000	425
	student performance in skill upgradation activities is to be assessed through Rubrics													

18GT 401C, ADVANCED DRAPING AND DESIGNING

Course Title: Advanced Draping and Designing	Course Code : 18GT-401C
Semester: IV	Course Group : Core
Teaching Scheme in Periods (L: T:P): 3:1.:0	Credits : 3
Methodology :: Lecture + Tutorial	Total Contact Periods :/ 60 Pds
CIE : 60 Marks	SEE : 40 Marks

Prerequisites

Basic pattern making, draping and sewing skill

Course Outcomes

Course Outcome and CO PO Mapping Matrix		CL	Linked PO	Teaching Hours
CO1	Distinguish the preparation of fabric for making Cowls and twist	R/U/A	1,2,3,4,5,6,7,8,9,10	10
CO2	Explain the process of making The Shift and define jacket styles.	R/U/A	1,2,3,4, 5,6,7,8,9,10	10
CO3	Distinguish the procedure for draping of Sleeves and define sleeve terms	R/U/A	1,2,3,8, 9 10	10
CO4	Distinguish the manufacture of Leather and Fur	R/U/A	1, 2, 3, 9, 10	10
CO5	Explain Midriff, Yokes, collars and variations of skirt	R/U/A	1, 2,5, 9 10	10
CO6	Explain the accessory selection and garment analysis.	R/U/A	1, 2,5, 8, 9,10	10
				60

Course Content

- Unit 1 - Cowls and Twists**

Duration	10	Periods
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Cowls – Preparation of Fabric- Preparation and Steps in draping for basic cowl, - the wrapped neck line cowl. Sewing tips for bias seams. **Twist**- Fabrics suitable for twists -preparation of muslin and steps in draping - Butter fly twist -The two-piece bias twist –. Definition of the following women’s outfit: tailored suit, channel suit, casual suit, two -piece, trouser suit, coordinates, separates, ensemble.

2. **Unit 2 - Shift** **Duration 10 Periods**
 The straight shift – Preparation of muslin – draping steps – front – back. The sheath – preparation of muslin – shaping of the side seam – The A Line shift – preparation of muslin – shaping the side seam – The tent – preparation of muslin – draping steps. – - The smock – the body of the smock – preparation of muslin – draping steps – the blouse – draping steps - the blouson. Jacket styles: Bolero, waist coat, short jacket, spencer, Tyrolean, donkey jacket, coat jacket, safari style, parka, anorak, long blouson.
3. **Unit 3 –Sleeves -** **Duration: 10 Periods**
 The basic Dolman sleeve –The long fitted Dolman sleeve -The Raglan sleeve - The Kimono sleeve with a gusset - preparation of muslin and draping steps -: Terminology: 1 Amadis sleeve 2 Angel sleeve 3 Bagpipe sleeve 4 Balloon sleeve 5 Banded sleeve 6 Barrel sleeve 7 Bellows sleeve 8 Beret sleeve 9 Bracelet sleeve 10 Butterfly sleeve 11 Button tab sleeve 12 Elephant sleeve 13 Handkerchief sleeve 14 Pagoda sleeve 15 Sling sleeve 16 Suit sleeve 17 Trumpet sleeve 18 Virago sleeve 19 Tom jones sleeve 20 Roll up sleeve.
4. **UNIT 4 –Leather and Fur Garments** **Duration: 10 Periods**
 Leather manufacture – hides– The Tannery – stages in leather production – preparation of beam house – tanning – finishing. Preparation –Leather types – Leather Garment manufacture – Fur types – Fur animals – construction of the pelt. Pelt preparation – Pelt finishing – colour adjustment- dyeing – shearing and deburring – sueding – ironing. Fur clothing preparation Cutting techniques – assembly- interleaving- stranding- rearranging- trimming – shaping – conditioning- Finishing – Garment assembly. Differences in construction of furs compared to textile clothing. Fur industry flow chart.
5. **UNIT 5 - Midriff, Yokes, Collars and variations of Skirt:** **Duration: 10 Periods**
 The fitted midriff – preparation of muslin- draping steps. Shirt yoke – Collars- Band collar- Peter pan collar- – sewing tips. Skirts: Tapered skirt- The dirndl skirt – Skirts terminology: Narrow, Straight- semi flared- Flared -paneled- bell – gored – Straight paneled- Godet – Tiered, flounced Frilled hemline. Yoke style, fit and flare, puff ball, handkerchief hemline, draped, country style, wrap around, kilt, casual style.
6. **Unit 6 Accessory Selection and Garment Analysis:** **Duration: 10 Periods**
 Accessory selections: Selection tips. Hand Gloves- Selection criteria - Types (Action gloves, Driving gloves, Opera glove, Insulated glove, Thermal glove) – Hand bags- materials – selection criteria – Hand bag types (Accordion bag, Back pack, Baguette bag, Barrel bag, Basket bag, Belt bag, Book bag, Box bag, Bracelet bag, Bucket bag, Canteen Bag, Carpet bag, Carryall clutch, Change purse, Clutch bag, Cross body bag, Draw string bag, Envelope bag,) Clothing design – Collection – factors to consider in developing collection – Stages in the development of a collection. Style line. Garment analysis -. Methods of garment analysis – criteria for analysis of materials- criteria for analysis of garment components, degree of enclosure) –criteria for analysis of final assembly, - Criteria for analysis of Garment finishing) - jewellery terms: 1 bangle bracelet 2 Bib necklace 3 Charm 4 Choker 5 Cluster ring 6 Cuff bracelet 7 Cuff link 8 Fine jewellery 9 pendant necklace 10 Solitaire. 11 Dome ring 12 Bracelet 13 Button earring 14 Chandelier earring 15 Chute 16 Boot bracelet. 17 Brooch 18 Perfume

Recommended Books

1. Apparel Manufacturing and Sewn Product Analysis – Ruth E Glock, Grace I Kunj- Pearson
2. Fashion from concept to consumer – Gini Stephens Frings. - Pearson Education – India – Seventh edition
3. Inside the Fashion Business – Kitty G. Dickerson- Pearson Education – India. - Seventh edition.
4. Clothing technology from fibre to fashion –
5. Draping for fashion design – Hilde Jaffe NurieRelis – Pearson Education – India – fourth edition.
6. Charlotte MankeyCalasibetta – Dictionary of Fashion – 3rd edition – The Fairchild – USA.

Specific Learning Outcomes

On completion of the course, the student should be able to

1. Cowls and Twists

- 1.1 Define the term cowl.
- 1.2 Describe the preparation of fabric for making basic cowl.
- 1.3 State the draping steps for making basic cowl.
- 1.4 Describe the preparation of fabric for making the wrapped neck line cowl.
- 1.5 Describe the steps in draping the wrapped neck line cowl.
- 1.6 List the Sewing tips for bias seams.
- 1.7 Define the term Twist.
- 1.8 Mention the fabrics suitable for twists.
- 1.9 Describe the preparation of muslin for Butter fly twist.
- 1.10 Describe the draping steps for Butter fly twist.
- 1.11 Describe the preparation of muslin for the two-piece bias twist.
- 1.12 Describe the steps in draping for two-piece bias twist
- 1.13 Define the different women's outfit. (tailored suit, channel suit, casual suit, two -piece, trousersuit, coordinates, separates, ensemble, compose)

2. Shift

- 2.1 Describe the preparation of muslin for straight shift.
- 2.2 Describe the draping steps for front and back of straight shift
- 2.3 Describe the preparation of muslin and shaping of the side seam for sheath.
- 2.4 Describe the preparation of muslin and shaping of the side seam for the A Line shift.
- 2.5 Describe the preparation of muslin and draping steps for the tent
- 2.6 Describe the preparation of muslin and draping steps for the body of the smock.
- 2.7 Define the different jacket style. (Bolero, waist coat, short jacket, spencer, Tyrolean, donkey jacket, coat jacket, safari style, parka, anorak, long blouson.)
- 2.8 Define the term Edwardian jacket, Eton jacket and Fencing jacket.

3. Sleeves

- 3.1 Describe preparation of muslin and draping steps for the Basic Dolman sleeve.
- 3.2 Describe preparation of muslin and draping steps for the long-fitted dolman sleeve.
- 3.3 Describe preparation of muslin and draping steps for the Raglan sleeve.
- 3.4 Describe preparation of muslin and draping steps for the Kimono sleeve with gusset.
- 3.5 Explain the different sleeve styles. (1 Amadis sleeve 2 Angel sleeve 3 Bagpipe sleeve 4 Balloon sleeve 5 Banded sleeve 6 Barrel sleeve 7 Bellows sleeve 8 Beret sleeve 9 Bracelet sleeve 10 Butterfly sleeve 11 Button tab sleeve 12 Elephant sleeve 13 Handkerchief sleeve 14

Pagoda sleeve 15 Sling sleeve 16 Suit sleeve 17 Trumpet sleeve 18 virago sleeve 19 Tom jones sleeve 20 Roll up sleeve.)

4. Leather and Fur Garments

- 4.1 List the two basic types of hides.
- 4.2 State the structure of the hide.
- 4.3 List the parts of the hide.
- 4.4 Mention the stages in leather production.
- 4.5 Describe the preparation (Beam house) stage in leather production.
- 4.6 Describe the steps of tanning process.
- 4.7 Describe the following sequence of finishing tanned skins to obtain apparel leather- dewatering, drying, shaving, dyeing, oiling, drying, staking, sueding, finishing glazing and waxing.
- 4.8 Define the following leather types- calf skin, cowhide, goatskin, pigskin, deer skin and lamb sued. Describe the following steps in leather garment manufacture - sorting, cutting, interlining, sewing and gluing.
- 4.9 Describe the following steps- soaking, washing, fleshing, picking, dressing, oiling, dewatering and drying
- 4.10 Explain the following steps in pelt preparation- colour adjustment, dyeing, shearing, sueding and ironing.
- 4.11 Describe the preparation of fur cloth.
- 4.12 Explain the cutting techniques involved in fur preparation— assembly- interleaving- stranding- rearranging- trimming – shaping – conditioning- Finishing – Garment assembly.
- 4.13 Explain the difference in construction of fur, compared to textile clothing industry.

5. Midriff, Yokes, Collars and Variations of Skirt

- 5.1 Describe the preparation of muslin and draping steps for fitted midriff .
- 5.2 Describe the preparation of muslin and draping steps for shirt yoke.
- 5.3 Describe the preparation of muslin and draping steps for band collar.
- 5.4 Describe the preparation of muslin and draping steps for peter-pan collar.
- 5.5 Describe the preparation of muslin and draping steps for tapered skirt.
- 5.6 Describe the preparation of muslin and draping steps for dirndl skirt.
- 5.7 Define the different skirt styles. (- Narrow, Straight- semi flared- Flared -panelled- bell – gored – Straight panelled- Godet – Tiered, flounced Frilled hemline. Yoke style, fit and flare, puff ball, handkerchief hemline, draped, country style, wrap around, kilt, casual style.
- 5.8 Define the following terms: asymmetric collar, asymmetric neckline, attached collar, Barrymore collar, Bermuda collar, Bertha, Bolster collar, Bow collar, Byron collar, Camisole neckline, Cascade, Cross over collar, Funnel collar, Ring collar

6. Accessory Selection and Garment Analysis

- 6.1 Explain the selection criteria for gloves and hand bags.
- 6.2 Define the different types of hand bags and gloves.
- 6.3 Explain the factors to consider in developing collection.
- 6.4 Explain the stages in the development of collection.
- 6.5 Explain the methods of garment analysis (visual inspection and augmented visual inspection)
- 6.6 Describe the laboratory process of garment analysis.
- 6.7 Explain the following - criteria for analysis of materials, (criteria for analysis of garment components, degree of enclosure, (criteria for analysis of final assembly, Criteria for analysis of Garment finishing.

6.8 State the following terms 1 bangle bracelet 2 Bib necklace 3 Charm 4 Choker 5 Cluster ring 6 Cuff bracelet 7 Cuff link 8 Fine jewellery 9 pendant necklace 10 Solitaire.11 Dome ring 12 Bracelet 13 Button earring 14 Chandelier earring 15 Chute 16 Boot bracelet.17 Brooch 18 Perfume ring

Suggested Student Activities

1. Visit library to refer journals, magazines, newspaper articles.
2. Visit nearby apparel production centers.
3. Group Discussions.
4. Seminar.
5. Quiz.
6. Surprise test.
7. Assignments
8. Show draping of clothes by ancient Romans and Greek people.

List of E-Learning References

1. <https://www.universityoffashion.com/disciplines/draping/>
2. <https://www.fibre2fashion.com/industry-article/6219/fashion-draping-cowl>
3. <https://www.instructables.com/id/Cowl-Draped-Infinity-Dress/>
4. <https://www.fibre2fashion.com/industry-article/5139/techniques-to-improve-printing-performance-of-wool-fabric?page=2>
5. <http://textilelearner.blogspot.com/2016/06/garment-analysis-and-its-classification.html> -
(for easy understanding)

C-18 Curriculum examination pattern.

1. Midsemester-I and Midsemester -II examinations conducted for 20 marks each for the duration of 1 hour only.
2. Midsemester -III and End Examination conducted together for 40 marks for the duration of 2 hours only.

The question paper pattern in Mid Sem Examinations is as follows;

S. No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	4	1	Nil	4 Marks
02	Part-B	Understanding (U)	4	3	2	6 Marks
03	Part-C	Application (A)	4	5	2	10 Marks
Total Marks						20 Marks

The question paper pattern in End Sem Examinations is as follows;

S. No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	8	1	Nil	8 Marks
02	Part-B	Understanding (U)	8	3	4	12 Marks
03	Part-C	Application (A)	8	5	4	20 Marks
Total Marks						40 Marks

C-18 Examination Pattern

MID SEM-I EXAM

S. No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S. No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks	
		R		U	A		
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b)	13(b)	
6	VI				11(a)	15(a)	
				11(b)	15(b)		
			7,8	10(b)	14(b)		
				12(a)	16(a)		
		12(b)		16(b)			
Total Questions		8			8	8	
Legend:		Remembering (R)		1 Mark			
		Understanding (U)		3 Marks			
		Application (A)		5 Marks			

Instructions to the Students:

1. The student has to attempt either (a) or (b) question under the given question in serial.
2. The students are advised not to attempt more than prescribed questions in the exam.
3. In case additional questions attempted by the students, the consideration will be given on the basis of priority of first attempted question as the valid answer.
4. The student has to write the answer for the Questions of 1 mark, not more than $\frac{1}{4}$ page and 3 marks, not more than 1 page and 5 marks, not more than 2 pages.

Slip Test 1	1 and 2	5	2 Essay Questions out of 3 Questions
Slip Test 2	3 and 4	5	2 Essay Questions out of 3 Questions
Assignment	1	5	Different group assignments of Higher order Questions that develop problem solving skills and critical thinking should be given
Seminars	1	5	

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

Board Diploma Examination (C18) 18GT401C
D G T Fourth Semester Mid 1 Examination
Advanced Draping and Designing

Time 1 Hour

Marks 20

Part A

4 X1 = 4 Marks

1. Define the term tailored suit.
2. Define the term channel suit.
3. Define the term bolero.
4. Define the term waist coat.

Part B

2X 3= 6 Marks

Answer any **two** questions and each question carries **three** marks

5. (a) Describe the preparation of fabric for making the wrapped neck line cowl.

Or

- (b) Describe the draping steps for Butter fly twist

6. (a) Describe the preparation of muslin for sheath.

Or

- (b) Describe the shaping of side seam for Aline shift.

Part C

2 X5 = 10 Marks

7. (a) Describe the preparation of muslin for the two-piece bias twist.

Or

- (b) Describe the steps in draping for two-piece bias twist

8. (a) Describe the preparation of muslin and draping steps for the body of the smock.

Or

- (b) Describe the draping steps for the body of the smock.

Board Diploma Examination (C18) 18GT401C
D G T Fourth Semester Mid 2 Examination
Advanced Draping and Designing

Time 1 Hour

Marks 20

Part A 4 X1 = 4 Marks

Answer all questions and each question carries one mark

1. Define the term Amadis sleeve.
2. Define the term Angel sleeve
3. List the two basic types of hides.
4. List the parts of the hide

Part B 2 X3= 6 Marks

Answer any two questions and each question carries three marks

5. (a) Describe the preparation of muslin for basic dolman sleeve.

Or

(b) Describe the draping steps for raglan sleeve.

6. (a) Explain the following step in pelt preparation-colour adjustment, dyeing

Or

(b) Explain the following steps in pelt - dyeing

Part C

2 X5 = 10 Marks

Answer any two questions and each question carries 5 marks

7. (a) Describe the preparation of muslin for raglan sleeve.

Or

(b) Describe the preparation of muslin for long fitted dolman sleeve.

8. (a) Describe the preparation of fur cloth.

Or

(b) Describe the steps of tanning process.

Board Diploma Examination (C18) 18GT401C
D G T Fourth Semester End Examination
Advanced Draping and Designing

Time 2 Hour

Marks 40

Part A

8 X1 = 8 Marks

1. Define the term tailored suit.
2. List the parts of the hide
3. Define narrow skirt.
4. Define the term kilt.
5. Define semi flared skirt.
6. Define the term handkerchief hemline skirt.
7. Define term action gloves.
8. Define the term driving gloves.

Part B

4 X3 = 12 Marks

Answer any four questions and each question carries three marks

9. (a) Describe the preparation of fabric for making the wrapped neck line cowl.

Or

- (b) Describe any two steps in the preparation of muslin for fitted midriff yoke.

10. (a) describe the preparation of muslin for basic dolman sleeve.

Or

- (b) Explain any two factors to consider in developing a collection.

11. (a) Explain the term camisole neckline and cascade

Or

- (b) Explain draping steps for fitted midriff yoke

12. (a) Explain the selection criteria for hand bags

Or

- (b) Explain the selection criteria for hand gloves

Part C

4 X5 =20 Marks

Answer any four questions and each question carries five marks

13. (a) Describe the preparation of muslin for the two-piece bias twist.

