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| --- |
| **MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI** |
| **TEACHING AND EXAMINATION SCHEME**  |
| **COURSE NAME : DIPLOMA IN FASHIONION & CLOTHING TECHNOLOGY** |
| **COURSE CODE : DC**  |
| **DURATION OF COURSE : SIX SEMESTERS WITH EFFECT FROM 2012-13**  |
| **SEMESTER : FIFTH DURATION : 16 WEEKS**  |
| **PATTERN : FULL TIME - SEMESTER SCHEME : G** |
| **SR. NO.** | **SUBJECT TITLE** | **Abbreviation** | **SUB****CODE** | **TEACHING SCHEME** | **EXAMINATION SCHEME** | **SW****(17500)** |
| **PAPER****HRS.** | **TH (1)** | **PR (4)** | **OR (8)** | **TW (9)** |
| **TH** | **TU** | **PR** | **Max** | **Min** | **Max** | **Min** | **Max** | **Min** | **Max** | **Min** |
| 1 | Fashion Design for Men and Women | FDM | 17573 | 03 | -- | 04 | 03 | 100 | 40 | 50# | 20 | -- | -- | 25@ | 10 | **50** |
| 2 | CAD-CAM in Apparel Manufacturing | CCA | 17574 | 02 | -- | 04 | 02 | 50 | 20 | -- | -- | -- | -- | 25@ | 10 |
| 3 | Fashion Accessories | FAC | 17575 | 03 | -- | -- | 03 | 100 | 40 | -- | -- | -- | -- | -- | -- |
| 4 | Finishing of Fabric and Garments | FFG | 17576 | 03 | -- | 04 | 03 | 100 | 40 | 50# | 20 | -- | -- | 25@ | 10 |
| 5 | Management of Garment Industry | AIE | 17577 | 03 | -- | -- | 03 | 100 | 40 | -- | -- | -- | -- | -- | -- |
| 6 | Entrepreneurship Development | EDP | 17080 | 01 | 01 | -- | -- | -- | -- | -- | -- | -- | -- | 25@ | 10 |
| 7 | Professional Practices-III | PPT | 17081 | -- | -- | 03 | -- | -- | -- | -- | -- | -- | -- | 50@ | 20 |
| 8 | Industrial Training | ITR | 17051 | -- | -- | -- | -- | -- | -- | -- | -- | 50# | 20 | 50@ | 20 |
| **TOTAL** | **15** | **01** | **15** | **--** | **450** | **--** | **100** | **--** | **50** | **--** | **200** | **--** |  **50** |
| Student Contact Hours Per Week:  **31 Hrs.** **THEORY AND PRACTICAL PERIODS OF 60 MINUTES EACH.**Total Marks **: 850** @ Internal Assessment, # External Assessment, #\* Online Examination, No Theory Examination, $ Common to All Conventional Diploma, Abbreviations: TH-Theory, TU- Tutorial, PR-Practical, OR-Oral, TW- Termwork, SW- Sessional Work.* Conduct two class tests each of 25 marks for each theory subject. Sum of the total test marks of all subject are to be converted out of 50 marks as sessional work (SW).
* Progressive evaluation is to be done by subject teacher as per the prevailing curriculum implementation and assessment norms.
* Code number for TH, PR, OR and TW are to be given as suffix 1, 4, 8, 9 respectively to the subject code.

**Note:**  Assessment of Industrial Training in 5th semester. |

**Course Name : Diploma in Fashion & Clothing Technology**

**Course Code : DC**

**Semester : Fifth**

**Subject Title : Fashion Design for Men and Women**

**Subject Code : 17573**

**Teaching & Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPERHRS | TH | PR | OR | TW | TOTAL |
| 03 | -- | 04 | 03 | 100 | 50# | -- | 25@ | 175 |

**NOTE:**

* **Two tests each of 25 marks to be conducted as per the schedule given by MSBTE.**
* **Total of tests marks for all theory subjects are to be converted out of 50 and to be entered in mark sheet under the head Sessional Work (SW).**

**Rationale:**

 The logical knowledge of brand positions and acceptance, design establishment and fashion cycles is required for one fashion professional along with the knowledge of patterning. This is a conjugate subject which can make one to get all the knowledge required in this regard.

**General Objectives:**

1. To understand the Brand and its position.
2. To impart knowledge on various factors affecting licensing process.
3. To impart knowledge about retailing of the end product.
4. To impart knowledge on advertising modes and promotion.
5. To be able to design, and develop various garment styles for men and women.

**Learning Structure:**

Application

Fashion Brand establishment, Designing and patterning, Retailing

Procedure

Concept

Facts

Principle

Research, design, draft, construction, presentation and marketing

Licensing, Knock-offs, Pattern Lays

Retailing, Dart Manipulations, Ward robe differentiation

Brand Position is an important factor to sustain in the market and catering

**Theory:**

|  |  |  |
| --- | --- | --- |
| **Topic and Contents** | **Hours** | **Marks** |
| **Topic 1. Fashion Industry****Specific Objectives:*** To understand depths and start of fashion industry
* To understand the line developing concept
* To understand influencing methods followed in production

**Contents:**1. **Introduction to the Fashion Industry:**
* History, development and economic importance of Men’s and Women’s wear segments
* Brands producing men’s and women’s wear
	1. **Design collection concept:**
* Development of a design lines according to seasons for Men’s, Women’s
* Understanding various wardrobes -Casual, Formal (Office wear), Party wear, Sports wear
	1. **Design and production procedures:**
* Bespoke and Industrial Tailored Clothing
* Pre adoption and Post adoption steps
* Simple and Complex Size Charts- sizing standards for various countries and buyers
 | 12 | 20 |
| **Topic 2. Marketing of Men’s And Women’s Wear****Specific Objectives:*** To understand fashion Retailing
* To understand the factors affecting sale
* To be able to decide the target market

**Contents:*** Classification Merchandising
* Targeted Customer Approach
* Designer Labels and Designer Licensing
* Manufacturers and `Brands’
* Various Retail Channels of Distribution
 | 06 | 16 |
| **Topic 3. Study of Men’s Wear- I****Specific Objectives:*** To be skilled in developing men’s upper garments
* To understand the fitting principles in upper garment
* To understand figure deviations and pattern alterations for the same

**Contents:**Patterning, Construction and Economical Layout for:* Formal Shirts with Regular Collar & Button Down Collar- Plackets – Back tucks – Centre and Side tucks
* Single Breasted Coat
* Principles involved in fitting
* Fitting problems and remedies in upper garments
* Balancing of designs – Asymmetric and Symmetric designs - checks and stripes
 | 06 | 16 |
| **Topic 4. Study of Men’s Wear -II****Specific Objectives:*** To be skilled in developing men’s lower garments
* To understand the fitting principles in lower garments
* To understand figure deviations and pattern alterations for the same

**Contents:**Patterning, Construction and Economical Layout for:* Men’s Boxer Shorts
* Men’s Formal Trouser: Pleated and Flat front with Single and Double Welt back Pockets
* Pocket Casual Trousers
* Principles involved in fitting
* Fitting problems and remedies in trousers
 | 08 | 20 |
| **Topic 5. Study of Women’s Wear:** **Specific Objectives:*** To be skilled in developing women’s garments
* To understand the fitting principles in women’s garments
* To understand figure deviations and pattern alterations for designer wear

**Contents:**Patterning, Construction and Economical Layout for:* Nighties
* Midi skirts (Styles of A-Line, Umbrella and Gored)
* Designer Tops
* Salwar Kameez
* Saree Blouses
* Connecting darts into seams - Fitting problems
* Selection of material, thread, color and surface ornamentation for women’s Wear
 | 10 | 20 |
| **Topic 6. Study of Women’s Intimate Apparels****Specific Objectives:*** To be skilled in developing women’s lingerie
* To understand the fitting principles in lingerie
* To understand figure deviations and pattern alterations for the same

**Contents:**Patterning, Construction and Economical Layout for:* Braziers- Finding the Bust Span
* Panties, and other lingerie
* Different types of fitting for ladies inner wear
* Use of Elastomeric yarns in lingerie
 | 06 | 08 |
| **TOTAL** | **48** | **100** |

**Practical**:

**Skills to be developed:**

**Intellectual Skills:**

1. Select patterns as per the requirements

2. Decide method of construction as per the garment to be manufactured

3. Design and develop layout of the garment

4. Selection of appropriate yarn

**Motor Skills:**

1. Prepare a layout of the apparel

2. Construct the garment as per design

**List of Practicals:**

1. Patterning and Construction of Men’s Shorts/ Knickers
2. Patterning and Construction of Men’s Formal Shirt
3. Patterning and Construction of Men’s Formal Trousers
4. Patterning and Construction of Men’s Casual Trousers
5. Patterning and Construction of Nighties
6. Patterning and Construction of Ladies Blouse
7. Patterning and Construction of Salwar Kameez
8. Patterning and Construction of Brassieres

**Learning Resources:**

**Books:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Author** | **Title** | **Year of****Publication** | **Place of Publication & Publisher** |
| Kitty G Dickerson  | Inside Fashion Business | 1999 | Pearson publications |
| Hannelore Eberie | Clothing Technology – From fibre to fashion | 2004 | ------------------- |
| Helen Joseph and Armstrong | Pattern Making for Fashion Design | 2006 | Pearson publications |
| Harold Carr and Barbara Latham | The technology of Clothing Manufacture | 1994 | Blackwell Science Inc |
| Singer | Sewing Lingerie | 1991 | Cy DeCosse Incorporated |
| Gerry Cooklin | Garment Technology for Fashion Designers | 1997 | Blackwell Science Inc |