Or

(b) Describe the draping steps for shirt yoke.

14. (a) Describe the preparation of muslin for raglan sleeve.

Or

(b) Describe the visual inspection method used for garment analysis.

15. (a) Describe the preparation of muslin for band collar.

Or

(b) Describe the draping steps for Peter pan collar.

16. (a) How do you define the following jewellery - bangle bracelet 2 Bib necklace 3 Charm 4 Choker 5 Cluster ring 6 Cuff bracelet.

Or

(b) Describe the criteria for analysis of final assembly.

18GT 402C , TEXTILE PRINTING

Course Title : Textile Printing	Course Code : 18GT-402C
Semester : IV	Course Group : Core
Teaching Scheme in Pds (L: T:P): 3:1:0	Credits : 3
Methodology : Lecture + Tutorial	Total Contact Periods : 60 Pds
CIE : 60 Marks	SEE : 40 Marks

Prerequisites

Requires chemistry knowledge

Course Outcomes

Course Outcome and CO PO Mapping Matrix		CL	Linked PO	Teaching Hours
CO1	Analyse the preparation necessary for fabrics like wool silk polyester and the preparation of printing paste.	R/U/A	1,2,3,9, 10	10
CO2	Analyse the heat setting treatments	R/U/A	1,2,3,9, 10	10
CO3	Explain the application of acid and basic dyes	R/U/A	1,2,3,10	10
CO4	Explain the different ways of printing cellulosic fabric	R/U/A	1, 3, 2,10	10
CO5	Explain the different after treatments given for fixation of colours and prints	R/U/A	1, 2,10	10
CO6	Explain Block,Batik,Discharge,Direct Resist, Kalamkari Printing procedures and other parameters.	R/U/A	1, 2,10	10
				60

Course content:**1. Preparation of fabric and printing Paste:****Duration 10 Periods**

Differences between dyeing and printing - Main scouring methods used for scouring wool (1) Emulsion scouring method (2) Suint scouring method (3) Solvent extraction method (4) Freezing method- Crabbing treatment given to wool fabric. Potting. Types of Milling (a) Acid (2) Alkaline (c) Soap- Degumming of Silk with Alkaline method - -Enzymes - scouring of polyester/cotton blends- polyester/acrylic blends - acrylic/wool blends- application of direct dyes to viscose rayon -. functions of essential ingredients used in printing paste - thickeners used in printing. Define the

term pigment, auxochrome, Zeta potential, W/O pigment emulsion, O/W pigment emulsion, Union fabric, Thermofixation, pigment emulsion, pigmentation process, pigment.

2. **Heat Setting:**

Duration 10 Periods

Four phases in the process of thermosetting in stenter - contact method of heat setting - steam setting method used for heat setting - hydro setting method - tenterframe. Selective infra-red emitters method- Heat setting conditions for polyester fabrics- nylonfabrics. - polyester/cotton blends and polyester/wool blends - effects of heat setting on the properties of synthetic fibres.

3. **Acid and Basic Dyes**

Duration 10 Periods

Properties of acid dyes and basic dyes.- different ways of classifying acid dyes- classification of acid dyes- depending on their fastness properties - concentration of acid used in the dyebath - characteristics of levelling agents - factors affecting the acid dyeing of protein fibres - principles of application of acid dyes to protein fibres - silk- application of basic dyes to cellulosic fibres - dyeing wool with basic dyes. application of basic dyes to silk - Define the terms: acid dyeable variants, chromatography, chromaticity.

4. **Printing of Cellulosic fibres :**

Duration 10 Periods

pigment printing process along with printing recipe - khadi printing process - metallic powders - naphthol padding method- naphthol printing method- naphthol nitrite padding method- naphthol nitrite printing method - advantages of using azoic colours in printing. Define the terms. Colour index, 2 deep dyeing variants, 3 mass coloured, 4 muff dyeing, 5 pressure dyeing, 6 Short liquor dyeing

5. **After Treatments :**

Duration 10 Periods

purpose of after-treatment of printed goods- ageing- working /use of Rapid ager in steaming of cotton goods - continuous steamer in steaming of cotton goods- flash ageing.- dunging, raising, fixing - curing – clearing- reduction clearing process - thermo – fixation or thermosol process - disadvantages of thermosol process - steaming with super-heated steam or high temperature steaming at atmospheric pressure - high temperature steamer of Mather and Platt - High temperature Italian Arioli Festoon steamer along with advantages. - High Temperature Stork Universal Festoon steamer- importance of drying. - sublimation fastness.

6. **Block , Batik , Discharge , Direct Resist , Kalamkari Printing:**

Duration 10 Periods

differences between style of printing and method of printing - direct style of printing - limitations of direct style of printing - discharge style of printing- advantages and limitations of discharge style of printing - resist style of printing - Distinguish discharge and resist style of printing- technique of batik printing- tools and waxes used in batik printing - classes of dyes used in Batik Work - application of azoic dyes and cold dyeing reactive dyes in batik printing- kalamkari printing process- preparation of cloth - colours - designs used in kalamkari printing - Define the terms. 1 solvent dyeing, 2 Space dyeing, 3 Thermal fixation, 4 Gel dyeing, 5 macromolecular dyes, 6 ground colour, 7 international grey scale

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. MaryPaulYates- Textiles A Handbook for Designers – W W Norton – NewYork.

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

1. Preparation of fabric and printing Paste.

- 1.1 Define printing.
- 1.2 State the differences between dyeing and printing.
- 1.3 Describe the main scouring methods used for scouring wool (1) emulsion scouring method (2) suint scouring method (3) Solvent extraction method (4) Freezing method.
- 1.4 Describe the crabbing treatment given to wool fabric.
- 1.5 Define the term potting.
- 1.6 Describe the three types of milling (a) Acid (2) Alkaline (c) Soap.
- 1.7 Explain the degumming of silk with alkaline method.
- 1.8 Describe degumming of silk with enzymes.
- 1.9 State the scouring of polyester/cotton blends.
- 1.10 State the scouring of polyester/acrylic blends.
- 1.11 State the scouring of acrylic/wool blends.
- 1.12 Describe the application of direct dyes to viscose rayon.
- 1.13 Explain the functions of essential ingredients used in printing paste.
- 1.14 Describe the thickeners used in printing.
- 1.15 Define the term pigment, auxochrome, Zeta potential, W/O pigment emulsion, O/W pigment emulsion, Union fabric, Thermofixation, pigment emulsion, pigmentation process, pigment, gumsilk, dyed in grease, dyed slubbing,

2. Heat Setting

- 2.1 Define heat setting and glass transition temperature.
- 2.2 State the four phases in the process of thermosetting in stenter.
- 2.3 State the contact method of heat setting.
- 2.4 Describe the steam setting method used for heat setting.
- 2.5 Describe the hydro setting method.
- 2.6 Describe heat setting using tenter frame.
- 2.7 Describe heat setting by selective infra-red emitters method.
- 2.8 Describe the heat setting conditions for polyester and nylon fabrics.
- 2.9 Describe the heat setting conditions for polyester/cotton blends and polyester/wool blends.
- 2.10 Describe the effects of heat setting on the following properties of synthetic fibres 1 structural changes of polyester and nylon, 2-dimensional stability 3 stiffness 4 crease recovery.

3. Acid and Basic Dyes

- 3.1 List the properties of acid dyes and basic dyes.
- 3.2 Mention the different ways of classifying acid dyes.
- 3.3 Describe the classification of acid dyes into the following three classes depending on their fastness properties and concentration of acid used in the dyebath. (levelling acid dyes, milling acid dyes and super milling acid dyes)

- 3.4 List the general characteristics of levelling agents.
- 3.5 Describe the factors affecting the acid dyeing of protein fibers.
- 3.6 Describe the principles of application of acid dyes to protein fibers.
- 3.7 Describe the application of acid dyes to silk.
- 3.8 Describe the application of basic dyes to cellulosic fibres.
- 3.9 State the dyeing of wool with basic dyes.
- 3.10 Describe the application of basic dyes to silk (dissolution of basic dyes, dyeing in a bath of broken degumming liquor, dyeing in a bath of neutral soap, dyeing in a liquor acidified with acetic acid).
- 3.11 Define the terms: acid dyeable variants, chromatography, chromaticity,

4. Printing of cellulosic fibres

- 4.1 Explain the pigment printing process along with printing recipe.
- 4.2 Describe khadi printing process.
- 4.3 Explain the printing with metallic powders.
- 4.4 State the advantages of using azoic colours in printing.
- 4.5 Describe naphthol padding method.
- 4.6 Describe naphthol printing method.
- 4.7 Describe naphthol nitrite padding method.
- 4.8 Describe naphthol nitrite printing method.
- 4.9 Define the following terms :1 colour index,2 deep dyeing variants,3 mass coloured,4muff dyeing, 5 pressure dyeing, 6 Short liquor dyeing

5. After Treatments

- 5.1 State the purpose of after-treatment of printed goods.
- 5.2 Define ageing.
- 5.3 Describe the working /use of Rapid ager in steaming of cotton goods.
- 5.4 Describe the use of continuous steamer in steaming of cotton goods.
- 5.5 Define flash ageing.
- 5.6 Explain the following after treatments – dunging, raising, fixing and curing.
- 5.7 State the process of clearing.
- 5.8 Describe the reduction clearing process.
- 5.9 Describe the thermo – fixation or thermosol process.
- 5.10 State the disadvantages of thermosol process.
- 5.11 State the process of steaming with super-heated steam or high temperature steaming at atmospheric pressure.
- 5.12 Describe the working/usage of high temperature steamer of Mather and Platt.
- 5.13 Explain High temperature Italian Arioli Festoon steamer along with advantages.
- 5.14 Explain High Temperature Stork Universal Festoon steamer.
- 5.15 State the importance of drying.
- 5.16 State the term sublimation fastness.

6. Block,Batik,Discharge,Direct Resist, Kalamkari Printing

- 6.1 State the differences between style of printing and method of printing.
- 6.2 Explain the direct style of printing.
- 6.3 Mention the limitations of direct style of printing.
- 6.4 Describe the discharge style of printing.

- 6.5 State the advantages and limitations of discharge style of printing.
- 6.6 Explain the resist style of printing.
- 6.7 Distinguish discharge and resist style of printing.
- 6.8 Explain the technique of batik printing.
- 6.9 State the tools and waxes used in batik printing.
- 6.10 List the classes of dyes used in Batik Work. Explain the method of application of azoic dyes and cold dying reactive dyes in batik printing.
- 6.11 Explain kalamkari printing process.
- 6.12 Explain the preparation of cloth for kalamkari printing.
- 6.13 Explain the preparation of colours for kalamkari printing.
- 6.14 State the designs used in kalamkari printing.
- 6.15 Define the following terms 1 solvent dyeing, 2 Space dyeing, 3 Thermal fixation, 4 Gel dyeing, 5 macromolecular dyes, 6 ground colour, 7 international grey scale

Suggested Students Activities

1. Student visits Library to refer journals, books.
2. Student visits the Lab to identify the chemicals and dyes.
3. Visit nearby processing unit.
4. Quiz.
5. Group discussion.
6. Surprise test.
7. Seminar.
8. Assignments
9. Try making printing paste with some natural dyes.
10. Collect information, samples and other relevant information and present a seminar

List of ELearning Activities

1. <http://pinterest.com>
2. <http://textilecentre.in>
3. <https://www.fibre2fashion.com/industry-article/6550/a-brief-study-on-block-printing>
4. <https://nptel.ac.in/courses/116102016/39>
5. http://eacharya.inflibnet.ac.in/data-server/eacharya-documents/53e0c6cbe413016f234436ed_INFIEP_8/11/ET/8_ENG-11-ET-V1-S1__lesson.pdf

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	1		3	1	3	2	3
CO2	2	3	3	1		3	1	3	2	3
CO3	2	3	3	1		3	1	3	2	3
CO4	2	3	3	1		3	1	3	2	3
CO5	2	3	3	1		3	1	3	2	3
CO6	2	3	3	1		3	1	3	2	3
CO7	2	3	3	1		3	1	3	2	3

C-18 Curriculum examination pattern.

1. Midsem-I and Midsem-II examinations conducted for 20 marks each for the duration of 1 hour only.
2. Midsem-III and End Examination conducted together for 40 marks for the duration of 2 hours only.

The question paper pattern in Mid Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	4	1	Nil	4 Marks
02	Part-B	Understanding (U)	4	3	2	6 Marks
03	Part-C	Application (A)	4	5	2	10 Marks
Total Marks						20 Marks

The question paper pattern in End Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	8	1	Nil	8 Marks
02	Part-B	Understanding (U)	8	3	4	12 Marks
03	Part-C	Application (A)	8	5	4	20 Marks
Total Marks						40 Marks

C-18 Examination Pattern

MID SEM-I EXAM

S. No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	
MID SEM –II EXAM					
S. No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks	
		R		U	A		
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b)	13(b)	
					11(a)	15(a)	
		11(b)		15(b)			
6	VI		7,8	10(b)	14(b)		
				12(a)	16(a)		
				12(b)	16(b)		
Total Questions		8			8	8	
Legend:		Remembering (R)		1 Mark			
		Understanding (U)		3 Marks			
		Application (A)		5 Marks			

Instructions to the Students:

1. The student has to attempt either (a) or (b) question under the given question in serial.
2. The students are advised not to attempt more than prescribed questions in the exam.
3. In case additional questions attempted by the students, the consideration will be given on the basis of priority of first attempted question as the valid answer.
4. The student has to write the answer for the Questions of 1 mark, not more than $\frac{1}{4}$ page and 3 marks, not more than 1 page and 5 marks, not more than 2 pages.

Slip Test 1	1 and 2	5	2 Essay Questions out of 3 Questions
Slip Test 2	3 and 4	5	2 Essay Questions out of 3 Questions
Assignment	1	5	Different group assignments of Higher order Questions that develop problem solving skills and critical thinking should be given
Seminars	1	5	

Board Diploma Examination (C18) 18GT402C
D G T Fourth Semester Mid 1 Examination
TEXTILE PRINTING

Time 1 Hour

Marks : 20

Part A

4 X1= 4 Marks

Answer all questions and each question carries one mark

1. Define the term printing.
2. Define the term potting.
3. Define the term heat setting.
4. Define the term glass transition temperature.

Part B

2 X3 = 6 Marks

Answer any two questions and each question carries three marks

5. (a) Write the scouring of polyester/acrylic blends.

Or

- (b) Write the scouring of acrylic/wool blends

6. (a) Describe the heat setting conditions for polyester fabrics.

Or

- (b) Describe the heat setting conditions for nylon fabrics.

Part C

2 X5 = 10 Marks

Answer any two questions and each question carries five marks

7. (a) Explain the degumming of silk with alkaline method.

Or

- (b) Describe degumming of silk with enzymes.

8. (a) Describe the hydro setting method.

Or

- (b) Describe heat setting using tenter frame.

Board Diploma Examination(C18) 18GT402C

D G T Fourth Semester Mid2 Examination

TEXTILE PRINTING

Time 1 Hour

Marks: 20

Part A

4 X1= 4 Marks

Answer all questions and each question carries one mark

1. Mention the different ways of classifying acid dyes.
2. List two properties of acid dyes.
3. Define the term colour index.
4. Define the term deep dyeing variants.

Part B

2 X3 = 6 Marks

5. (a) Write the dyeing of wool with basic dyes.

Or

(b) Describe levelling acid dyes.

6. (a) Give the recipe used in naphthol printing method.

Or

(b) Give the recipe for naphthol nitrite padding method.

Part C

2 X5 = 10 Marks

Answer any two questions and each question carries five marks

7. (a) Describe the application of direct dyes to viscose rayon.

Or

(b) Describe the after treatment of direct dyed viscose rayon fabric

8. (a) Describe the heat setting conditions for polyester/cotton blends.

Or

(b) Describe the heat setting conditions for polyester/wool blends.

Board Diploma Examination(C18) 18GT402C

D G T Fourth Semester End Examination

TEXTILE PRINTING

Time 2 Hour

Marks:40

Part A

8 X1 = 8

Marks

Answer

1. Define the term printing
2. Mention the different ways of classifying acid dyes
3. Define the term space dyeing.
4. Define the term potting.
5. Define the term sublimation process.
6. State the purpose of after treatment.
7. Define the term thermal fixation
8. Define the term gel dyeing.

Part B

4 X3 = 12 Marks

Answer any four question and each question three marks

9. (a) Write the scouring of polyester/acrylic blends

Or

(b) Explain dunging process.

10. (a) Write the dyeing of wool with basic dyes.

Or

(b) Write the designs used in kalamkari printing

11. (a) Describe the raising process

Or

(b) Describe the fixing process.

12. (a) Write the differences between Style of printing and method of printing

Or

(b) Explain the preparation of cloth for kalamkari printing.

Part C

4 X5 = 20 Marks

13. (a) Explain the degumming of silk with alkaline method.

Or

(b) Explain High Temperature Stork Universal Festoon steamer

14. (a) Describe the application of direct dyes to viscose rayon.

Or

(b) Explain kalamkari printing process

15. (a) Describe the working/usage of high temperature steamer of Mather and Platt.

Or

(b) Explain High temperature Italian Arioli Festoon steamer

16. (a) Describe direct style of printing

Or

b) Describe discharge style of printing.

18GT403C , Textile Care and Ecology

Course Title	: Textile Care and Ecology	Course Code	: 18GT-403 C
Semester	: IV	Course Group	: Core
Teaching Scheme in Pds (L: T:P):	3:1:0	Credits	: 3
Methodology :	: Lecture + Tutorial	Total Contact Period	: 60 Pds
CIE	: 60 Marks	SEE	: 40 Marks

Prerequisites

Basic science knowledge acquired in school education and awareness of textile fibre properties and cleansing agents learned in first semester.

Course outcomes		CL	Periods
CO1	Identify the laundry types and laundry equipment.	R/U/A	10
CO2	Classify stiffening agents and laundry materials.	R/U/A	09
CO3	Plan stain removal and dry-cleaning procedure to use based on requirement.	R/U/A	09
CO4	Plan the mending procedures and identify care labeling on clothes.	R/U/A	10
CO5	Formulate a care and maintenance plan for the fabric made from different fibres	R/U/A	10
CO6	Identify - the pollution caused by textile industry and identify the effluent treatments measures to take.	R//U/A	12

COURSE CONTENT:

1. Unit 1 **Laundry Types and Equipment:**

Duration 10 Periods:

Laundry equipment -Classification - household washing machines-. factors to consider when purchasing a washing machine. Parts and functions of electric iron. Two types of steam iron. Laundry equipment in institutions and commercial laundries. Functioning of hydro extractors. Use of driers in institutional and commercial laundry the pressing equipment along with functions and uses (1) 1 flat bed presses (2) calenders (3) collar and cuff press (4) Sleeve press (5)

Bosom, Body and Yoke press (6) steam Air Garment Finisher. The spotting unit and its function. Hothead offset - dry-cleaning press.

2. **UNIT 2 Laundry Materials and Stiffening Agents:** **Duration: 09 Periods**
 the uses of ammonia, borax (sodium tetraborate) washing soda. (sodium carbonate) oxalic acid, acetic acid and oleic acid in laundry work. The classification of stiffening agents-natural modified natural & synthetic. Preparation and uses of different stiffening agents. Reason for applying stiffening agents. Preparation of correct strength of starch solution. Steps in application of stiffening agents to clothes. (uniform, kameez, nurse uniform, army uniform and cotton sari, shirt).
3. **Unit 3 Stain Removal and Dry Cleaning:** **Duration: 09 Periods**
 Stain – Classification of stains- identification. rules for stain removal. the chemicals and procedure to remove the following stains (fresh and dry) from white cotton fabric (tea, coffee, blood, egg, fruit and wine, oil, iodine,) (candle wax, iron rust, lipstick, urine, paint) Dry cleaning- Grease absorbents & Grease solvents. the immersion method of dry cleaning. Spot cleaning with grease solvents. dry cleaning of clothes with application of grease absorbents. dry cleaning of clothes with application of paste made with grease solvent and grease absorbent. The fabrics/ clothes for which dry cleaning is recommended. dry cleaning of clothes by using grease solvents. dry-cleaning silk sari with stains in one place. dry-cleaning silk sari with stains all over (the sari).
4. **Unit 4 Mending and Labelling:** **Duration: 10 Periods**
 Fundamental rules for darning. Process of darning straight tear, diagonal tear, three-cornered tear. Darning a hole: plain weave hand darn, darned-in patch, machine darning. Mending of holes with patching (hemmed & printed patch) Systems of care labelling- Canadian care labelling system, British care labelling system. Draw and name the symbols used in care labels - the purpose of different symbols used for giving bleaching instructions, drying instruction – ironing instruction, dry cleaning – locations of labels on the clothes. renovation/remodeling.
5. **Unit 5 Care of Textiles** **Duration: 10 Periods**
 Methods of Washing and Finishing- the process of washing clothes by application of pressure. Washing clothes by kneading and squeezing method.- Suction washing method.- Washing of cloths by hand friction or rubbing. Washing of cloths by rubbing and scrubbing. ironing, pressing, calendaring, steaming and mangling. washing and finishing procedure for white cotton sari, coloured cotton sari coloured dress, white cotton dress material, synthetic dress material, woolen sweater, silk sari with contrast colour border and pallu, washing and finishing of flannelette, . Washing and finishing of velveteen.
6. **Unit 6 Effluent Treatments:** **Duration: 12 Periods**
 three main sources of laundry waste water- Residential – Commercial- Industrial- Benefits of recycling laundry water. Sources of Air pollution in Textile industry - Point sources – Fugitive sources .Point sources – Boilers – Ovens- Storage tanks .Fugitive or area sources of air pollution – Solvent based cleaning activities- Waste water treatment systems – Warehouses – Spills .General Waste categorization of Textile industry – Hard – to treat wastes – Hazardous or Toxic wastes - Effluents in Chemical Processing- Constraints of Effluent treatment – measures to control water pollution – measures to reduce concentration of the chemicals and waste water generation .Effluent treatment- Operations involved in effluent treatment – Methods of removal of colour from textile dye house effluent – Activated charcoal adsorption technique- Ion

exchange- Reverse osmosis- toxic chemicals and pollutants in wet processing – Eco prescription for the Indian Textile Industry- Eco auditing- Eco – tex parameters- product audit and production audit.

Reference books

1. SusheelaDanttyagi- Fundamentals of Textiles and their Care – Orient Longman- Hyderabad.
2. Textile committee – Best Management Practices for pollution prevention in the textile industry.
3. Bernard P Corbman – Textiles – Fiber to fabric- McGraw Hill Book company – New Delhi
4. DurgaDeulkar- Household Textiles and Laundry Work – Atma Ram and Sons- Delhi.
5. Noemia D’Souza- Fabric Care- New Age International (p) Limited, publishers, Hyderabad.
6. S R Karmakar – Chemical Technology in the pretreatment processes of textiles – Elsevier – New York.

Specific Learning Outcomes

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

1. Laundry Types and Equipment:

- 1.1 Classify laundry equipment.
- 1.2 Define /state the use of laundry basket.
- 1.3 Define the different household washing machines. (fully automatic, semi-automatic, front loading washing machine)
- 1.4 State the convenient factors to consider when purchasing a washing machine.
- 1.5 Describe the parts and functions of electric iron.
- 1.6 State the two types of steam iron.
- 1.7 List the laundry equipment in institutions and commercial laundries.
- 1.8 State the functioning of hydro extractors.
- 1.9 State the use of driers in institutional and commercial laundry.
- 1.10 Describe the pressing equipment along with functions and uses (1) Flat bed presses (2) Calenders (3) Collar and Cuff press (4) Sleeve Press (5) Bosom, Body and Yoke press (6) Steam Air Garment Finisher.
- 1.11 Describe the spotting unit and its function.
- 1.12 Describe hothead offset dry-cleaning press.
- 1.13 State the following terms 1 finger pressing 2 High sudsing detergent 3 Line drying 4 Lint filter 5 Lint trap 6 Pre spotter agents 7 Prewash 8 Redeposited soil 9 Spray rinse 10 Tempering rinse.

2. Laundry Materials and Stiffening agents

- 2.1 State the uses of ammonia in laundry work.
- 2.2 State the uses of borax in laundry work. (sodium tetraborate)
- 2.3 State the uses of washing soda. (sodium carbonate)
- 2.4 State the uses of oxalic acid, acetic acid and oleic acid.
- 2.5 Explain the preparation and uses of different stiffening agents.
- 2.6 Explain the reason for applying stiffening agents.
- 2.7 Describe the preparation of correct strength of starch solution.
- 2.8 Explain the classification of stiffening agents-natural, modified natural & synthetic.
- 2.9 Explain the steps in application of stiffening agents to clothes. (uniform, kameez, nurse uniform, army uniform and cotton sari).

- 2.10 State the uses of the following 1 Cleaning benzene 2 Carbon tetrachloride 3 Paraffin 4 turpentine 5 Methylated spirit.

3. Stain Removal and Dry Cleaning

- 3.1 Define the term stain.
- 3.2 Classify stains.
- 3.3 State the tips for stains identification.
- 3.4 Explain the rules for stain removal.
- 3.5 State the chemicals and procedure to remove the following stains (fresh and dry) from white cotton fabric (tea, coffee, Blood,).
- 3.6 State the chemicals and procedure to remove the following stains -candle wax.
- 3.7 state the procedure to remove the following stains : perfume, soot, tar, sealing wax, rust, mud, grass.
- 3.8 Define dry cleaning.
- 3.9 Identify and name the grease absorbents & grease solvents.
- 3.10 Explain the immersion method of dry cleaning.
- 3.11 Explain the spot cleaning with grease solvents.
- 3.12 Explain the dry cleaning of clothes with application of grease absorbents.
- 3.13 Explain the dry cleaning of clothes with application of paste made with grease solvent and grease absorbent.
- 3.14 List the fabrics/ clothes for which dry cleaning is recommended.
- 3.15 Explain the dry cleaning of clothes by using grease solvents.
- 3.16 Explain the process of dry-cleaning silk sari with stains in one place.
- 3.17 Explain the process of dry-cleaning silk sari with stains all over (the sari).
- 3.18 State the procedure for removing the following stains

4. Mending and Labelling

- 4.1 List and explain the fundamental rules for darning.
- 4.2 List the kinds of tears.
- 4.3 Explain the process of darning different tears-straight tear, diagonal tear, three-cornered tear.
- 4.4 Explain darning a hole: plain weave hand darn, darned-in patch, machine darning.
- 4.5 Explain the mending of holes with patching (hemmed& printed patch).
- 4.6 Name and explain the various systems of care labelling- Canadian care labelling system, British care labeling system.
- 4.7 Draw and name the symbols used in care labels.
- 4.8 Draw and explain the purpose of different symbols and instructions used for giving bleaching instructions.
- 4.9 Draw and explain the purpose of different symbols used for giving drying instruction.
- 4.10 Draw and explain the purpose of different symbols used for giving ironing instruction.
- 4.11 Draw and explain the purpose of different symbols used for giving dry cleaning instruction.
- 4.12 State and explain the locations on the clothes where labels are placed.
- 4.13 Explain the remodeling /renovation ideas for different clothing and home textiles.

5. Care of Textiles

- 5.1 Define the terms steeping, rinsing.
- 5.2 Explain the methods of washing and finishing.
- 5.3 Explain the washing and finishing procedure for white cotton sari.
- 5.4 Explain the washing and finishing procedure for coloured cotton sari.
- 5.5 Explain the washing and finishing procedure for coloured dress material.
- 5.6 Explain the washing and finishing procedure for white cotton dress material.

- 5.7 Explain the washing and finishing procedure for synthetic dress material.
- 5.8 Explain the washing and finishing procedure for woolen material.
- 5.9 Explain the washing and finishing procedure for woolen sweater.
- 5.10 Explain the washing and finishing procedure for silk sari with contrast colour border and pallu.
- 5.11 Define ironing, pressing, calendaring, steaming and mangling.
- 5.12 Explain the process of washing clothes by application of pressure.
- 5.13 Explain the process of washing clothes by kneading and squeezing method.
- 5.14 Explain suction washing method.
- 5.15 Explain washing of cloths by hand friction or rubbing.
- 5.16 Explain washing of cloths by rubbing and scrubbing.
- 5.17 Describe the process of washing and finishing of flannelette.
- 5.18 Explain the process of washing and finishing of velveteen.

6. Effluent Treatments

- 6.1 Define the term biocide.
- 6.2 Define the term biocompatible.
- 6.3 Define the term decolourizing.
- 6.4 Define the term oxygen index.
- 6.5 Define the term basal convention.
- 6.6 State the three main sources of laundry waste water.
- 6.7 State the benefits of recycling laundry water.
- 6.8 Explain the point sources of air pollution in textile industry.
- 6.9 Explain the following fugitive sources of air pollution - Solvent based cleaning activities- Waste water treatment systems – Warehouses and Spills.
- 6.10 Explain the Hard – to treat wastes of textile industry.
- 6.11 Explain the Hazardous or Toxic wastes of textile industry.
- 6.12 Explain the various effluents in chemical processing.
- 6.13 Explain the effect of waste water on the environment.
- 6.14 List the constraints of effluent treatment.
- 6.15 List the measures taken to control water pollution with respect to effluent treatment.
- 6.16 List the operations involved in a typical effluent treatment plant.
- 6.17 Explain the effluent treatment carried out in a small-scale dye house.
- 6.18 List the methods used for removal of colour from textile dye house effluent.
- 6.19 Explain the Ion exchange process for removal of colour from textile dye house effluent.
- 6.20 Explain the Reverse Osmosis method for removal of colour from textile dye house effluent.
- 6.21 List the toxic chemicals and pollutants in wet processing.
- 6.22 State the term sludge, 4R principle, Green textiles, Carcinogenic, Activated sludge process, Aeration,

Suggested Students Activities 1. Student visits Library to refer books, journals, newspaper articles. 2. Student visits nearby laundry, dry cleaning and dyeing units. 3. Quiz. 4. Group discussion. 5. Surprise test. 6. Assignment 7. Seminar 8. Plan a cost-effective effluent treatment plan for a textile industry. 9. Suggest the ways to mend tea

List of E Learning Sites

- 1.[http.pinterest.com](http://pinterest.com)
- 2.[http.textile centre.in](http://textilecentre.in)

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

C-18 Curriculum examination pattern

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2. Midsem-III and End Examination conducted together for 40 marks for the duration of 2 hours only.

The question paper pattern in Mid Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	4	1	Nil	4 Marks
02	Part-B	Understanding (U)	4	3	2	6 Marks
03	Part-C	Application (A)	4	5	2	10 Marks
Total Marks						20 Marks

The question paper pattern in End Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	8	1	Nil	8 Marks
02	Part-B	Understanding (U)	8	3	4	12 Marks
03	Part-C	Application (A)	8	5	4	20 Marks
Total Marks						40 Marks

C-18 Examination Pattern

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	
MID SEM –II EXAM					
S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks	
		R		U	A		
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b)	13(b)	
					11(a)	15(a)	
		11(b)		15(b)			
6	VI		7,8	10(b)	14(b)		
				12(a)	16(a)		
				12(b)	16(b)		
Total Questions		8			8	8	
Legend:		Remembering (R)		1 Mark			
		Understanding (U)		3 Marks			
		Application (A)		5 Marks			

Instructions to the Students:

1. The student has to attempt either (a) or (b) question under the given question in serial.
2. The students are advised not to attempt more than prescribed questions in the exam.
3. In case additional questions attempted by the students, the consideration will be given on the basis of priority of first attempted question as the valid answer.
4. The student has to write the answer for the Questions of 1 mark, not more than $\frac{1}{4}$ page and 3 marks, not more than 1 page and 5 marks, not more than 2 pages.

Slip Test 1	1 and 2	5	2 Essay Questions out of 3 Questions
Slip Test 2	3 and 4	5	2 Essay Questions out of 3 Questions
Assignment	1	5	Different group assignments of Higher order Questions that develop problem solving skills and critical thinking should be given
Seminars	1	5	

Board Diploma Examination(C18) , 18GT403C

D G T Fourth Semester Mid 1 Examination

Textile Care and Ecology

Time 1 Hour

Marks: 20

Part A

8 X1 = 8 Marks

1. State the use of laundry basket.
2. State the term finger pressing.
3. State the use of ammonia in laundry work.
4. State the use of borax in laundry work.

Part B

2 X3 = 6 MARKS

Answer any two questions and each question carries three marks

5. (a) Explain the functions of fully automatic washing machine. (Or)
(b) Explain the functions of spotting unit.
6. (a) Explain natural stiffening agents. (OR)
(b) Explain modified stiffening agents.

Part C

Answer All questions and each question carries five marks

02X5=10

7. (a) Describe hothead offset dry-cleaning press. (Or)
(b) Describe flat bed press.
8. (a) Explain the reason for applying stiffening agents. (Or)
(b) Describe the preparation of correct strength of starch solution.

Board Diploma Examination(C18) 18GT403C

D G T Fourth Semester Mid 2 Examination

Textile Care and Ecology

Time 1 Hour

Marks: 20

Part A

4X1 = 4 Marks

Answer all questions and each question carries one mark

1. Define the term stain.
2. Define the term dry cleaning.
3. List the different tears seen in fabric/clothes.
4. Draw ironing instruction symbol.

Part B

2 X 3 = 6 Marks

Answer any two questions and each question carries three marks

5. (a) Explain the procedure for removing fresh tea stain.(Or)
(b) Explain the procedure to remove fresh blood stain from cotton fabric.
6. (a) Write different bleaching instructions. (Or)
(b) Write the locations on garments where care and size labels are placed.

Part C

2 X5 = 10 Marks

Answer any two question and each question carries five marks

7. (a) Explain any one dry cleaning process.(Or)
(b) Explain the rules for stain removal
8. (a) Explain plain weave hand darn(Or)
(b) Explain the machine darning.

Board Diploma Examination(C18) 18GT403C

D G T Fourth Semester End Examination

Textile Care and Ecology

Time 2Hour

Marks:40

Part A

8 X1 = 8 Marks

Answer all questions and each question carries one marks

1. State the use of laundry basket.
2. Define the term stain
3. State the reason for soaking white cotton sari before washing.
4. Define the term rinsing.
5. Define calendaring.
6. Define steaming.
7. Define the term biocide.
8. Define the term biocompatible.

Part B

4 X3 = 12 Marks

Answer all questions and each question carries three marks

9. (a))Explain the functions of fully automatic washing machine

Or

- (b) Explain the rules to be followed for woolen clothes

10. (a) Explain the procedure for removing fresh tea stain.

Or

- (b) Explain the point sources of air pollution in textile industry.

11. (a) Explain the finishing tips for flannelette clothes

Or

- (b)Explain the washing tips for flannette.

12. (a)Write the three main sources of laundry water

Or

- (b) Write the benefits of recycling laundry water.

Part C

4 X5 = 20 Marks

13. (a) Explain the reason for applying stiffening agents to clothes.

Or

(b) Explain the washing procedure to be followed for coloured fabric.

14. (a) Explain the procedure to follow for machine darning.

Or

(b) Explain the Hard – to treat wastes of textile industry

15. (a) Explain the washing procedure for coloured cotton clothes.

Or

(b) Explain the washing procedure for synthetic dress materials

16. (a) Explain the effluent treatment carried out in a small-scale dye house

Or

(b) Explain the effect of waste water on the environment.