**Websites:**

www.vidoemo.com

**Course Name : Diploma in Fashion & Clothing Technology**

**Course Code : DC**

**Semester : Fifth**

**Subject Title : CAD-CAM in Apparel Manufacturing**

**Subject Code : 17574**

**Teaching and Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPER HRS. | TH | PR | OR | TW | TOTAL |
| 02 | -- |  04 | 02 | 50 | -- | -- |  25@ | 75 |

**NOTE:**

* **Two tests each of 25 marks to be conducted as per the schedule given by MSBTE.**
* **Total of tests marks for all theory subjects are to be converted out of 100 and to be entered in mark sheet under the head Sessional Work (SW).**

**Rationale:**

 This subject is included to introduce students with new techniques used in garment industry. The subject will be taught mainly through practicals. The practice will make Students well versed with skills starting from fashion sketching to marker planning.

This will make it easy inr preparation of sample garment? This subject will enhance the knowledge on application of software for fashion and textile design.

**General Objectives:**

The student will be able to**,**

1. To know basics tools in Cad-Cam software
2. To understand use of different software for designing, grading & marker planning.

**Learning Structure:**

**Application** Understand to usedifferent software for fashion technology

**Procedure** Using CAD CAM software to develop design and this method approaches

 for broadening the vision about application procedure

**Principle** Principles of using software tools, and develop the designs them to

 have verse knowledge.

**Concept** Conceptualization of various types of CAD CAM software followed by

 all over the garment industry .

**Facts** Locality affects variation in cad cam softwares.

**Contents: Theory**

|  |  |  |
| --- | --- | --- |
| **Topic and Contents** | **Hours** | **Marks** |
| **Topic 1: Introduction to Computer Software For Garment Manufacturing****Specific Objectives:*** State the concept of CAD-CAM
* Describe the software and hardware used in CAD-CAM

**Contents:*** 1. Concept of CAD-CAM
* History of CAD -CAM
	1. Usages of CAD-CAM in garment industry
* Designing
* Pattern making
* Pattern grading
* Marker plan
	1. Comparison of manual and CAD system
* Designing
* Pattern making
* Pattern grading
* Marker plan
	1. Study of software and hardware used in garment manufacturing
* Gerber Technology
* Nester
* Pad system
* Assyst Bullmer
* Tukatech
 |  08 | 10 |
| **Topic 2: Computerized Pattern Making and Grading****Specific Objectives:*** Describe process of computerized pattern drafting
* Describe process of computerized pattern grading

**Contents:**2.1 Pattern construction Techniques* Positioning of computer pattern
* Creating pattern shapes by computer
* Techniques for construction pattern shapes

2.2 Drafting a pattern with the help of CAD software * Introduction software tools
* Drafting steps for any pattern

2.3 Computer aided manipulation of patterns to create individual styles * Flared skirt constructed by dart manipulation
* Bell bottom trouser

2.4 Computer pattern grading* Introduction to pattern grading
* Grade rules
* Computer grading techniques

2.5 Computer Digitising* Digitiser
* Digitising process
* Digitizing a large pattern piece
 | 10 | 20 |
| **Topic 3: Computerized Marker Making System****Specific Objectives:*** Describe process of computerized pattern marker making
* Describe process of computerized fabric spreading and cutting

**Contents:**3.1 Marker making and lay planning* Fabric widths and material utilization
* Markers for striped and check fabric
* Planning makers
* Optimizing markers

3.2 Introduction to CAM * Automated layout planning by various techniques

3.3 Computerized fabric spreading and cutting | 08 | 10 |
| **Topic 4: 3D Scanning Technology**Specific Objectives:* Describe process of 3D scanning technology
* Describe process of 2D to 3D conversion technology

**Contents:**4.1 Introduction 3D scanning technology* Befits
* 2D to 3D conversion technology
* Draping 2D patterns on 3D body forms
* Drape evaluation of 3D garment simulation
* Texture mapping
 | 06 | 10 |
| **Total** | **32** | **50** |

**Practical:**

**Skills to be developed:**

**Intellectual Skills**:

* Draft patterns for women’s, men’s and children’s wear.
* Manipulate and grade the pattern.
* Calculate the marker efficiency.

**Motor Skills:**

* Simulation of dress on virtual model.
* Visualize color changes and texture mapping on a garment.
* Develop a 3D window display.