18GT- 404C , Personal Grooming

Course Title	Personal Grooming	Course Code	18GT-404C
Semester	IV	Course Group	Core
Teaching Scheme in Periods (L: T:P)	3:1:0	Credits	3
Methodology	Lecture + Tutorials	Total Contact Periods:	60Pds
CIE	60 Marks	SEE	40 Marks

Pre-requisites: science and social knowledge acquired in school education

	Course Outcomes	CL	Periods
CO1	Plan food groups, yoga and exercises for maintaining health and posture.	R/U	10
CO2	Identify the diseases associated with nails, use of tools and procedures for beautifying and maintaining nail health.	R/U	10
CO3	Examine the various superfluous hair removal methods and the hair design suitable for different facial features and for various occasions.	R/U	10
CO4	Analyze the necessity of different facial treatment and makeup.	R/U	10
CO5	Summarize the anatomy, diseases of hair and care to have healthy beautiful hair	R/U	10
CO6	Summarize the anatomy, diseases of skin and care to have healthy beautiful skin.	R/U	10

Course Content

1. Unit 1 Therapies – Food, Yoga and Exercise:

Duration: 10 Periods

Food: Food Groups - Carbohydrates – Protein – Minerals – Vitamins – water – Fats. Calories – calorie chart advantage - Yoga – General guidelines for yoga practice (Before- After – During) -Loosening Practices/Sadilaja/: Neck bending – Shoulder movement – Trunk movement – Knee movement. Yogasanas: (Standing Postures. Sitting

posture: Prone Postures – Supine Postures. Dhyana technique – benefits. Yoga for Personality Development: Physical – mental – emotional – intellectual. Yoga practice for concentration development: Yoga practice for memory development (short and long term) -Benefits of yoga. Posture - Body types (somatotypes) -endomorph, mesomorph, ectomorph. - Physical Fitness- Body Exercise-Isometrics, isotonics, aerobics. - Posture-Garrison recommendations for balanced posture (feet, shoulder and chest, head and neck-seat and abdomen, knees) walking posture.

2. UNIT 2: Nail Care:

Duration:10 Periods

Manicure and Pedicure – Nail anatomy (matrix, nail bed, nail plate, free edge, nail mantle, lunula, cuticle, nail grooves, nail walls, eponychium, perionychium, hyponychium, nail bed, nail folds – specialized ligaments)- Factors affecting nail growth. Manicure and pedicure :Definition, purpose, tools and equipment's, - manicure and pedicure Products and their use (nail enamel remover, soap, nail bleach ,cuticle cream , pumice powder, nail strengthener , buffing paste hand cream, nail enamel, nail hardener) - Nail shapes (oval, square, round, pointed) – Manicure procedure – types of nail polish application – (full coverage ,free edge, hairline tip, free walls, half-moon) .Hand massage procedure - arm massage procedure - definition of aroma therapy – pedicure - basic pedicure process . Nail art techniques – Dotted techniques, Sponging technique and water marbling technique.

3. Unit 3 Hair Removal and Hair Design:

Duration 10 periods

Definition of Hirsuties – methods of permanent hair removal (Electrolysis - Photoepilation - laser hair removal) – temporary hair removal (shaving, tweezing, electronic tweezers, depilatories) – Body waxing – procedure - Eye brow hair removal – temporary methods – depilatory waxing – Plucking – Threading Permanent methods – electrical methods (galvanic electrolysis and electrical epilation). Eye brow shaping – procedure. Influence of hair type on hair style (fine straight hair – straight medium hair – straight coarse hair – wavy fine hair – wavy coarse hair – curly fine hair – curly medium hair – curly coarse hair, very curly fine hair, extremely curly medium hair, extremely curly coarse hair. Trichology - integument.

4. Unit 4. Facial Treatments and Make up

Duration: 10 Periods

Facial treatments – types (preservative, corrective) Basic facial procedure - Facial for dry skin - Facial for oily skin - Massage- Basic massage manipulations – (1 Effleurage – 2 Petrissage - 3 Fulling - 4 Friction - Chucking, rolling, and wringing – Tapotement – Hacking – vibration). importance of makeup, Tools used in makeup, Cosmetics used in face make up. Types-Foundation, Face powder, rouge, lip colour, lip liner, Face compact,

Concealer, Blusher, Eye shadow, eye liner, mascara, -Different methods used. - party make up, daily make up.

5. UNIT 5: HairCare and Colouring:

Duration 10 Periods. -

Structure of the Hair root (follicle, hair bulb, dermal papilla, arrector pili, Sebaceous glands) - Hair texture – hair density – Hair porosity – Hair elasticity - Hair growth pattern (hair stream, whorl, cowlick) - Growth cycles of hair- anagen: the growth phase - telogen: the resting phase catagen: the transition phase) - Importance of hair care, factors affecting hair growth. Scalp massage –benefits and methods, materials required and procedure. Hair colour- reasons for colouring hair - Classification of hair colours (temporary, semi-permanent, demi permanent and permanent) – safety precautions for hair colouring - Special effects hair colouring - (Highlighting reverse high lighting,) – Techniques for achieving highlighting (Captechnique, Foil technique, Baliage or free-form technique)- Application of henna to hair- Types of abnormal hair loss -androgenic alopecia-Alopecia areata -Postpartum alopecia. Disorders of the scalp – Dandruff (Pityriasiscapitis simplex, Pityriasissteatoides). Brushing- Types of shampoos (medicated, clarifying, balancing, dry, colour enhancing shampoos) Conditioners types.

6. UNIT 6: Skin Care:

Duration 10 Periods

definitions - importance of skin care – Functions of the skin – Structure of the skin. Adverse Internal and external factors influencing skin – internal: alcohol, caffeine, smoking, medication, stress. External factors: 1 ultra violet light 2 climate (. effects of climate on the skin: sebum production 2 perspiration 3 humidity 4 extremes of temperature 5 stratum corneum) 3 environmental stress and pollution Basic types of skin- normal, dry, greasy and combination) – classification of skin based on additional characteristics (Sensitive skin – Dehydrated – moist – oedematous). Age of the skin(healthy young skin, mature skin) Skin care for different seasons - Allergies affecting the skin (food, detergents, solvents, bleaches) Skin Problems-Classification & identification of common skin problems – Acne, Blackheads, Whiteheads, Disorders of sweat glands, Disorders of oil glands, Dryness, Dullness. Warts, Skin Treatment- Pimple, Pigmentation, suntan, the four stages of sunburn - Skin care products (cleansing creams, cleansing milks, moisturizing cream, cleansing bars, sun screens -. Cleansing – procedure – application of face mask – Desquamation – benefits of exfoliation.

Recommended Books

1. 21st June international Day of Yoga – Common Yoga Protocol – AYUSH – Govt of India.
2. NCTE – Yoga Education – Diploma in Elementary Education.
3. http://www.egazette.nic.in/WriteReadData/2013/E_29_2013_429.pdf.
4. Mary Kefgen and Phyllis Touchie-Specht - Individuality in Clothing Selection and Personal Appearance: A Guide for the Consumer.
5. NeenaKhanna- Body and Beauty Care – PustakMahal – Delhi.
6. Dr Shiv Dua – Hair Care- A Complete Solution to your Hair Problems – Health Harmony B Jain Publishers(P) Ltd.
7. Dr Rajeev Sharma – Body and Beauty Care- Locus Press New Delhi.
8. Shahnaz Husain's Beauty Book – Orient Paperbacks – Delhi.
9. MadhumitaSaikia – Beautician Training Course- Asian Publishers – New Delhi.
10. ParveshHanda- A Complete Book on Beauty, Body, Make up and Hairstyles – Goodwill Publishing House – New Delhi.
11. Arlene Mathew- The Complete Beauty Book – Vasan Publications – Bangalore.
12. Charles Zviak, (1986), The Science of Hair Care, Taylor & Francis.
13. Dale H. Johnson, (1997), Hair and Hair Care, Marcel Decker Inc., New York.
14. Claude Bouillon and John Wilkinson, (2005), The Science of Hair Care, Taylor & Francis.
Audrey Davis Sivasothy, (2012), Hair Care Rehab, The ultimate hair repair and reconditioning manual, Saja Publishing Company, LLC.
15. MeenakshiSinha, ReenaRajgopal, Suchismita Banerjee, (2000), All You Wanted to Know About Hair Care, Sterling Publishers Pvt. Ltd., New Delhi.

Specific Learning outcomes

On completion of the study of the subject, the student be able to:

UNIT 1: Therapies - Food, Yoga and exercise

- 1.1 State the food groups necessary for body building, maintenance and repair.
- 1.2 State the food groups necessary for energy and heat.
- 1.3 Explain the necessary food groups for regulation of body processes.
- 1.4 Define the term calorie. And balanced diet.
- 1.5 State the advantage of calorie chart.
- 1.6 State the functions of vitamin A, D, K E. and minerals calcium, sodium, potassium, iron, iodine and phosphorous.
- 1.7 Define the term yoga.
- 1.8 State the general “before the practice” guidelines for yoga practice.
- 1.9 State the general “during the practice” guidelines for yoga practice.
- 1.10 List the two tips to be followed after the yoga practice.
- 1.11 State benefits of the following Loosening Practices/Sadilaja/: Neck bending – Shoulder movement – Trunk movement – Knee movement.
- 1.12 Name the yogasanas in standing position - Tadasana - Vr̥kṣāsana, Pāda-Hastāsana, ArdhaCakrāsana, Trikoṇāsana.(only names)
- 1.13 Name/List the yogasanas in Sitting posture (Bhadrapada, Vajrāsana/Vīrāsana, Ardha Uṣṭrāsana, Uṣṭrāsana, Śaśakāsana Uttāna Maṇḍūkāsana, Marīchyāsana , Vakraśana). (only names)
- 1.14 Name yogasanas in Prone Postures – (Makarāsana, Bhujangāsana, Śalabhāsana)(only names)

- 1.15 Name yojanas in Supine Postures – (Setubandhāsana, Uttānapādāsana, Ardhalāsana, Pavanamuktāsana, Śavāsana.) (only names)
- 1.16 Explain Dhyana technique and benefits.
- 1.17 Describe the Yoga for Personality Development: Physical – mental – emotional – intellectual.
- 1.18 Describe the technique and benefits of Yoga practice for concentration development.
- 1.19 Describe Yoga practice for memory development (short and long term).
- 1.20 Describe the three basic somatotypes (endomorph, mesomorph and ectomorph).
- 1.21 Define the term physical fitness.
- 1.22 Describe the following three body exercises – (a) Isometrics (b) Isotonic (c) Aerobics.
- 1.23 Define the term posture.
- 1.24 Define the term postural balance
- 1.25 State the Garrisons recommendations for balanced posture.

2 Nail Care

- 2.1 Describe the structure and function of nail.
- 2.2 Mention and explain the factors affecting nail growth.
- 2.3 State the symptoms and causes for fungal nail infections.
- 2.4 State the symptoms and causes for periungual warts.
- 2.5 State the causes and symptoms for Athlete's foot
- 2.6 Describe the following nail disorders – bruised nail, furrows, corrugations, egg shell nails.
- 2.7 Define the terms manicure and pedicure.
- 2.8 Describe the manicure equipment.
- 2.9 Describe manicure implements.
- 2.10 Describe the manicure and pedicure products and their use.
- 2.11 State the popular nail shapes.
- 2.12 Describe the manicure procedure.
- 2.13 Describe hand massage procedure.
- 2.14 Describe arm massage.
- 2.15 Define the term aromatherapy.
- 2.16 Explain basic pedicure process.
- 2.17 Describe the following nail art techniques – Dotting techniques, Sponging technique and water marbling technique.

3 Hair Removal and Hair Design

- 3.1 Define the term Hirsuties.
- 3.2 List the uses of different hair cutting tools.
- 3.3 Describe the handling/holding of tools during hair cut
- 3.4 Describe the techniques of hair sectioning.
- 3.5 List and explain the permanent methods of hair removal.
- 3.6 Describe the temporary body hair removal methods.
- 3.7 Describe the body waxing procedure.
- 3.8 Describe the temporary methods used for eye brow hair removal.
- 3.9 Describe the galvanic electrolysis and electrical depilation methods of permanent eye brow hair removal method.
- 3.10 Describe eye brow shaping process.
- 3.11 State the following hair shapes – straight, curly, wavy
- 3.12 Describe the influence of hair type on hair style.
- 3.13 List the popular haircuts for ladies and gents.

4 Facial Treatments and Make up

- 4.1 Define different face shapes – round, square, heartshape, oval, oblong, diamond shape.
- 4.2 List and define the two types of facial treatments.
- 4.3 Describe the basic facial procedure.
- 4.4 Describe the facial for dry skin.
- 4.5 Describe the facial for oily skin.
- 4.6 Define the term massage.
- 4.7 List the factors on which the impact of massage treatment depends.
- 4.8 Describe effleurage and petrissage and fulling.
- 4.9 Describe fulling.
- 4.10 Define friction and explain the types - chucking, rolling and wringing.
- 4.11 Define tapotement, hacking and vibration.
- 4.12 State the importance of makeup.
- 4.13 List the tools used in makeup.
- 4.14 List and define cosmetics used in makeup.
- 4.15 Describe the party makeup.
- 4.16 Describe daily makeup.

5 Hair Care and Colouring

- 5.1 Define the term trichology.
- 5.2 Define the term integument.
- 5.3 Describe the structure of hair root.
- 5.4 Define the following terms – Hair texture, hair porosity, hair elasticity and hair density.
- 5.5 State the following textures of hair – 1 Fine hair, medium textured hair, coarse hair, normal hair, dry hair, oily hair.
- 5.6 Describe hair growth patterns.
- 5.7 Describe the growth cycles of hair.
- 5.8 describe the scalp massage.
- 5.9 Describe the following types of abnormal hair loss - androgenic alopecia-Alopecia areata -Postpartum alopecia.
- 5.10 List the reasons for hair colouring.
- 5.11 Describe the classification of hair colours.
- 5.12 List the ingredients used in henna preparation for application on hair.
- 5.13 State the benefits of applying henna to hair.
- 5.14 Describe the step wise procedure for application of henna.
- 5.15 Describe the causes and types of dandruff.
- 5.16 Describe the safety precautions for hair colouring.
- 5.17 Describe the special effects hair colouring and the techniques used.
- 5.18 Describe the different types of conditioners.
- 5.19 Describe the types of hair conditioners.
- 5.20 List the required materials and implements for shampooing.
- 5.21 State the purpose of brushing before shampooing.
- 5.22 Describe the shampooing procedure.
- 5.23 State the term effleurage

6 Skin Care

- 6.1 Define the term dermatology.
- 6.2 Define the term etiology.
- 6.3 Define the term prognosis

- 6.4 Define the terms associated with primary lesions of skin – 1 macule 2 papule 3 wheal 4 tubercle 5 tumor 6 vesicle 7 pustule 8 cyst.
- 6.5 Define the term acne, dermatitis,
- 6.6 Define the terms pertaining to plastic surgery - 1 Rhytidectomy 2 mentoplasty 3 dermabrasion.
- 6.7 State the importance of skin care.
- 6.8 Describe the functions of the skin.
- 6.9 Describe the structure of the skin.
- 6.10 Describe the adverse internal and external factors affecting skin.
- 6.11 Describe the basic types of skins- normal, dry, greasy and combination.
- 6.12 Explain the types of skin based on additional characteristics.
- 6.13 Explain the characteristics of young healthy young skin and mature skin.
- 6.14 Explain the skin care based on season.
- 6.15 Describe the causes for skin allergies.
- 6.16 Explain the different skin problems.
- 6.17 Explain the skin treatments for pimples, Acne, pigmentation, sun tan.
- 6.18 Explain the different skin care products.
- 6.19 Describe the four stages of sunburn.
- 6.20 List the points to consider when using sunscreen.
- 6.21 Explain the cleansing procedure.
- 6.22 Explain the process of applying face mask.
- 6.23 Define the term Desquamation.
- 6.24 State the term exfoliation.
- 6.25 Mention the benefits of exfoliation.

Suggested Student Activities

1. . Student visits Library to refer to Text books.
2. . Student visits to Parlour for acquiring knowledge of Personal Grooming.
3. . Application of Various Personal Grooming Techniques.
4. . Quiz.
5. Group discussion.
6. . Surprise test.
7. Seminar
8. visit nearby yoga center.
9. Assignments

NOTE: TO support class room teaching on yoga, videos relating to yoga and exercise should be shown to the students

1. Prepare a poster of yogasanas
2. Visit nearby parlour and observe all the beauty care treatments and report on any one procedure you have observed.
3. Prepare a checklist to find whether you are taking a balanced diet (one-week duration) – report submission

List of E Learning sites

- 1.any trustworthy you tube videos.

	CO PO Mapping Matrix		
Course Outcome	CL	Linked PO	Teaching Hours
Categorize the therapies like yoga, exercise and food for physical and mental wellbeing.	R/U	1, 2,4,10	10
Distinguish the care for nails based on the requirement	R/U/A	1,2,3,4, 10	10
Choose the hair design based on various parameters and the necessary hair removal process based on location on body and follow the procedure while using the equipment	R/U/A	1,2,4 10	10
Plan facial treatment and make up for different skin types and occasions	R/U/A	1, 2,3, 4, 10	10
Formulate hair care methods for personal use.	R/U/A	1, 2,3, 4, 10	10
Examine the precautions and care necessary for maintaining a healthy skin	R/U/A	1, 23, 4,10	10
			60

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

C-18 Curriculum examination pattern

1. Midsem-I and Midsem-II examinations conducted for 20 marks each for the duration of 1 hour only.
2. Midsem-III and End Examination conducted together for 40 marks for the duration of 2 hours only.