**List of Practicals:**

To understand the usage of the basic tools for CorelDraw and Photoshop

1. Develop a men’s casual wear using Corel draw or Photoshop
2. Develop a women’s party wear using Reach CAD along with accessories
3. Develop a children’s play time wear using Corel draw or Photoshop
4. Develop a patterns for men’s casual wear using Rich Piece PDS system
5. Develop a patterns for women’s party wear using Rich Piece PDS system
6. Develop a patterns for children’s party wear using Rich Piece PDS system
7. Grade the men’s, women’s, children’s wear block using GGS system
8. Develop marker plan for men’s casual wear (developed design) and calculate marker efficiency for fabric width of 52’’
9. Develop marker plan for women’s party wear and calculate marker efficiency for fabric width of 42’’
10. Develop marker plan for children’s play time wear and calculate marker efficiency for fabric width of 36’’
11. To drape a one piece garment on the model available in fashion designing software

**Learning Resources:**

1. **Books:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Author** | **Title** | **Publisher** |
| 1 | Winfred Aidrich | CAD in Clothing and Textiles | Blackwell Science Ltd.,1994. |
| 2 | Patric Taylor | Computer in the Fashion Technology | Om Book Service, 1997. |
| 3 | Stephen Gray | CAD / CAM in clothing and Textiles | Gower Publishing Limited, 1998 |
| 4 | Winfred Aldrich | CAD in clothing and Textiles | Blackwell Science 2nd edition,1992 |
| 5 | Jacob Solinger | Apparel Manufacturing Handbooks | Van no strand and Reinhold Company, 1980 |

1. **CDs, PPTs, Models, Charts etc. :**

**CDs:**

* PDS software for Drafting
* GGS software for Grading
* MMS software for Marker making
1. **List of Instruments, Equipment and Machines:**
* Computers
* Software CDs

**Course Name : Diploma in Fashion & Clothing Technology**

**Course Code : DC**

**Semester : Fifth**

**Subject Title : Fashion Accessories**

**Subject Code : 17575**

**Teaching and Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPERHRS. | TH | PR | OR | TW | TOTAL |
| 03 | -- | -- | 03 | 100 | -- | -- | -- | 100 |

**NOTE:**

* **Two tests each of 25 marks are to be conducted as per the schedule given by MSBTE.**
* **Total of tests marks for all theory subjects are to be converted out of 50 and to be entered in mark sheet under the head Sessional work (SW).**

**Rational:**

 To introduce students various types of accessories with appropriate clothing. In these theory students will be well versed with skills designing to construction accessories. Which will know how to make accessories & also their market position for national and international level.

**General Objectives:**

Students will be able to:

1. To understand value addition to costumes by innovative use.
2. To understand techniques such as Embellishments, Sequins & other forms.

**Learning Structure:**

Understand to develop the different accessories used for fashion material

Using accessories to enhancing the garment and this method approaches for broadening the vision about application procedure

Principles of using tools, and develop the accessories them to have verse knowledge.

Conceptualization of various types of accessories followed by all over the garment industry with their appropriate dressing style.

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Locality affects variation in fashion accessories.

**Application**

**Procedure**

**Principle**

**Concept**

**Facts**

**Theory:**

|  |  |  |
| --- | --- | --- |
| **Topic and Contents** | **Hours** | **Marks** |
| **Topic 1: Fashion Accessories** Specific Objectives:* State the history of fashion accessories
* Describe present trends in fashion accessories
* State the accessory types

Contents:* 1. Introduction to accessory
* Definition
* History
* Classification
* Present trends in fashion accessories
	1. Accessory types
* Head gears, Footwear, neck wear and belts
* Hand bags, gloves and Mitts, Scarves, stoles and stacking
* Sun glasses
 | 08 | 16 |
| **Topics 2: Handbags and Shoes**Specific Objectives:* State the history of handbags and shoes
* Describe the different styles of design construction for handbags and shoes
* State the market position and care maintenance

Contents:2.1 History* Handbags history
* Shoes history

2.2 Industry and Sourcing* National and International industry
* Material and trims sourcing

2.3 Materials used for handbags and shoes* Fabric, Fur, Leather, Trims

2.4 Design of different styles of handbags * Athletic bag, Backpack, Box , Bucket, Hobo bag, Envelope
* Drawstring, Tote bag, Clutch, Satchel

2.5 Design of different styles of shoes* Aerobics, Boot, Flip-flop, Sneaker, Ballet flats, Mules
* Deck shoe, Loafer, Sandal, Slipper, Thong

2.6 Construction details of handbags and shoes* Fabric handbag
* Leather handbag
* Leather shoes

2.7 Marketing position of handbag and shoes* Product promotion of handbags
* Product promotion of shoes

2.8 Care measure taken for maintenance* Care and maintenance
 |  08 | 18 |
| **Topics 3: Gloves and Belts**Specific Objectives:* State the history of Gloves and Belts
* Describe the different styles of design construction for gloves and belts
* State the market position and care maintenance

Contents:3.1 History* Gloves history
* Belts history

3.2 Industry and Sourcing* National and International industry
* Material and trims sourcing

3.3 Materials used for handbags and shoes* Fabric, wool, Fur, Leather, Trims

3.4 Design of different styles of Gloves* Mitton, Shorty, Driving, Gauntlet, Mousquetaire, Slip on
* Fingerless gloves

3.5 Design of different styles of Belts* Cinch, Contour, Cummerbund, Link, Rope, Sash, Self
* Cowboy, Braided, D-Ring, Elastic