The question paper pattern in Mid Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	4	1	Nil	4 Marks
02	Part-B	Understanding (U)	4	3	2	6 Marks
03	Part-C	Application (A)	4	5	2	10 Marks
Total Marks						20 Marks

The question paper pattern in End Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	8	1	Nil	8 Marks
02	Part-B	Understanding (U)	8	3	4	12 Marks
03	Part-C	Application (A)	8	5	4	20 Marks
Total Marks						40 Marks

C-18 Examination Pattern

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	
MID SEM –II EXAM					
S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks	
		R		U	A		
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b)	13(b)	
					11(a)	15(a)	
				11(b)	15(b)		
6	VI		7,8	10(b)	14(b)		
				12(a)	16(a)		
				12(b)	16(b)		
Total Questions		8			8	8	
Legend:		Remembering (R)		1 Mark			
		Understanding (U)		3 Marks			
		Application (A)		5 Marks			

Instructions to the Students:

1. The student has to attempt either (a) or (b) question under the given question in serial.
2. The students are advised not to attempt more than prescribed questions in the exam.
3. In case additional questions attempted by the students, the consideration will be given on the basis of priority of first attempted question as the valid answer.
4. The student has to write the answer for the Questions of 1 mark, not more than $\frac{1}{4}$ page and 3 marks, not more than 1 page and 5 marks, not more than 2 pages.

Slip Test 1	1 and 2	5	2 Essay Questions out of 3 Questions
Slip Test 2	3 and 4	5	2 Essay Questions out of 3 Questions
Assignment	1	5	Different group assignments of Higher order Questions that develop problem solving skills and critical thinking should be given
Seminars	1	5	

Board Diploma Examination (C18) ,18GT404C

D G T Fourth Semester Mid 1 Examination

Personal Grooming

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. Define the term yoga.
2. Define the term posture.
3. Define the term aromatherapy.
4. Define the term manicure.

PART B

2X 3= 6 MARKS

5. (a) State the general “before the practice” guidelines for yoga practice.(Or)
(b) State the general “during the practice” guidelines for yoga practice
6. (a) State the symptoms and causes for periungual warts.(Or)
(b) State the causes and symptoms for Athlete’s foot.

Part C

2 X5 = 10 Marks

7. (a) Describe the following three body exercises – (a) Isometrics (b) Isotonic (c) Aerobics.

Or

- (b) Explain Dhyana technique and benefits.

8. (a) Describe the manicure procedure.

Or

- (b)Describe hand massage procedure

Board Diploma Examination (C18) 18GT404C

D G T Fourth Semester Mid 2 Examination

Personal Grooming

Time 1 Hour

Marks 20

Part A

4 X1= 4 Marks

Answer all questions

1. List the uses of two hair cutting tools.
2. Define the term Hirsuties.
3. Define tapotement.
4. Define the term hacking.

Part B

2 X3 = 6 Marks

5. (a) Explain the following hair shapes – straight and curly(Or)
(b) Describe the handling/holding of tools during hair cut
6. (a)Describe fulling.(Or)
(b) Explain chuking.

Part C

2X 5=10

7. (a) Describe the temporary body hair removal methods. (OR)
(b) Describe the influence of hair type on hair style.
8. (a) Describe facial for dry skin

OR

- (b) Describe facial for oily skin.

Board Diploma Examination (c18) 18GT404C

D G T Fourth Semester End Examination

Personal Grooming

Time 2 Hour

Marks 40

Part A

8 X1= 8 Marks

Answer all questions

1. Define the term yoga.
2. List the uses of two hair cutting tools
3. Define the term tattoo.
4. Define the term posture.
5. List the reasons for hair colouring
6. Define the term trichology.
7. Define the term Desquamation.
8. State the term exfoliation.

PART B

4 X3 =12 MARKS

9. (a)) State the general “before the practice” guidelines for yoga practice.

OR

- (b) Describe the structure of hair root.

10. (a) Describe fulling

OR

- (b) Describe fine hair and medium texture hair.

11. (a) What is androgenic alopecia

OR

- (b) Describe Alopecia areata

12. (a) Explain the characteristics of young healthy young skin and mature skin.

OR

- (b) Explain the skin care based on season

PART C

4 X5=20 MARKS

13. (a) Explain Dhyana technique and benefits.

OR

(b) Describe the safety precautions for hair colouring.

14. (a) Describe the temporary body hair removal methods

OR

(a) Explain any six skin care products.

15. (a) Describe the causes and types of dandruff.

OR

(b) Describe the importance of brushing before shampooing.

16. (a) Explain the process of applying face mask.

OR

(b) Describe the structure of the skin.

Apparel Production Management

Course Title	: Apparel Production Management	Course Code	: 18GT405C
Semester	: IV	Course Group	: Core
Teaching Scheme in Pds (L:T:P)	: 3:1:0	Credits	: 3
Methodology	:: Lecture + Tutorial	Total Contact Periods	: 60 Pds
CIE	: 60 Marks	SEE	: 40 Marks

Prerequisites

Knowledge of science, mathematics, and social science acquired in school education and apparel production technology.

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Summarize the line balancing strategies.	U/A	1,2,3,10	10
CO2	Distinguish the production planning and control methodologies.	R/U/A	1,2,3,10	10
CO3	Examine the documentation and warehousing practices.	R/U/A	1,2,10	11
CO4	Formulate cost for the garments made during practicals.	R/U/A	2,10	09
CO5	Analyze the fusing and pressing parameters.	R/U/A	2,10	10
CO6	Analyze the benefits, applications of production system and plan production to overcome ergonomic problems	R/U/A	1,2,3,4,5,8,9,10	10
				60

Course Contents

- Unit1 Line Balancing: Duration 10 Periods** objectives of line balancing- line balancing- needs for balancing- goals for balancing- rules of line balancing-the two ways of production line balancing - static and dynamic. the points to be noted when line balancing- the macro and micro steps in line balancing- important aspects of line balancing –determination of cycle time (CT), determination of efficiency of a production line-formulas for-calculation of factory capacity, production capacity ,sewing room capacity, operator efficiency-on-standard operator efficiency-the easy method of CBM calculation under LCL sea shipment- sewing time by using machine RPM- minute cost of sewing line in apparel sector.
- Unit2 Production Planning and ControlDuration 10 Periods** :-production planning and controlling in different phases-planning phase ,action phase, control phase- continuous and intermittent production - production planning functions -production control functions - requirements of effective production planning and control -one time large product- forecasting-purpose of forecasting-types of forecasting- - the scheduling and control of production- factors

affecting scheduling- application, advantages and disadvantages of master schedule-key performance indicators for the garment industry.

3. **Unit3 Documentation and Ware Housing Duration 11 Periods** - sequence of operation in ware house- the operational elements of ware house- different handling system followed for handling of material-manual or free systems, powered systems, power and free systems- storage equipment used in industry-different equipment used for packing in the industry-fabric usage control with respect to issue of materials- spreading audit in investigating the fabric usage control - deviation from costed marked plan- fabric usage control with respect fabric reconciliation-fabric faults and claims for poor quality-importance of documentation and the management function. Define the terms: 1 bin centre 2 backflush 3 backhaul 4 blanket rate 5 cycle stock 6 deadweight tons 7 forward picking 8 fourth party logistics 9 lesser 10 logbook 11 order fill. three broad categories of factory compliance .
4. **Unit 4 Apparel Costing Duration 9 Periods** -cost, financial accounting, cost accounting and managerial accounting-the necessity of cost accounting. - Definitions of the following: book keeping. - single entry system of book keeping - double entry system of book keeping - capital, transaction, trade amount, sales returns, commission, debtor, turnover, bad debt, asset .The cost of goods- the general operating expenses-(marketing and selling expense, merchandising, design, or product development)-direct costing, absorption costing, activity-based costing and blended costing- stages of costing- the elements in garment costing- SAM for stitching-formula for calculating cut make trim cost-CMT- costing for men's shirts- basic t shirt - costing levels.
5. **Unit 5 Fusing and Pressing-Duration 10 Periods** ways by which fusible enhance the appearance of finished garments-factors involved in the construction of fusible(base material-thermoplastic resin-coating)-Characteristics of finished garments influenced by base cloth- three standard web formation-random-parallel-condition to which resins must conform(upper limit temperature-lower limit temperature)-resins types and application(polyethylene-polyester-pvc-plasticized cellulose system)- two aspects of coating-density and coating system- principal method of coating system- processing components of fusing process-temperature-time-pressure-cooling- fusing machinery-steam press-flat bed press-conveyor belt press-factors considered in selection procedure of fusible- methods of fusing (reverse fusing, sandwich fusing ,double fusing)State and purpose of pressing- top pressing and under pressing- basic components of pressing- division of garments into categories based on pressing requirements- classification of pressing equipment - steam air finisher- the steam tunnel finishing. Methods of fusing. Welding methods.
6. **Unit 6 Production Systems and Ergonomics: Duration 10 Periods:**
whole garment production system - advantages and disadvantages of the system - Progressive bundle system synchro straight line system – Unit production system – Quick response sewing system – advantages and disadvantages- Ergonomics- the primary tasks in pressing department - solutions for the following common problems encountered in pressing department: working height, floor surface, foot pedals, input output and lighting - solutions for common ergonomic problems with hand iron – iron, balancers, upright steaming, catchers, guarding- solutions for common ergonomic problems with manual press: controls, multiple workstations. Solutions for common ergonomic problems with automatic press: hand control, foot space, contact area - Common task in finishing department- Solutions for the common problems encountered while hand sewing in the finishing department: work surface, chair, input/ output solutions for the ergonomic problems associated with the important aspects of final inspection: the work surface, input/output, support surface and accessories.

Reference books

1. V Ramesh Babu – Industrial Engineering in Apparel Production – WPI Pvt Ltd – New Delhi.
2. O P Khanna – Industrial Engineering and Management – Dhanpat Rai Publications (P) Ltd – New Delhi
3. David J tyler- Materials Management in Clothing Production – BSP Professional Books – London.
4. Gerry Cooklin – Introduction to Clothing Manufacture – Blackwell Publishing – India.
5. Ergonomic Hand book for the clothing industry - Union of Needletrades, Industrial and Textile Employees, the Institute for Work &Health, and the Occupational Health Clinics for Ontario Workers, In Research and writing team: Jennifer Gunning.
6. Ruth E Glock, Grace I Kunz – Apparel Manufacturing sewn product analysis – Pearson.
7. Sharon Lee Tate – Inside Fashion Design -Pearson.
8. Technology of clothing manufacture – Carr and Lathams – Blackwell Publishing - UK.

Specific Learning Outcomes: on completion of the course, the student shall be able to

1. Line balancing

- 1.1 State the objectives of line balancing.
- 1.2 Define line balancing.
- 1.3 State the needs for balancing.
- 1.4 State the goals for balancing.
- 1.5 State the rules of line balancing.
- 1.6 Explain the two ways of production line balancing-static and dynamic and the points to be noted when line balancing.
- 1.7 Explain the macro-steps in line balancing.
- 1.8 Explain the micro steps in line balancing.
- 1.9 Explain the importance aspects of line balancing and determination of cycle time (CT).
- 1.10 Explain the determination of efficiency of a production line.
- 1.11 State formulas for-calculation of factory capacity.
- 1.12 State the formulas for calculation of production capacity in pieces.
- 1.13 State the formula to calculate sewing room capacity.
- 1.14 State the formula to calculate operator efficiency.
- 1.15 State the formula for calculating on-standard operator efficiency.
- 1.16 State the easy method of CBM calculation under LCL sea shipment.
- 1.17 State the way to calculate sewing time by using machine RPM.
- 1.18 State the way to calculate minute cost of sewing line in apparel sector.

2. Production Planning and Control

- 2.1 Describe production planning and controlling in different phases-planning phase, action phase, control phase.
- 2.2 Explain the different levels of PPC.
- 2.3 Explain continuous and intermittent production.
- 2.4 Describe the following production planning functions (estimating routing, scheduling, loading)
- 2.5 Describe production control functions (dispatching, expediting,)
- 2.6 Describe the requirements of effective production planning and control.
- 2.7 Describe the characteristics one-time large product.
- 2.8 Define forecasting.
- 2.9 State the purpose of sales forecasting.
- 2.10 Explain about different types of forecasting. (historic estimate, sales force estimate, delphi method, prior knowledge)
- 2.11 Describe the scheduling and control of production.
- 2.12 Describe the factors affecting scheduling.
- 2.13 State the advantages and disadvantages applications of master schedule
- 2.14 Define the terms 1takt time, 2set up time efficiency, 3schedule, 4 plant rate
- 2.15 Describe the following key performance indicators for the garment industry – 1 right first-time quality 2 on -time shipment delivery 3 cut to ship ratio 4-line efficiency 5 employee turnover ratio 6 absenteeism rate 6 labour productivity.

3. Documentation and Ware Housing

- 3.1 List the sequence of operation in ware house.
- 3.2 List the operational elements of ware house.
- 3.3 Explain the different handling system followed for handling of material-manual or free systems, powered systems, power and free systems.
- 3.4 Explain the storage equipment used in industry.
- 3.5 Explain the different equipment used for packing in the industry.
- 3.6 State the fabric usage control with respect to issue of materials.
- 3.7 Explain the use of spreading audit in investigating the fabric usage control.
- 3.8 State the deviation from costed marked plan.
- 3.9 Explain the fabric usage control with respect to fabric reconciliation.
- 3.10 Explain the fabric faults and claims for poor quality.
- 3.11 State the importance of documentation and the management function.
- 3.12 Define the terms: 1 bin centre 2 backflush 3 backhaul 4 blanket rate 5 cycle stock 6 deadweight tons 7 forward picking 8 fourth party logistics 9 lesser 10 logbook 11 order fill.
- 3.13 Describe the three broad categories of factory compliance – social compliance, code of conduct and compliance with the law of the land.

4. Apparel costing

- 4.1 Define cost, financial accounting, cost accounting and managerial accounting.

- 4.2 State the cost control necessity and importance.
- 4.3 Explain the necessity of cost accounting.
- 4.4 Define book keeping.
- 4.5 Define single entry system of book keeping.
- 4.6 State double entry system of book keeping.
- 4.7 Define the terms – capital, transaction, trade amount, sales returns, commission, debtor, turnover, bad debt, and asset.
- 4.8 Explain the cost of goods.
- 4.9 Explain the general operating expenses- (marketing and selling expense, merchandising, design, or product development).
- 4.10 Explain direct costing, absorption costing, activity-based costing and blended costing.
- 4.11 List and define the stages of costing.
- 4.12 Explain the elements in garment costing.
- 4.13 State the SAM for stitching.
- 4.14 State the formula for calculating cut make trim cost-CMT.
- 4.15 Explain the costing for men's shirts.
- 4.16 Explain costing levels.
- 4.17 Explain costing of men's basic t shirt

5. Fusing and Pressing

- 5.1 List the ways by which fusible enhance the appearance of finished garments.
- 5.2 State the factors involved in the construction of fusible (base material-thermoplastic resin-coating).
- 5.3 List the characteristics of finished garments which are influenced by base cloth.
- 5.4 Explain the three standard web formation methods.
- 5.5 Explain condition to which resins must conform (upper limit temperature-lower limit temperature).
- 5.6 Explain resins types and application (polyethylene-polyester-pvc-plasticized cellulose system).
- 5.7 Explain two aspects of coating-density and coating system.
- 5.8 Explain the principal method of coating system.
- 5.9 Explain the processing components of fusing process-temperature-time-pressure-cooling.
- 5.10 Explain the fusing machinery-steam press-flat bed press-conveyor belt press.
- 5.11 Describe the factors considered in selection procedure of fusible.
- 5.12 State and explain purpose of pressing.
- 5.13 Define top pressing and under pressing.
- 5.14 Explain the basic components of pressing.
- 5.15 Describe the division of garments into categories based on pressing requirements.
- 5.16 Describe the working of steam air finisher.
- 5.17 Explain the steam tunnel finishing.
- 5.18 Describe the different methods of fusing.
- 5.19 Describe the following 1 radio frequency welding 2 hot air welding 3ultrasonic welding 4 hot wedge welding.
- 5.20 Define the terms: cast coating, calender coating, dip coating, direct coating, roller coating, transfer coating, dip pick up, dip treating,

6. Production Systems and Ergonomics

- 6.1 Define the following terms 1 Best practice 2 Flow time efficiency 3 Logistics 4 Cycle time 5 Bottleneck 6 Make to order 7 Make to stock 8 Critical path method 9 Business process reengineering .
- 6.2 Differentiate the different production systems -unit production system, quick response sewing system, Progressive bundle system, synchro/ straight line system.
- 6.3 Explain the features, advantages and disadvantages of different production systems.
- 6.4 List the primary tasks in pressing department.
- 6.5 Analyze the solutions for the following common problems encountered in pressing department: working height, floor surface, foot pedals, input output and lighting.
- 6.6 Explain the solutions for common ergonomic with hand iron – iron, balancers, upright steaming, catchers, guarding.
- 6.7 Explain the solutions for common ergonomic with manual press: controls, multiple workstations.
- 6.8 Explain the solutions for common ergonomic with automatic press: hand control, foot space, and contact area.
- 6.9 List the common task in finishing department.
- 6.10 Explain the solutions for the common problems encountered while hand sewing in the finishing department: work surface, chair, input/ output.
- 6.11 Explain solutions for the ergonomic problems associated with the important aspects of final inspection: the work surface, input/output, support surface and accessories.

Suggested students' activities

1. Visit library to refer books and journals.
2. Visit nearby industry to understand the production management procedures.
3. Group discussion.
4. Seminar.
5. Surprise test.
6. Assignments
7. Brochure on ergonomic problems in apparel industry

List of E learning sites

1. <https://www.onlineclothingstudy.com/2015/10/about-online-clothing-study.html>

C-18 curriculum examination pattern.

1. Midsem-I and Midsem-II examinations conducted for 20 marks each for the duration of 1 hour only.
2. Midsem-III and End Examination conducted together for 40 marks for the duration of 2 hours only.