3.6 Construction details of Gloves and Belts* Leather gloves
* Leather belts

3.7 Marketing position of Gloves and Belts* Product promotion of Gloves
* Product promotion of Belts

3.8 Care taken for maintenance* Care and maintenance
 | 08 | 16 |
| **Topics 4: Hats and Neckwear**Specific Objectives:* State the history of Hats and Neckwear
* Describe the different styles of design construction for Hats and Neckwear
* State the market position and care maintenance

Contents:4.1 History* Hats history
* Neckwear history

4.2 Industry and Sourcing* National and International industry
* Material and trims sourcing

4.3 Materials used for Hats and Neckwear* Fabric, wool, fur, leather, trims

4.4 Design of different styles of Hats* Baseball cap, Beanie, Beret, Bucket hat, Cowboy, Top Hat
* Ascot, Panama

4.5 Design of different styles of Neckwear* Ascot, Cashmere, Cravat, Hijab, Stole, Scarf, Neckleces

4.6 Construction details of Hats and Neckwear* Felt hat, Straw hat, Fabric hat, Knitted hat
* Fabric neckwear

4.7 Marketing position of Gloves and Belts* Product promotion of Gloves
* Product promotion of Belts

4.8 Care measure taken for maintenance* Care and maintenance
 | 08 | 16 |
| **Topics 5: Costume Jewellery**Specific Objectives:* State the history of Costume jwellery
* Describe the different styles of design construction for Costume jwellery
* State the market position and care maintenance

Contents:5.1 History* Jewellery history

5.2 Industry and Sourcing* National and International industry
* Material and trims sourcing

5.3 Materials used for jewellery* Metals, Stones, Gems, Glass, Gold, Silver, Platinum, Beads

5.4 Design of different styles of jewellery* Rings, Bracelets, Necklace, Brooches, Earrings, Barrettes
* Ankle bracelets, Charms

5.5 Construction details of jewellery* Jewelry construction methods
* Stone setting methods

5.6 Marketing position of Jewelry* Product promotion of Jewelry

5.7 Care measure taken for maintenance* Care and maintenance
 | 08 | 18 |
| **Topics 6: Scarves and Stole**Specific Objectives:* State the history of Scarves and stole
* Describe the different styles of design construction for Scarves and stole
* State the market position and care maintenance

Contents:6.1 History* Scarves history
* Stole history

6.2 Industry and Sourcing* National and International industry
* Material and trims sourcing

6.3 Materials used for Scarves and Stole* Fabric, wool, Fur, Trims

6.4 Design of different styles of Scarves 6.5 Design of different styles of Stole6.6 Construction details of Scarves and Stole6.7 Marketing position of * Product promotion of Scarves
* Product promotion of Stole

6.8 Care measure taken for maintenanceCare and maintenance | 08 | 16 |
| **Total** | **48** | **100** |

**Learning Resources:**

**Books:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Author** | **Title** | **Publisher** |
| 1. | Jeff Sone & Johnson Gros | Simple Accessories | -- |
| 2. | Gini Stephens Frings | Fashion From Concept toConsumer | Pearson publications, 2009 |
| 3. | John Peacock | The complete 20th Century Source Book | Thames andHurlson, London, 2000 John |
| 4. | Peacock | Fashion Accessories- Men | Thames and Hudson, London,1996 |

**Course Name : Diploma in Fashion & Clothing Technology**

**Course Code : DC**

**Semester : Fifth**

**Subject Title : Finishing of Fabric and Garment**

**Subject Code : 17576**

**Teaching and Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPER HRS. | TH | PR | OR | TW | TOTAL |
| 03 | -- | 04 | 03 | 100 | 50# | -- | 25@ | 175 |

**NOTE:**

* **Two tests each of 25 marks to be conducted as per the schedule given by MSBTE.**

###### **Total of tests marks for all theory subjects are to be converted out of 50 and to be entered in mark sheet under the head Sessional Work (SW).**

**Rational:**

 To impart knowledge of different finishing methods and techniques used for fabric and garment finishing which can be further applied to enhance the appearance and aesthetic value.

**General Objectives:**

**The student will be able to:**

1. Understand various mechanical and chemical finishes on fabrics and garments.
2. Identify and apply different wash down effects on denims and non-denims
3. Understand working of finishing machinery for fabrics and garments.

**Contents: Theory**

|  |  |  |
| --- | --- | --- |
| **Topic and Content** | **Hours** | **Marks** |
| **Topic 1. Introduction to Mechanical Finishing****Specific objective:** * Describe objects of various mechanical finishes
* Describe machinery for various mechanical finishes

**Contents:** * Introduction to finishing
* Objects of finishing treatments
* Classification of finishes
* Objective and working principle of calendaring m/c
* Mechanical finishing: decatising, sanforising, compacting, heat setting, crabbing and sueding.
 | 08 | 16 |
| **Topic 2. Chemical finishing and their application methods** **Specific objective:** * Describe various chemical finishes
* State application procedure of various chemical finishes.

**Content:** * Concept of exhaustion application, pad application, percent expression, wet pick up, spraying technique
* Softeners: mechanism, types of softeners, properties of cationic non-ionic and silicone softeners
* Resin finishing: Mechanism formulation of pad liquor for resin finishing, concept of pre cure and post cure method, wash n wear and durable press finishing.
* Objective and end uses of flame retardant finish, antimicrobial finish, water repellent finish, scroopy finish, tin weighing of silk.
 | 12 | 24 |
| **Topic 3. Finishing of Garments****Specific objective:** * State objectives of wash down effects on denim garments

**Contents:** * Denim finishing: process sequence, stone wash, enzyme wash, acid wash. Advantages and limitations of all washing treatments
* Stone less stone wash effects: concept of bio-polishing
* Study of mud wash, chalk wash, ion wash treatments and their advantages and limitations
* Concept of puckering effect, sand blasting effect and whiskering treatments
 | 10 | 24 |
| **Topic 4. Machines for Garment Finishing****Specific objective:** * Describe working of garment processing machineries

**Contents:** * Principle and working procedure of garment dyeing machine, washing machine, tumble dryer, curing cabinets, pressing machine, fusing machine, hydro extractor, ironing table
* Electric/steam pressing, brushing mannequins, spray booth systems.
 | 10 | 20 |
| **Topic 5. Stain Removers and Specialty Finishes****Specific objective:** * Describe techniques of stain removal
* State concept of specialty finishes

**Contents:** * Types of stain & appropriate stain removing agent, techniques for stain removal
* Concept of Nano finish, UV protection finish, fragrance finish
 | 08 | 16 |
| **Total** | **48** | **100** |

**Practicals:**

**Skills to be developed**

**Intellectual Skills:**

1. Interpret type of finshing.

1. Calculate recipe formulation.

**Motor Skills:**

1. Measure the chemicals.

2. Prepare solutions of required concentrations.

**List of Practicals:-**

1. Identification of different stains on garments & their removal.
2. Permanent press finishing of Cotton & Synthetic garment
3. Application of different types of softeners on Coton garments.
4. Application of Stiffeners on cotton, synthetic garments & their evaluation.
5. Soil release finishing of synthetic fabrics & its evaluation.
6. Water repellent finishing of Cotton fabrics & its evaluation.
7. Antimicrobial finishing of cotton, woolen and worsted garments.
8. Bio polishing treatment on cotton garments.
9. Stone wash effect on cotton garments.
10. Acid wash effect on cotton garments.

**Learning Resources:**

**Books:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Author** | **Title** | **Year of****Publication** | **Place of****Publication & Publisher** |
| J. T. Marsh | Textile Finishing | 1986 | B.I. Publications, Delhi, |
| Nalankilli | Textile Finishing  | 1998 | Digital Impressions, 288-N, Salem, Main Road, Komarapalayam, 638 183 (T.N.) |
| AATCC | Challenges & opportunities in garment processing. | 1998 | AATCC. |
| Dsouza N.  | Fabric Care | -- | New age International, New Delhi.  |

**Course Name : Diploma in Fashion & Clothing Technology**

**Course Code : DC**

**Semester : Fifth**

**Subject Title : Management of Garment Industry**

**Subject Code : 17577**

**Teaching and Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPER HRS. | TH | PR | OR | TW | TOTAL |
| 03 | -- | -- | 03 | 100 | -- | -- | -- | 100 |

**NOTE:**

* **Two tests each of 25 marks to be conducted as per the schedule given by MSBTE.**

###### **Total of tests marks for all theory subjects are to be converted out of 50 and to be entered in mark sheet under the head Sessional Work (SW).**

**Rational:**

Tomorrows fashion designers must know more about system approach in solving the numerous problems of production, planning & control. This computer based industrial engineering tool will be useful in decision making. It also helps improves accuracy that can produce a product of international standard.

**General Objectives:**

**Students will be able to**

1. Understand methods of production.
2. Understand methods of maintenance & management of production.

**Learning Structure:**

Enable students to improve production & quality of production

Production planning

CPM, PERT

AOA, AON

Mass Production Units in Garment Industry

Technique of work-study

Controlling quality of production

Time Study, Method Study

R, C. CHARTS

Standard Method, Standard Time

Mean, Mode, Median

**Application**

**Procedure**

**Principle**

**Concept**

**Facts**

**Theory:**

|  |  |  |
| --- | --- | --- |
| **Topic and Content** | **Hours** | **Marks** |
| **Topic 1: Production Planning & Control**Specific Objectives: * Describe various tools & techniques of PPC.

**Contents:*** Types of production
* Production Planning - capacity types, management & strategies
* Capacity calculations:- Machines requirements for setting up a new factory. (with examples)
* PPC functions:-Routing–Scheduling–Dispatching–Follow up–Inspection
* Production control
 | 08 | 16 |
| **Topic 2: Work Study**Specific Objectives: * Develop method of doing work to calculate standard time for the same.