The question paper pattern in Mid Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	4	1	Nil	4 Marks
02	Part-B	Understanding (U)	4	3	2	6 Marks
03	Part-C	Application (A)	4	5	2	10 Marks
Total Marks						20 Marks

The question paper pattern in End Sem Examinations is as follows;

S.No	Description	Level	No. of questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering (R)	8	1	Nil	8 Marks
02	Part-B	Understanding (U)	8	3	4	12 Marks
03	Part-C	Application (A)	8	5	4	20 Marks
Total Marks						40 Marks

C-18 Examination Pattern
MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	
MID SEM –II EXAM					
S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks	
		R		U	A		
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b)	13(b)	
					11(a)	15(a)	
		11(b)			15(b)		
6	VI		7,8	10(b)	14(b)		
				12(a)	16(a)		
				12(b)	16(b)		
Total Questions		8		8	8		
Legend:	Remembering (R)	1 Mark					
	Understanding (U)	3 Marks					
	Application (A)	5 Marks					

Instructions to the Students:

1. The student has to attempt either (a) or (b) question under the given question in serial.
2. The students are advised not to attempt more than prescribed questions in the exam.
3. In case additional questions attempted by the students, the consideration will be given on the basis of priority of first attempted question as the valid answer.
4. The student has to write the answer for the Questions of 1 mark, not more than ¼ page and 3 marks, not more than 1 page and 5 marks, not more than 2 pages.

Slip Test 1	1 and 2	5	2 Essay Questions out of 3 Questions
Slip Test 2	3 and 4	5	2 Essay Questions out of 3 Questions
Assignment	1	5	Different group assignments of Higher order Questions that develop problem solving skills and critical thinking should be given
Seminars	1	5	

Board Diploma Examination(C18) 18GT405C

D G T Fourth Semester Mid1 Examination

Apparel Production Management

Time 1 Hour

Marks: 20

Part A

4 X1 = 4 Marks

Answer all questions and each question carries one mark

1. Define the term line.
2. State the term line balancing.
3. Define the term forecasting.
4. Define takt time.

Part B

2 X3 = 6 Marks

Answer two questions and each question carries three marks

5. (a) Write the formulas for-calculation of factory capacity. (OR)
(b)Write the formula to calculate operator efficiency
6. (a) Write the advantages of master schedule. (OR)
(b) Write the disadvantages and applications of master schedule.

Part C

2 X5 10 Marks

Answer two questions and each question carries five marks.

7. (a) What are the need and goals for balancing. (OR)
(b) how do you calculate sewing room capacity, production capacity in pieces and factory capacity.
8. (a) What are the characteristics one-time large product. (or)
(b) what factors influence scheduling.

Board Diploma Examination(C18) 18GT405C
D G T Fourth Semester Mid2 Examination
Apparel Production Management

Time 1 Hour

Marks: 20

Part A

4 X1 = 4 Marks

Answer all questions and each question carries one mark

1. Define the term bincentre
2. Define the term backflush
3. Define cost
4. Define book keeping.

Part B

2 X3 = 6 MARKS

5. (a) Write the deviations from costed marker plans. (OR)
(b) State the fabric usage control with respect to issue of materials.

6. (a) Explain direct costing. (OR)
(b) Explain absorption costing.

PART C

2 x5 =10 Marks

ANSWER two questions and each question carries five marks

7. (a) What type of storage equipment is used in apparel industry.
Or
(b) What is popular packing equipment used in apparel industry.

8. (a) Explain costing levels
Or
(b) Explain the costing of men's shirt

Board Diploma Examination(C18) 18GT405C

D G T Fourth Semester End Examination

Apparel Production Management

Time 2 HourMarks: 40

Part A

8 X1 = 8 Marks

Answer all questions and each question carries one mark

1. State the term line balancing
2. Define the term backflush
3. Define the term best practice.
4. Define the term bincentre.
5. Define fusing
6. Define pressing.
7. Define the term flow time efficiency
8. Define the term logistics.

Part B

4 X3 = 12 MARKS

9. (a) Show with example the formulas for-calculation of factory capacity.

OR

- (b) Explain two aspects of coating-density and coating system.

10. (a) Explain direct costing.

OR

- (b) Write the solutions for the ergonomic problems associated with floor surface.

11. (a) Describe the division of garments into categories based on pressing requirements

OR

- (b) Describe the factors considered in selection procedure of fusible.

12. (a) Describe two features of unit production system.

OR

- (b)Describe two salient features of unit production system.

PART C

4 X 5 = 20 Marks

13. (a) What are the characteristics one-time large product

Or

(b) What are the basic components of pressing

14. (a) what type of storage equipment is used in apparel industry

Or

(b) What are the ergonomic problems associated with foot pedals and lighting in pressing department.

15. (a) Describe the working of steam air finisher.

Or

(b) Explain the steam tunnel finishing

16. (a) what are the reasons for preferring progressive bundle system.

Or

(b) Explain the solutions for common ergonomic with manual press: controls, multiple workstations.

18GT 406 P , Advanced Draping and Women's Apparel Lab Practice

Course Title	Advanced Draping and Women's Apparel Lab Practice	Course Code	18GT-406 P
Semester	IV	Course Group	Core/practical
Teaching Scheme in Pds (L: T:P)	15:0:30	Credits	1.5
Methodology	Lecture + Practical	Total Contact Periods	45Pds
CIE	60 Marks	SEE	40 Marks

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Designing	Drafting &Cutting	Stitching		
1	Draping of cowls and fitted midriff yoke	15	5	15	20	40	100
2	Kameez	4	5	15	20	40	100
3	Patiala Shalwar	4	5	15	20	40	100
4	Chudidhar	4	5	15	20	40	100
5	Nighty	4	5	15	20	40	100
6	Band Blouse	7	5	15	20	40	100
7	Katori Blouse	7	5	15	20	40	100
Total		45				40	100

Pre-requisites

This course requires the basic drafting and sewing skills

Course Outcome		CL	Linked PO	Teaching periods	Experiment Linked
CO1	Drape basic bowl wrapped neckline cowl and fitted midriff.	R/U/A	1,2,3,4,9,10	15	1
CO2	Plan and Construct Kameez.	R/U/A	1,2,3, 4,9,10	4	2
CO3	Design, and construct Patiala shalwar	U/A	1,2,3, 4,9,10	4	3
CO4	Design, draft and stitch chudidhar	R/U/A	1,2,3, 4,9,10	4	4
CO5	Design, draft and stitch nighty	U/A	1,2,3, 4,9,10	4	5
CO6	Design, draft and stitch band blouse	U/A	1,2,3, 4,9,10	7	6
CO7	Estimate the fabric requirement, draft and stitch katori blouse	U/A	1,2,3, 4,9,10	7	7

Course Content:

- 1. Draping of cowls and fitted midriff yoke:** preparation of fabric and draping for making basic cowl , wrapped neckline cowl and fitted midriff
- 2. Kameez:** Designing different models of ladies kameez – recording measurements for making kameez – drafting paper pattern – fabric layout selection – stitching of A Line kameez.
- 3. Patiala Shalwar:** Draw Patiala shalwar designs – record body measurements necessary for making Patiala shalwar- pattern drafting – estimation of fabric- fabric lay out selection – stitching of garment.
- 4. Chudidhar:** Draw Chudidhar design – record body measurements necessary for making chudidhar - pattern drafting – estimation of fabric- fabric lay out selection – stitching of garment.
- 5. Nighty:** Draw Nighty designs – record body measurements necessary for making Nighty - pattern drafting – estimation of fabric- fabric lay out selection – stitching of garment.
- 6. Band Blouse:** Design/Draw sari blouse designs – record body measurements necessary for making sari blouse – pattern drafting – fabric estimation - fabric layout selection – stitching of band blouse.
- 7. Katori Blouse:** Draw sari blouse designs – record body measurements necessary for making sari blouse – pattern drafting – fabric estimation - fabric layout selection – stitching of katori blouse.

Note : All garments can be draped to check fit at every stage of stitching.

Specific Learning Outcomes:

1. Draping of cowls and fitted midriff yoke

- 1.1 Practice draping of basic cowl and wrapped neckline cowl.
- 1.2 Practice draping of fitted midriff.

2. Kameez

- 2.1 Identify and use the tools and equipment for drafting and stitching kameez.
- 2.2 Design A line kameez and shaped kameez models with different sleeves and neck lines.
- 2.3 Draft the patterns for making A line kameez.
- 2.4 Select suitable fabric for making A line kameez.
- 2.5 Select suitable fabric layout.
- 2.6 Stitch the garment with suitable seams, seam finishes and fasteners.
- 2.7 Press and fold the garment for packing.

3. Patiala Shalwar

- 3.1 Identify and use the tools and equipment for drafting and stitching Patiala shalwar.
- 3.2 Draw or design Patiala shalwar.
- 3.3 Draft the pattern for Patiala shalwar.
- 3.4 Select the fabric for making Patiala shalwar after estimating the fabric requirement.
- 3.5 Select suitable fabric layout.
- 3.6 Stitch the garment with suitable seams, seam finishes and attach fasteners.
- 3.7 Press and fold the garment for packing.

4. Chudidhar

- 4.1 Draw chudidhar designs.
- 4.2 Record measurements necessary for making chudidhar.
- 4.3 Select tools and equipment necessary for making churidar.
- 4.4 Draft the pattern for making churidar or make a sac and draft the pattern.
- 4.5 Stitch the chudidhar with suitable seams and seam finishes.
- 4.6 Press and fold the garment for packing.

5. Nighty

- 5.1 Select the tools and equipment necessary for making nighty pattern.
- 5.2 Record the body measurements necessary for drafting the nighty pattern.
- 5.3 Draft the pattern for making nighty pattern.
- 5.4 Estimate the fabric requirement for making the nighty.
- 5.5 Select the material for making the nighty.
- 5.6 Plan the fabric layout.

5.7 Cut the fabric and stitch the nighty with suitable seams and seam finishes.

5.8 Press and fold the garment for packing.

6. Band Blouse

6.1 Select the tools for making sari blouses.

6.2 Record the measurements for making sari blouse.

6.3 Draft the pattern for making band blouse/sari blouse with cross belt.

6.4 Estimate the fabric requirement for making band blouse 32, 34, and 36 inches bust measurements.

6.5 Select the fabric for making the blouse.

6.6 Plan the fabric lay outs.

6.7 Stitch the blouse with suitable seams and fasteners. (any one size)

6.8 Press and fold the garment for packing.

7. Katori blouse

7.1 Select the tools for making katori blouse.

7.2 Record the measurements for making katori blouse.

7.3 Draft the pattern for making katori blouse.

7.4 Estimate the fabric requirement for making katori blouse 32, 34, and 36 inches bust measurements.

7.5 Select the fabric for making the blouse.

7.6 Plan the fabric lay outs.

7.7 Stitch the blouse with suitable seams and fasteners. (any one size)

7.8 Press and fold the garment for packing.

Recommended books

1. Zarapkar System of Cutting -
2. Practical Clothing Construction- Part 1 and 2 - Mary Mathews
3. Creative clothing constructions-Allyne Bane-McGraw Hill Book Company.
4. SherieDoongaji and RaushniDeshpande – Basic Processes and Clothing Construction – RaajPrakashan – New Delhi.

Note: Record book should be maintained.

State Board of Technical Education and Training, Telangana

Semester Mid Examination 1 Model Question paper

DGT Fourth semester practical Examination

Corse Code: 18GT-406P

Duration:

Course Name: Advanced Draping and Women's Apparel Lab PracticeMax.Marks:20

Instructions to the Candidate:

(i)Answer any One of the following Questions.

(ii)Write the Drafting and stitching procedure.

1. Show the draping of basic cowl
2. Show the draping wrapped neckline cowl.
3. Show thedraping of fitted midriff.

State Board of Technical Education and Training, Telangana

Semester Mid Examination 2 Model Question paper

DGT Fourth semester practical Examination

Corse Code: 18GT-407P

Duration:

Course Name: Advanced Draping and Women's Apparel Lab PracticeMax.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 Patiala shalwar with the given standard measurements.
2. Draft and stitch any one model of ladies kameez with the given measurements
3. Draft and stitch chudidhar with the given measure

State Board of Technical Education and Training, Telangana

Semester End Examination Model Question paper

DGT Fourth semester practical Examination

Corse Code: 18GT-406P

Duration: 3 hours

Course Name: Advanced Draping and Women's Apparel Lab PracticeMax.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 sari band blouse for a girl with 32 inches bust.
2. Estimate the fabric requirement for making katori blouse for a woman with 36 inches bust. Draft and stitch katori blouse for a lady with 36 inches bust.
3. Draft and stitch nighty for a 16 years teenager.
4. Draft and stitch Patiala shalwar with the given standard measurements.
5. Draft and stitch churidar with the given measurements.
6. show the draping of basic cowl
7. Show the draping wrapped neckline cowl.
8. Show the draping of fitted midriff.

18GT 407 P, Textile Care and Printing Lab Practice

Course Title	Textile Care and Printing Lab Practice	Course Code	18GT-407P
Semester	IV	Course Group	Core /practical
Teaching Scheme in Pds . (L: T:P)	15:0:30	Credits	1.5
Methodology	Lecture + Practical	Total Contact Periods	45Pds
CIE	60 Marks	SEE	40 Marks

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Consumable calculations	Proficiency in Process execution	Quality parameters		
1.	Mending and Home Dry Cleaning	8	10	20	10	40	100
2.	Tie and Dye	10	10	20	10	40	100
3.	Block Printing	14	10	20	10	40	100
4.	Batik Printing	13	10	20	10	40	100
Total		45				40	100

Pre-requisites

This course requires the skills of drawing and Chemistry.

Course outcomes

Course Outcome		CL	Linked PO	Teaching periods
CO1	Carry out mending of the tears and Do dry cleaning of fabrics/garments	R/U/A	1,2,3 and 4	8
CO2	Develop tie and dye designs on cotton cloth.	U/A	1,2, 3,4,	10
CO3	Develop block printing designs on cotton cloth.	R/U/A	1, 2, 3,4	14
CO4	Develop batik designs on cotton fabric.	U/A	1, 2,3,4,	13

Specific Learning Outcomes:

1. Mending and Home Dry Cleaning

- 1.1 Select the consumables and equipment necessary for calendaring and dry cleaning.
- 1.2 Practice dry cleaning by- immersion method, spot cleaning using absorbent paste.

2. Tie and Dye

- 2.1 Select the tools and equipment necessary for tie and dye work.
- 2.2 Select the different classes of dyes for doing tie and dye designs on cotton fabric.
- 2.3 Tie the cloth to obtain different designs.
- 2.4 Estimate the dye and chemical requirement for preparation of dye solution.
- 2.5 Carry out dyeing procedure following the standard dyeing procedure based on the class of dye.
- 2.6 Give after treatment if necessary.

3. Block Printing

- 3.1 Select the tools and equipment necessary for Block Printing.
- 3.2 Prepare the Block printing paste of different colours.
- 3.3 Do block printing on the cotton cloth with precision. (one and two colours)

4. Batik Printing

- 4.1 Select the tools and equipment necessary for doing batik printing work.
- 4.2 Draw or trace the design on the white cotton fabric.
- 4.3 Select the different types of wax for application on cloth to get the designs and to resist dye penetration.
- 4.4 Prepare dye liquor using the correct proportion of chemicals and dye.
- 4.5 Apply single light colour to the cloth.
- 4.6 Apply second/third colour based on colours of the design.

Note: 1 question from dyeing is compulsory in final examination . 2 Record books should be maintained.

Recommended books

1. R S Prayag – Technology of Textile Printing – Shree J Printers – Pune.
2. DurgaDeulkar – Household Textiles and Laundry Work – Atma Ram and Sons – Delhi
3. SusheelaDantyagi – Fundamentals of Textiles and their Care – Orient Longman – Hyderabad.
4. Noemia D’Souza- Fabric Care – New Age International (P) Ltd Hyderabad
5. Bernard P Corbman – Textiles fiber to fabric- McGraw Hill – New Delhi

State Board of Technical Education and Training, Telangana

Semester Mid Examination 1Model Question paper

DGT Fourth semester practical Examination

Corse Code:18GT-407 P

Duration:

Max.Marks:20

Course Name: Textile Care and Printing Lab Practice

Instructions to the Candidate:

(i)Answer any One of the following Questions.

(ii)Write the Drafting and stitching procedure.

1. Dry clean the given sample using immersion method.
2. Make a tie and dye sample using the standard procedure.

State Board of Technical Education and Training, Telangana

Semester Mid Examination 2 Model Question paper

DGT Fourth semester practical Examination

Course Code:18GT-407 P

Duration:

MAX MARKS

Course Name: Textile Care and Printing Lab Practice

Instructions to the Candidate:

(i) Answer any One of the following Questions.

(ii) Write the procedure.

1. Prepare a block printing sample with the given wooden blocks (single colour)
2. Prepare a block printing sample with the given wooden blocks (two colour)

State Board of Technical Education and Training, Telangana

Semester End Examination Model Question paper

DGT Fourth semester practical Examination

Course Code:18GT-407 P

Duration:3 hours

Course Name: Textile Care and Printing Lab Practice

Max.Marks:40

Instructions to the Candidate:

(i) Answer any One of the following Questions.

(ii) Write the procedure.

1. Remove the grease stain from the given handkerchief by following spot cleaning with grease absorbent paste and make a tie and dye sample.
2. Prepare a block printing sample.
3. Prepare a batik printing sample

18GT - 408P , Personal Grooming Lab Practice

Course Title	Personal Grooming Lab Practice	Course Code	18GT-408P
Semester	IV	Course Group	Core /Practical
Teaching Scheme in Periods (L: T:P)	15:0:30	Credits	1.5
Methodology	Lecture + Practical	Total Contact Periods	45Pds
CIE	60 Marks	SEE	40 Marks

Pre-requisites

This course requires science knowledge acquired in school education.

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Safe working practice	Skill	Attitude		
1	Eye brow Shaping and Hair cuts	15	5	30	5	40	100
2	Manicure and Pedicure	10	5	30	5	40	100
3	Body Art - Mehendhi Designing	05	5	30	5	40	100
4	Facial and Make up	15	5	30	5	40	100
Total		45				40	100

Course outcomes

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Demonstrate threading and shaping of eyebrows by threading process and practice hair cuts	R/U/A	1,2,3,4,5,7,8,9,10	15
CO2	Demonstrate manicure and pedicure.	RU/A	1,2,3,4,5,7,8,9,10	10
CO3	Practice application of mehendi designs	R/U/A		05
CO4	Demonstrate facial and makeup	R/U/A	1,2,3,4,5,7,8,9,10	15

Specific Learning Outcomes:

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

1. Eye brow shaping and Hair cuts

- 1.1 Identify and use the tools for eye brow shaping and haircuts.
- 1.2 Shape eye brows with the help of thread.
- 1.3 Collect pictures of different eye brow shapes to know the trend.
- 1.4 Practice haircuts like U, deep U, step cut

2. Manicure and Pedicure

- 2.1 Identify the tools and cosmetics necessary for manicure and pedicure.**
- 2.2 Practice manicure and pedicure procedures.**

3. Body Art - Mehndi Designing

- 3.1 Select mehndi and other necessary items for applying mehndi to hands.
- 3.2 Prepare a cone for filling mehendi paste.
- 3.3 Select suitable design.
- 3.4 Apply Mehndi on half arm, hands and feet.

4. Facial and Makeup

- 4.1 Select the items necessary for facial and make up.
- 4.2 Demonstrate the steps of facial. - any two types.
- 4.3 Practice evening makeup.

Recommended Books

1. Milady's Standard Cosmetology - Delmar Cengage Learning;
2. Charles Zviak, (1986), The Science of Hair Care, Taylor & Francis.
3. Dale H. Johnson, (1997), Hair and Hair Care, Marcel Decker Inc., New York.

4. Claude Bouillon and John Wilkinson, (2005), The Science of Hair Care, Taylor & Francis.
Audrey Davis Sivasothy, (2012), Hair Care Rehab, The ultimate hair repair and reconditioning manual, Saja Publishing Company, LLC.
5. MeenakshiSinha, ReenaRajgopal, Sushmita Banerjee, (2000), All You Wanted to Know About Hair Care, Sterling Publishers Pvt. Ltd., New Delhi

Note: Record book should be maintained.

Model question papers:

Board Diploma Education (C18)

Semester mid Examination 1 Model Question paper

DGT IV Semester Practical Examination

Corse Code:18GT-408P

Duration:

Course Name: Personal Grooming Lab Practice

Max.Marks:20

Instructions to the Candidate:

(i)Answer any One of the following Question

1. Do eye brow shaping based on the latest fashion?
2. Do a U-shaped hair cut for a Polytechnic first year student?

Model question papers:

Board of Diploma Education (C18)

Semester mid Examination 2 Model Question paper

DGT IV Semester Practical Examination

Corse Code:18GT-408P

Duration:

Course Name: Personal Grooming Lab Practice

Max.Marks:20

Instructions to the Candidate:

(i)Answer any One of the following Question

1. Apply a pleasing mehendi design for single hand.
2. Do manicure procedure for your classmate.
3. Do pedicure procedure for your friend

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

Corse Code:18GT-408P

Duration:3 hours

Course Name: Personal Grooming Lab Practice

Max.Marks:40

Instructions to the Candidate:

(i)Answer any One of the following Questions.

1. Apply mehendi to both hands.
2. Do facial for the client allotted to you?
3. Do eye brow shaping.
4. Do manicure and pedicure for the client allotted to you.

18GT 409 P , CAD Studio Lab Practice

Course Title	CAD Studio Lab Practice	Course Code	18GT-409 P
Semester	IV	Course Group	Core /Practical
Teaching Scheme in Pds . (L: T:P)	15:0:30	Credits	1.5
Methodology	Lecture + Practical	Total Contact Periods	45Pds
CIE	60 Marks	SEE	40 Marks

Pre-requisites

This course requires the basic computer skills

Course objective:

1. Design and develop textile weave plans, Fabric motifs and patterns designs, garment patterns, costume drawings with CAD software.

Course Content and Blue Print of Marks for SEE:

Unit no.	Unit name	Periods	Questions for SEE			Marks weightage	Weightage (%)
			Use of appropriate CAD tools	Skill of execution	Precision and Overall appearance		
1	Fabric motifs and Structure designing	15	10	25	5	40	100
2	Fashion illustration- Indian costumes and Western costumes	15	10	25	05	40	100
3	Pattern Grading and Marker Planning	15	10	25	05	40	100
Total		45				40	100

Specific Learning outcomes:

1. Fabric Motifs and Structure Designing

- 1.1 Create the motifs using the CAD tools(floral/geometric/abstract).
 - 1.2 Develop the repeat patterns for the motifs.
 - 1.3 Plain weave.
 - 1.4 Warp rib – regular.
 - 1.5 Warp Rib- Irregular.
 - 1.6 Weft Rib- Regular.
 - 1.7 Weft Rib – Irregular.
 - 1.8 Warp faced twill (2/1, 3/1).
 - 1.9 Weft faced twills (1/2,1/3).
 - 1.10 Balanced twill (2/2,3/3).
 - 1.11 Unbalanced twills (2/3,4/2).
 - 1.12 Herringbone twills (base twill of 2/2, 4/4).
 - 1.13 Honey comb weave (repeat size 8x8).
 - 1.14 Satin weave.
- (Note design, draft and peg plan for all weaves.)

2. Fashion illustration- Indian costumes and Western Costumes

- 2.1 Design Indian costume using CAD tools (ladies-salwar kameez, sari. Men-kurta and pajama.
- 2.2 Draw/design western costume using CAD tools (Ladies-skirt and top. Men-shorts and t-shirts)

3. Pattern Grading and Marker Planning

- 3.1 Draft basic bodice block, basic skirt and sleeve.
- 3.2 Grade basic bodice block, basic skirt and sleeve.
- 3.3 Marker planning for basic bodice block, basic skirt and sleeve.

Course outcomes

Course Outcome		CL	Linked PO	Teaching periods	Experiment Linked
CO1	Design motifs with CAD for use on fabrics. Draw design, draft plans and peg plans for basic weaves	R/U/A	1,2,3, 4,9,10	15	1
CO2	Draw fashion figures in Indian clothes and western clothes	R/U/A	1, 2, 3, 4,9	15	2
CO3	Design patterns and grade them to different sizes and marker plan	R/U/A	1, 2,3,4,9	15	3

Course content

1. **Fabric Motifs and Structure Designing:** Create the motifs using the CAD tools (floral/geometric/abstract) - Develop the repeat patterns for the motifs- Plain weave. - Warp rib – regular. Warp Rib- Irregular Weft Rib- Regular. Weft Rib – Irregular. Warp faced twill (2/1, 3/1). --Weft faced twills (1/2,1/3 - Balanced twill (2/2,3/3) Unbalanced twills (2/3,4/2)- Herringbone twills (base twill of 2/2, 4/4)- Honey comb weave (repeat size 8x8)- Satin weave. (Note design, draft and peg plan for all weaves.).
2. **Fashion illustration- Indian costumes and Western Costumes:** Design Indian costume using CAD tools (Ladies-salwar kameez, sari. Men-kurta and pajama. Draw/design western costume using CAD tools (Ladies: skirt and top. Men: shorts and t-shirts).
3. **Pattern Grading and Marker Planning:** Draft basic bodice block, basic skirt and sleeve. Grade basic bodice block, basic skirt and sleeve. Marker plan for basic bodice block, basic skirt and sleeve.

Recommended books

1. Alison Beazley and Terry Bond – Computer – aided Pattern Design and Product Development – Blackwell publishing – om book service- India.
2. CAD instruction manual.

Note: Record book should be maintained.

State Board of Technical Education and Training, Telangana
Semester Mid Examination1 Model Question paper
DGT Fourth semester practical Examination
Corse Code: 18GT-409P **Duration:**
Course Name: CAD Studio Lab PracticeMax.Marks:20

Instructions to the Candidate:

(i)Answer any One of the following Questions.

1. Create four floral motif using CAD tools.
2. Draw the draft and peg plan for twill weave – 6 Nos.
3. Design salwar and kameez using CAD tools.
4. Design shorts and t-shirt for men using CAD tools.
5. Draft basic bodice block and sleeve.

State Board of Technical Education and Training, Telangana
Semester End Examination Model Question paper
DGT Fourth semester practical Examination
Corse Code: 18GT-409P **Duration: 3 hours**
Course Name: CAD Studio Lab PracticeMax.Marks:40

Instructions to the Candidate:

(i)Answer any One of the following Questions.

1. Create one floral motif and marker plan for any one dress using CAD tools.
2. Draw the draft and peg plan for twill weave – 6 Nos.
3. Design salwar and kameez using CAD tools.
4. Design shorts and t-shirt for men using CAD tools.
5. Draft basic bodice block and sleeve.

Advanced Communication Skills and Life Skills

Course Title	Advanced Communication Skills and Life Skills	Course Code	18 Common 410 P
Semester	IV	Course Group	Foundation
Teaching Scheme in Periods- L:T:P	15:0:30	Credits	1.5
Methodology	Lecture + Practical	Total Contact Hours	45 Periods (3 Periods per Week)
CIE	60 Marks	SEE	40 Marks

Rationale:

This course is designed to impart writing skills and employability skills to the students of diploma which will help them in obtaining and maintaining the employment.

Prerequisites:

This course requires the basic knowledge of vocabulary, grammar and four language learning skills, viz. Listening, Speaking, Reading and Writing.

Course Outcomes:

Modules	At the end of the course the students will have the ability to:
Presentation Skills	Prepare a presentation. Use presentation aids effectively. Develop public speaking skills. Learn to make PowerPoint Presentations effectively. Present a Paper using appropriate body language.
Writing Reports	Learn kinds of reports. Learn the format of a report. Organise ideas. Develop essential vocabulary useful to write scientific and technical reports.

Interview Skills	Learn the techniques to face an interview. Learn the etiquette to communicate with employers. Learn the dos and don'ts of an interview. Learn the frequently asked questions in interviews. Use appropriate body language. Learn to face interviews telephonically. Gain the confidence to face an interview by attending mock interview.
Group Discussion	Learn the dos and don'ts of a Group Discussion. Participate in a Group Discussion in a healthy manner. Use effective non-verbal communication. Use appropriate phrases and expressions useful in a group discussion.
Workplace Awareness	Learn workplace etiquette. Identify the knowledge, skills and attributes useful at workplace. Build strong workplace relationships. Learn professional ethics. Understand gender equality at the workplace Develop a sense of responsibility towards the society.
Writing Skills Useful at Workplace	Learn various writing formats useful at workplace. Develop an ability to apply technical information in documentation. Revise and edit written documents effectively. Develop corresponding skills - learn the kinds of business letters - the format of a business letter. Learn effective e-mail writing skills. Learn Business Memos. Learn Notes and Narratives. Learn Forms and Applications.

	Prepare templates for different purposes. Prepare an agenda of a meeting. Prepare the minutes of a meeting. Prepare Notices / Circulars for various purposes. Prepare Press release.
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CO-PO Matrix

	Course Outcome		Linked PO
CO 1	Making effective presentations	R/U/A	1, 2, 3,4, 5,6,7,8,9,10
CO 2	Writing scientific and technical reports	R/U/A	1,2,3,4, 5,6,7,8,9,10
CO 3	Learn to face oral and telephonic interviews	R/U/A	1,2,3,4, 7,9,
CO 4	Learn to face group discussion	R/U/A	1,2,3,7,8,9
CO 5	Learn to write various formats useful at workplace	R/U/A	1,2,3,5,7,8,9,10
CO6	Learn workplace etiquette and ethics	R/U/A	1,2,3,7,8,9,10

Course Contents:

I. Presentation Skills	Duration: 6 periods
II. Writing Reports	Duration: 9 periods
III. Interview Skills	Duration: 9 periods
IV. Group Discussion	Duration: 6 periods
V. Workplace Awareness	Duration: 6 periods
VI. Writing Skills Useful at Workplace	Duration: 9 periods

Suggested Student Activities:

- Paper Presentations
- Seminars
- Mock Interviews
- Telephonic Interviews
- Group Discussions
- Role Plays
- Creating advertisements
- Five-minute activities
- Creating a model of workplace

Evaluation Pattern:

I. Continuous Internal Examination: 60 Marks

- | | |
|------------------------------------|----------|
| a. Mid Sem - I | 20 marks |
| Syllabus: | |
| i. Presentation Skills | |
| ii. Writing Reports | |
|
b. Mid – II: | 20 Marks |
| Syllabus: | |
| i. Interview Skills | |
| ii. Group Discussion | |
|
c. Internal assessment: | 20 marks |
| i. Seminars: | 10 marks |
| ii. Assignments: | 5 marks |
| iii. Lab record submission: | 5 marks |

II. Semester End Examination : 40 Marks

- | | |
|---|----------|
| a. Write an essay on a given topic or participate in an activity: | 15 Marks |
| b. Interview or Group Discussion: | 15 Marks |
| c. <i>Viva Voce</i> | 10 marks |

References:

- Adair, John. *Effective Communication*. London: Pan Macmillan Ltd., 2003.
- Ajmani, J. C. *Good English: Getting it Right*. New Delhi: Rupa Publications, 2012.
- Amos, Julie-Ann. *Handling Tough Job Interviews*. Mumbai: Jaico Publishing, 2004.
- Collins, Patrick. *Speak with Power and Confidence*. New York: Sterling, 2009.
- Fensterheim, Herbert and Jean Baer. *Don't Say Yes When You Want To Say No*. New York: D
- Raman, Meenakshi & Sangeeta Sharma. *Technical Communication: Principles and Practice*. Second Edition. New Delhi: Oxford University Press, 2011

E-Learning Resources:

- <http://www.dailywritingtips.com/>
- <http://www.englishdaily626.com/c-errors.php>
- <http://www.owl.net.rice.edu/~cainproj/>
- <http://www.thehumorsource.com/>
- <http://www.indiabix.com/group-discussion/topics-with-answers/>
- <http://networketiquette.net/>
- <https://public.wsu.edu/~brians/errors>
- <http://www.bbc.co.uk/worldservice/learningenglish/radio/specials/15>

BOARD DIPLOMA EXAMINATION (C-18)
FOURTH SEMESTER COMMON-410P
ADVANCED COMMUNICATION SKILLS AND LIFE SKILLS

MID SEM - I

Time : 1 Hour

Total Marks: 20 Marks

Part – A

10 marks

Instruction: Answer any one of the following questions.

1. Write the guidelines for preparing a PowerPoint presentation.
2. How do you prepare yourself for presenting a technical paper?
3. Mention a few presentation aids and how do you use them effectively?

Part – B

10 marks

Instruction: Answer any one of the following questions.

4. Write the format of a report and describe it.
5. Write a report on the accident you have seen recently.
6. Give the outline of a project report and describe it.

BOARD DIPLOMA EXAMINATION (C-18)
FOURTH SEMESTER COMMON-410P
ADVANCED COMMUNICATION SKILLS AND LIFE SKILLS
MID SEM - II

Time : 1 Hour

Total Marks: 20 Marks

Part – A

10 marks

Instruction: Answer any one of the following questions.

1. What are the dos and don'ts for a formal interview?
2. What at least ten frequently asked questions in a formal interview?
3. How do you prepare for a telephonic interview?

Part – B

10 marks

Instruction: Answer any one of the following questions.

4. What are the dos and don'ts of a group discussion?
5. Mention some phrases and expressions commonly used in a group discussion.
6. Write a short paragraph on the steps you take while participating in a group discussion.

BOARD DIPLOMA EXAMINATION (C-18)
FOURTH SEMESTER 18 COMMON-410P
ADVANCED COMMUNICATION SKILLS AND LIFE SKILLS
SEMESTER END EXAM

Time : 3 Hours

Total Marks: 40 Marks

Part – A

10 marks

Instruction: Pick any one question from the given lot.

1. Prepare the outline of a project report and describe it.
2. Write the guidelines for preparing the slides of a PowerPoint presentation.
3. Write the minutes of the meeting conducted at the Principal's chamber to conduct the annual day celebrations. Prepare the agenda of the annual day celebrations.
4. Describe the workplace etiquette.
5. Prepare a press note for the '*Job Mela*' which is going to be conducted at your institute.

Part – B

15 marks

6. Interview / Group Discussion

Part – C

15 marks

7. *Viva Voce*

SKILL UPGRADATION-IV

Course title: Skill Upgradation	Course Code: common
Semester: 4	Course Group: Practical
Teaching scheme in Periods (L:T:P) : 0:0:105	Credits: 2.5
Methodology: Practical	Total contact Periods: 105
CIE	Rubrics

18GT 401C

- 1.Basic cowl preparation, wrapped neck line cowl – (CO1- PO 10,09,08, 7, 6, 5, 04,03,02,01) – Poster preparation.
- 2.Butter fly twist, two-piece bias twist (CO1 – PO10,09,8,7,6,5 04,03,02,01) – Demonstration.
- 3.Preparation of muslin and shaping of the side seam for sheath – (CO2, PO -10, 09, 08, 7,,5, 04,03,02,01) – Demonstration.
- 4.Sleeve style (C0 3, PO 08,7 6, 5,4,3,2,1) – Sleeve draping poster preparation.
- 5.Leaner production preparation stages (CO4, PO – 1,,3,4,05) – Flash card preparation. /guest lecture by leather and footwear technology faculty.
- 6.Mid riff, collar preparation (CO5, PO – 1,2,3,4,05) – Poster preparation.
- 7.Skirt styles (CO 5, PO10,1,2,3,4,5) – Brochure preparation.
- 8.Garment analysis (CO6, PO10,1,2,3,4,5,6,) – seminar presentation on garment analysis methods followed in apparel units.