**Contents:****Method study**:-* Objectives -Procedures
* Tools & techniques:- flow charts
* Ergonomics

**Time study:-*** Objectives - Procedures
* performance rating & allowances
* Calculation of standard time:- numerical problems.

**Motion economy:-*** Therbligs
* SIMO chart
 | 07 | 16 |
| **Topic 3: Critical Path Method**Specific Objectives: * Describe project management & planning

**Contents:*** Activities: Types & Events: Types
* Activity on Arrow (AOA) & Activity on Node (AON) Network
* Network diagram - Fulkerson’s rule
* Critical path
* Forward and backward pass computations
* Numerical Problems
 | 08 | 16 |
| **Topic 4: Introduction to P.E.R.T.**Specific Objectives: * Describe project management & planning under uncertainty

**Contents:*** Three time estimates
* Network diagrams
* Probability of completion of project
* Difference between CPM and PERT
* Numerical Problems
 | 07 | 14 |
| **Topic 5: Maintenance**Specific Objectives: * State various types of maintenance in industry.

**Contents:*** Importance / need
* Objectives and cost of maintenance
* Requirements of good maintenance
* Types - Breakdown & Preventive Maintenance
* Advantages, and Economics of using maintenance
* New Developments
 | 06 | 12 |
| **Topic 6: Statistical Quality Control**Specific Objectives: * Describe various statistical tools for quality control

**Contents:*** Definition of quality
* Statistical terms- mean, mode, median, range, dispersion
* Advantages of SQC
* Control charts- types
* Numerical problems- on $\overbar{X}$ and R chart, P chart and C chart.
 | 07 | 14 |
| **Topic 6: Cost Accounting & Cost Control**Specific Objectives:* Describe briefs of accounting, break-even analysis & cost controlling.

**Contents:**Accounting:-* Definition,
* Types of accounting,
* Books of accounting, entries in books (only journal & ledger)

Cost Accounting:-* Definition,
* Methods,
* Advantages

Breakeven Analysis:-* Break-even point:-definition
* Graphical representation,
* Advantages,
* Numerical problems on BEP
 | 05 | 12 |
|  **Total** | **48** | **100** |

**Learning Resources:**

**Books:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Author** | **Title** | **Publisher** |
| 1 | Banga, Sharma | Industrial Organization &Engineering, Economics |  |
| 2 | R. K. Garg &V. Sharma | Production Planning & Control | Dhanpat rai Publication |
| 3 | Jacob Solinger | Apparel Production Handbook | Reinbold Publicatiion , U.K. |
| 4 | Churter A.J. | Introduction to clothingProduction Management | Oseney Mead 1995 |
| 5 | Markand Telsang | Industrial Engg. & Production Management |  |

**Course Name : Diploma in Fashion & Clothing**

**Course Code : DC**

**Semester : Fourth**

**Subject Title : Entrepreneurship Development**

**Subject Code : 17080**

**Teaching and Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPER HRS. | TH | PR | OR | TW | TOTAL |
| 01 | 01 | -- | -- | -- | -- | -- | 25@ | 25 |

**Rational:**

The entrepreneurship development part of the subject consists of topics related to the development of entrepreneurial skills and other details such as selection of product lines, site selection, financial aspects, personnel management, quality control and creative thinking. The subject includes case studies in the related field. The subject emphasizes the development of enterprising qualities among young engineers.

**General Objectives:**

Students should be able to

* Understand the concept of Entrepreneurship
* Become aware of the qualities of an entrepreneur.
* Understand the requirements of starting of the new venture.

**Theory**: - **to be taught during practical hrs**.

|  |  |  |
| --- | --- | --- |
| **Chapter** | **Contents** | **Hours** |
|  | **Introduction to Entrepreneurship*** Entrepreneur
* Entrepreneur-ship
* Information gathering for identification of opportunity
* Entrepreneurial process
 | 2 |
|  | **Product and Services*** Product specifications.
* Market research, survey.
* Functions of marketing.
* Research and Development activity
 | 2 |
|  | **Procedures for estimation of resources required for establishment****enterprise or starting service business.*** Site Selection
* Human Resources.
* Equipments.
* Financial Resources
 | 3 |
|  | **Establishing and running enterprise*** Management of Enterprise.
* Team Spirit.
* Motivation.
* Communication.
 | 2 |
|  | **Budgeting & quality control*** Concept of budgeting.
* Budget preparation.
* Different type of budgets
* Quality control techniques & parameters
 | 2 |
|  | **Procedure of accounting expenditures*** Preparation of P&L account and Balance sheet
 | 2 |
|  | **Procedure of report writing for getting approval from financial agencies.*** Financial Resources.
* Financial Corporations
 | 3 |
|  | **Total** | **16** |