18GT402 C

- 1.Preparation of printing paste (C01, PO 10,09,08 ,04,03,02,01) – Processing unit visit.
- 2.Heat setting methods (CO2, PO 09) – Seminar.
- 3.Application of acid dyes and basic dyes (CO3, PO 10,09,04,03,02,01) – Flash card preparation.
- 4.Ways of printing cellulosic fabrics, after treatments (CO4, and CO5 PO 09) – Brain storming.
- 5.Exhibition of samples of batik, block, kalamkari, resist and discharge (CO6, PO9). - Tips for identification and care)

18GT403C

- 1.Laundry equipment (features and the problems faced by home makers and suggestions for new models) (C01, PO 10, 09, 04, 03, 02,01) – Flash cards preparation.
- 2.Laundry stiffening agents (CO1, PO 10, 09, 04,03,02,01) – Exhibition of different varieties of stiffening agents
- 3.Stain removal from cotton fabrics (CO 3, PO 10, 09,04,03,02,01) – Flash card preparation.
- 4.Dry cleaning procedures (C03, PO02) – seminar presentation.
- 5.Mending of tears (CO 4, PO 10,09,04,03,02,01) – Demonstration of new ways.
- 6.Labelling of garments – (C04, PO 10,09,05) – Brochure preparation.
- 7.Washing procedures for velveteen (CO5 PO 10,09,04,03,02,01) – Brochure preparation).
- 8.Effluent treatments procedures (CO6, PO6)- Industry visit.

18GT404C

- 1.Food groups (CO1, po10,09,05,04,03,02,01) – Brochure and poster preparation.
- 2.Yoga postures (CO1, PO 9,05) – Poster Preparation.
- 3.Nail disorders (CO2, PO5) – Flash card preparation.
- 4.Nail art technique (C02, PO5) – collage work.
- 5.Hair designs (CO3, PO5) – Brochure preparation.
- 6.Facial treatment general steps (C04, PO5) – Poster Preparation.
- 7.Hair colours (CO5, PO5) – brochure preparation.
- 8.Skin care products (CO6, PO5) – poster preparation.

18GT405C

- 1.Line balancing procedures, production planning and control, documentation, ware housing, fusing and pressing, production systems, ergonomics (PO 1, 2, 3, 4, 5,6, 7 , 8, 09) – industry visit.

1. FIELD VISIT RUBRIC (dyeing and printing unit, boutique, beauty parlour, apparel industry)

	5	4	3	2
	Excellent	Good	Acceptable	Needs improvement
Preparedness for visit	1decently dressed in uniform with hair tied properly. 2followed all the instructions given by the industry for safety in the industry 3 carries small writing pad and pen for noting down the details of the visit 4 carries id card	1decently dressed in uniform with hair tied properly. 2followed all the instructions given by the industry for safety in the industry 3 carries small writing pad and pen for noting down the details of the visit	1decently dressed in uniform with hair tied properly. 2followed all the instructions given by the industry for safety in the industry 3 carries few papers and pen for noting down the details of the visit	Forgets to come in uniform. Carries a small pocket book for noting down the details observed
Behavior in group	1 friendly 2 adjusting in nature 3 shares points to observe in visit	1 friendly 2 adjusting in nature.	adjusting in nature	Gives more importance to self-comforts
Behavior with people at industry	1 greets them. 2 listens to them with respect 3 asks doubts in a pleasant low voice.4 thanks them	1 greets them. 2 listens to them with respect 3 asks doubts in a pleasant low voice.	listens to them with respect. asks doubts in a pleasant low voice.	Talks in a loud voice
Observation	Observes all processes with keen interest, clarifies doubts, makes note of each and every detail with illustrations in a neat systematic way	Observes all processes with interest, clarifies doubts, makes note of each and every detail in a systematic way with rough diagrams	Observes all processes with interest, makes note of detail.	Few major points not observed and not noted down.
Report writing	Mentions each and every important point. Good vocabulary. Logical sequence of presentation. easy to follow diagrams of the process	Mentions all major points. important point. Good Logical sequence of presentation. easy to follow. rough diagrams	Mentions most of the points. Good vocabulary. Logical sequence of presentation. easy to follow. no diagrams	Few major points missing. Not in correct sequence. Spelling and grammar mistakes

2. Poster Preparation(nail care, hair styles, skin problems, etc)

	5	4	3	2
	Excellent	Good	acceptable	Needs improvement
Title	Title visible from a reasonable distance and reflects the content significantly	Title visible from a reasonable distance and is correct for the content	Title visible from a little distance and almost describes the content	Title font is very small and also differing a little from the content
Labels	All items attractively labelled which are clearly visible from a reasonable distance	Almost all items of importance on the poster is clearly labelled with labels that can be read from at least 1 m away.	Several items of importance on the poster is clearly labelled with labels that can be read from at least 1 m away.	Labels are too small to view OR no important items were labelled.
Content accuracy and quantity	Content is accurate and all required information is presented in a sequential order.	Content is accurate but some required information is missing, presented in a logical order	Content is accurate but some required information is missing and/or not presented in a logical order, but easy to follow	Content incomplete. Information is not presented in a sequential order, making it difficult to follow
Attractiveness	The poster space is divided based on golden rule of proportion and is exceptionally attractive in terms of design, layout, and neatness	The poster is attractive in terms of design, layout, and neatness	The poster is acceptably attractive and, in few places, little bit messy	Space is not properly planned and looks messy in most of the areas.
Mechanics	No spelling, grammar, or punctuation errors in the text. Student own wordings.	One or two errors in spelling, grammar or punctuation. Student own wordings	Not more than 5 spelling, grammar or punctuation errors. Own wording	More than six mistakes in spellings, grammar own wording
Illustrations	Drawings, pictures, photos clip art items creatively placed making it more attractive and are related to text message, drawings are colourful and attractive.	Drawings, pictures, photos clip art items creatively placed making it more attractive and are related to text message, some pictures are not colourful	Drawings, pictures, photos clip art items creatively placed making it more attractive and are related to text message some pictures are not attractive.	Few drawings pictures, photos are not matching with text not creatively placed
Presentation parameters	Presentation is clean, well- organized and presented in a creative way. Presentation is colorful and creative. Information is interesting and accurate.	Presentation is mostly neat and clean. Information is organized in a logical manner and shows some degree of creativity. The overall presentation is interesting.	Presentation is clean over all presentation not up to the mark.	Presentation is clean. Presentation is unorganized.

3. Brochure Preparation Rubric

	5	4	3	2
	Excellent	Good	Acceptable	Needs improvement
Content and source of information	Authentic data collected from standard sources. like text books, research articles government publications. More than required amount of data interesting.	Authentic data collected from few sources. required data presented	Well organized data collected from standard sources. Most of the data available.	Lacks few important details
Attractiveness and organization	exceptionally attractive layout properly planned	Attractive. space layout well planned	Attractive space layout in few areas not proper	Space division somewhat not properly planned to make brochure readable
Conventions	Good Vocabulary and grammar. easy to follow simple language no spelling mistakes	Good Vocabulary and grammar easy to follow simple language one spelling mistake	Few spelling mistakes (up to 5)	Spelling and grammar mistakes (more than 8)
Pictures and drawings	Pictures, drawings are accurately related with text. pictures, drawing are attractive and very informative	Pictures, drawings are accurately related with text. pictures, drawing are informative	Pictures, drawings are accurately related with text. few pictures, (2) drawing are not informative	Pictures, drawings are not accurately related with text (more than 3). pictures, drawing are not clear

4. Exhibition

	5	4	3	2
	Excellent	Good	Acceptable	Needs improvement
Planning and preparation	Collected information and exhibits from a number of reliable sources. each and every minute details for display planned ahead. Collection of materials required for display planned well in advance. financial implications	Collected information and exhibits from a number of reliable sources each and every minute details for display planned ahead. Collection of materials required for display planned well in advance. Other details not planned	Collected information and exhibits from a number of reliable sources. Other details not planned	Collected information and exhibits from few sources. other details not planned

	calculated Space and location planned well in advance			
Materials used	Indigenous materials used mostly; material selection made to suit the item of exhibition. innovativeness is clearly seen ecofriendly materials used some reusable plastic	Indigenous materials used mostly; material selection made to suit the item of exhibition. not much innovativeness is seen in ecofriendly materials mostly used. reusable synthetics	Indigenous materials used mostly; material selection made to suit the item of exhibition. innovativeness is not seen ecofriendly materials mostly used. reusable plastic used	Not used ecofriendly materials Mostly pollution causing materials
Creativity	Surprising and mesmerizing ways of presentation. Well thought off	Good attractive display	Good display	Not attractive and somewhat messy
Content and display	Real items, models, posters brochures simulated conditions, use of puppets other audio-visual aids attractive, colorful display	Real items, models, posters brochures simulated conditions, use of puppets other audio-visual aids attractive, colorful display	Few items displayed	Mostly bought from stores and not impressive
Response to queries	Authentic replies given to clear all doubts	Good replies given	Most of the queries answered	Answered few questions

5. Brain storming: (Pollution control measures , different printing methods, hair problems , skin problems,

	Excellent	Good	Acceptable	Needs improvement
	5	4	3	2
Innovativeness and importance of ideas	Suggest ideas which are very innovative and feasible with simple equipment and less expenditure	Suggested ideas which are very innovative and feasible with costly equipment and minimum maintenance	Suggested ideas which can be tried	Needs lot of refinement before implementing.
Quantity of ideas	Contributed to more than 5 ideas	Contributed to more than 4 ideas	Contributed to more than 3 ideas	Contributed to more than 2 ideas
Response to comments	Answers in an authentic manner	Gives convincing replies	Takes time to answer	Few queries not answered

6. Model Preparation ex mehendi designs for wedding, birthday party, kalamkari design file

	Excellent	Good	Acceptable	Needs improvement
Innovativeness in the construction of the model	Makes use of old newspapers. natural ingredients like fenugreek and	Makes use of old newspapers. natural ingredients like fenugreek and maida	Makes use of new white papers for getting bright colour uses gum	Uses colour paper and oil sheets and fevicol
New concepts and uses	uses for taking of body measurements for constructing various garments display of apparel, jewellery, draping of fabric	uses for taking of body measurements for constructing various garments. display of apparel. Jewellery display draping of fabric	uses for taking of body measurements for constructing various garments. display of apparel.	Uses for taking of body measurements
Quality of information	Informs about the precautions to take in use and for long preservation of the model. need for ecofriendly display items	Informs about the precautions to take in use and for long preservation of the model	Informs about few precautions to take in use and for long preservation of the model	Gives one or two tips regarding display
Preparedness and presentation	Confident and well planned with all necessary tools and implements. arranges for clear view of model making involves every one by telling the contribution of ecofriendly dress form to environment	Confident and well planned with all necessary tools and implements. Sometimes involves classmates	Engrossed in preparation of the model	Makes mistakes in the shaping of the dress form.
Results of Effort and perseverance	Makes the perfect model because of many trials	Makes good model because of adequate effort	Makes satisfactory model because of less practice	Needs lot of hard work to make a perfect dress form

7 Collage work on any topic related to all theory subjects)

	Excellent	Good	Acceptable	Needs improvement
Title	Very appropriate for the theme	Appropriate for the theme	Ok for the theme	Somewhat relevant to the theme

Originality and craftsmanship/creativity.	1 Ideas - original and innovative. 2 Collage elements are well planned and provide accurate relation to the theme and arranged in relation to size.	1 ideas original and innovative 2 collage elements are well planned and adequately related to the theme. One item not arranged in relation to size.	1 only two ideas original and innovative. 2 only 2 collage Elements are well planned and provide acceptable relation to the theme. Items arranged in relation to size.	1 Only one idea was original and innovative. 2 Collage elements not planned in appropriate manner. and poorly properly arranged in relation to size.
Composition	Excellent application of design principles and elements.	Good application of design principles and elements	Acceptable levels in application of design principles and elements.	Not able to apply design principles and elements in appropriate manner.
Colour	Choice and application of color shows excellent knowledge of color relationships. Color blocking technique very efficiently used	Choice and application of color shows good knowledge of color relationships. Colour blocking technique efficiently used	Choice and application of colour shows knowledge of colour. Few places colours not planned properly	Student needs to work on learning color relationships most of the places colours not properly planned
Text	Clearly written and visible from a long distance of 2.5 meters	Clearly written and visible from a long distance of 2. meters	Clearly written and visible from a long distance of 1 meters	Not clearly written visible from a very short distance.

Time and effort	Leisure time and class time was used wisely. Much time and effort went into the planning and design of the collage. It is clear the student worked at home as well as at school.	Leisure time and class time was used wisely. Student could have put in more time and effort at home.	Leisure time and class time was not always used wisely, but student did do some additional work at home.	Leisure time and class time was not used wisely and the student put in no additional effort
Answering queries	The student gives very good explanation of how every item in the collage is related to the assigned theme. For all the items the relationship is very clear Without any explanation	The student gives a good explanation of how most items in the collage are related to the assigned theme. For many of the items, the relationship is clear without explanation.	The student gives a fairly reasonable explanation of how most items in the collage is related to the assigned theme for few items relationship is very clear.	The student's explanations are not relevant difficulty encountered in understanding how the items are related to the assigned theme.

8 (a) Sample collection (dyed Fabric swatches, pictures of dress made with the fabric samples collected)

	Ample	Sufficient	Needs few more
Colour	10 samples	8 samples	6 samples
Different Printing technique	8 finishes	6 finishes samples	4 samples
Process pictures	6 samples	4 samples	3 samples
Fabric Texture	8 samples	6 samples	4 samples
Pictures relating to the end use of the fabric	8 pictures	6 pictures	4 pictures
Write up	Accurate and all required information	Accurate but 1 main points missing	Accurate but two main points missing

	presented		
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8 (b) dyed yarn sample collection rubric

	Ample	Sufficient	Needs improvement	
Simple yarns	6 samples	5 samples	4 samples	
Novelty yarns	8	6	5	
Fabric swatches with simple yarns	6	5	4	
Novelty yarn fabric swatches	8	6	5	
Write up	Accurate and all details given	Accurate but one point missing	Accurate but two points missing	

9 Market survey in your local area (printed and dyed textiles)

	Excellent	Good	Acceptable	Needs improvement
Brands	9 brand names	7 Brand names	5 brand names	3 brand names
Price range	For all 9 brands	For 7 brands	For 5 brands	For 3 brands
Fabric type composition, colour and texture)	Excellent description of the fabric composition	Good description of the fabric composition	2 to 3 details missing	More than 3 details missing
Design details	Pictures/ drawings and very detailed description of all 9 brands	Pictures/ drawings and very detailed description of all 7 brands	Pictures/ drawings and very detailed description of all 5 brands	Pictures/ drawings and very detailed description of all 3 brands
Customer preferences	Summary of Reasons given by 50 people for any two brands	Summary of Reasons given by 40 people	Summary of Reasons given by 30 people	Summary of Reasons given by 50 people
Customer grievances	Summary of Reasons given by 50 people for any two brands	Summary of Reasons given by 40 people for any two brands	Summary of Reasons given by 30 people for any two brands	Summary of Reasons given by 20 people for any two brands

10 Role Play

	Excellent	Good	Acceptable	Needs improvement
Receiving of customer	Greets the customer with smile and offers seat to sit and give water asks simple cordial questions.	Greets the customer with smile and offers seat to sit and give water	Greets the customer and offers seat to sit and give water	Unpleasant facial expressions, offers seat.
Customer grievance details	Asks questions about the problem faced by them to find the exact nature of the problem. Makes note of each and every minute details about the complaints in a pleasant manner	Makes note of each and every minute details about the complaints in a pleasant manner	Makes note of details with two details missing in a pleasing manner	Makes note of details in an unpleasant manner and forgets most of the details
Facts regarding the grievance	Finds the causes for the discomfort caused to the customer in a systematic manner and clarifies the doubts for problems by giving authentic accurate details and precautions if any for use and maintenance	Finds the causes for the discomfort caused to the customer in a systematic manner and clarifies the doubts for problems by giving authentic accurate details.	Finds the causes for the discomfort caused to the customer in a systematic manner.	Finds the causes for the discomfort caused to the customer in a systematic manner with unpleasant body gestures
Good will Gestures	Offers replacement if problem is genuine and Offers discount coupon for next two purchase	Offers replacement if problem is genuine and Offers discount coupon for next one purchase	Offers replacement if problem is genuine.	Offers replacement by taking nominal amount.

11 Group Discussion on any topic

	Excellent	Good	Acceptable	Needs improvement
Content	All points are Relevant and comprehensive	All points are Relevant and one or two points not comprehensive	All points are Relevant and three points not comprehensive	One or two points are not Relevant and more than three points not comprehensive
Communication skills	Excellent professional vocabulary, high degree of grammatical accuracy, fluent and spontaneous, accurate pronunciation and intonation presentation is well structured	good command of professional vocabulary, good degree of grammatical accuracy, most of the time fluent and spontaneous, Pronunciation and intonation generally accurate, Presentation is clearly structured and appropriate to the audience.	Adequate vocabulary, reasonable accuracy, sometimes hesitant, Some inaccuracy in pronunciation and intonation, presentation level is appropriate	Limited professional Vocabulary, communication limited in terms of accuracy, poor pronunciation.
Body language	Maintains excellent eye contacts, pleasing facial expressions, good voice, correct hand gestures	Maintains excellent eye contacts, pleasing facial expressions, good voice.	Maintains eye contacts, pleasing facial expressions, good voice.	Maintains no eye contact pleasing facial expressions, good voice.
Listening skill	Listens to the	Listens to the	Listens to the	Listens to the speaker

	speaker with keen interest and makes note of all-important points.	speaker with keen interest and makes note of few important points	speaker with keen interest without noting any points.	most of the time without noting any points
Leadership	Demonstrates excellent leadership qualities by inspiring others, being confident, cooperative, honest, innovative and focused	Demonstrates leadership qualities by inspiring others, being confident, cooperative, honest and focused	Demonstrates leadership qualities by inspiring others, being confident, cooperative and honest.	Demonstrates little leadership qualities by being cooperative.
Group behavior	Friendly, cooperative and empathetic	Friendly and cooperative	Friendly and sometimes not cooperative	Sometimes not Friendly and cooperative