**Assignments:-**

1. Assignment on entrepreneurial process
2. Assignment on information gathering techniques
3. Assignment on market research & marketing strategy development
4. Assignment on site selection for new venture
5. Assignment on team activity
6. Assignment on motivation
7. Assignment on budgeting
8. Assignment on project report writing for new business to financial institution

**Books:**

|  |  |  |
| --- | --- | --- |
| **Author** | **Title** | **Publication** |
| Vasant Desai | Entrepreneurship Development | Himalaya Publishing House |

**Course Name : Diploma in Fashion & Clothing**

**Course Code : DC**

**Semester : Fifth**

**Subject Title : Professional Practices-III**

**Subject Code : 17081**

**Teaching and Examination Scheme:**

|  |  |
| --- | --- |
| **Teaching Scheme** | **Examination Scheme** |
| TH | TU | PR | PAPER HRS. | TH | PR | OR | TW | TOTAL |
| -- | -- | 03 | -- | -- | -- | -- | 50@ | 50 |

**Rationale:**

Most of the diploma holders in industries. Due to globalization and competition in the industrial and service sectors the selection for the job is based on campus interviews or competitive tests.

While selecting candidates a normal practice adopted is to see general confidence, ability to communicate and attitude, in addition to basic technological concepts.

The purpose of introducing professional practices is to provide opportunity to students to undergo activities which will enable them to develop confidence. Industrial visits, expert lectures, seminars on technical topics and group discussion are planned in a semester so that there will be increased participation of students in learning process.

**Objectives:**

Student will be able to:

1. Acquire information from different sources.
2. Prepare notes for given topic.
3. Present given topic in a seminar.
4. Interact with peers to share thoughts.
5. Prepare a report on industrial visit, expert lecture.

**Learning Structure:**

Apply principles of inter communication in group discussion for self learning

Use proper techniques for participation in group discussion

Principles of group work and communication

Group of Student, Topic for Discussion

Application

Procedure

Concept

Facts

|  |  |  |
| --- | --- | --- |
| **Serial****No.** | **Activities** | **Hours** |
| 01 | **Industrial Visits** Structured industrial visits be arranged and report of the same shall be submitted by the individual student, to form a part of the term work.(**2 visits**) Following are the suggested types of Industries/ Fields -1. Garment Industry: Study & collect norms for parameters of different production processes for manufacturing apparel.
2. Garment Industry: Study & collect norms for employing labour complement for manufacturing apparel.
3. Garment Industry: Study & collect sizes of machines used for manufacturing apparel with layout of different depts. on drawing sheets.
4. The marketing structure & strategy for Garment Company.
5. Garment chemical processing unit.
6. Garment printing unit.
7. Computer aided designing ( Visits may be organized to “REACH “ CAD/CAM System at Bangalore to study software in CAD)
8. Software in pattern making
9. Software in pattern grading
10. Textile industry machinery manufacturing / servicing units.
 | 14 |
| 02 | **The Guest Lecture/s** From field/industry experts, professionals to be arranged (2 Hrs duration), minimum 4 nos. from the following or alike topics. The brief report to be submitted on the guest lecture by each student as a part of Term work1. Fashion merchandising.
2. Present scenario of garment industry.
3. Fashion designing.
4. Apparel merchandising
5. Pattern making (CAD/CAM)
6. Fashion journalism
7. Fashion forecasting
8. Value addition in garments
9. Costing of garments
10. Optimization in pattern cutting for reduction in fabric consumption.
 | 08 |
| 03 | **Group Discussion :** **The students should discuss in group of six to eight students and write a brief report on the same, as a part of term work. The topic of group discussions may be selected by the faculty members. Some of the suggested topics are (**any one**)-**1. Present status of garment industry
2. Production processes of garment industry
3. Different finishes given to apparel.
4. Value addition of garmenting.
5. Apparel merchandising.
6. Energy Saving in Institute.
7. Nano technology.
8. Safety in day to day life.
9. Disaster management.
10. Load shading and remedial measures.
 | 06 |
| 04 | **Seminar : (any 2 topics)**Seminar topic should be related to the subjects of fifth semester / topics from guest lectures. Students shall submit a report of at least 10 pages and deliver a seminar (Presentation time – 10 minutes for a group of 2 students)  | 06 |
| 05 | Mini Projects : (in a group of 4-5 students)1. Create new styles of patterns for shirts, trousers, ladies wear, kids wear.
2. Develop new designs on CAD software.
3. Collection of different fashion styles.
4. Collection of accessories for one particular item. (e.g. shirts, trousers, jeans) & study of costing of the same.
5. Collection of different embroidery designs.
6. Costing of garment manufacturing process.
 | 08 |
|  OR**Modular Course on any one of the suggested or alike relevant topic be undertaken by a group of students (Min 10) :** 1. CAD for apparel.
2. Fashions merchandising
3. Embroidery for garments.
4. 3D – Body scan systems.
 |
| 6 | Student Activities **– students in a group of 3 to 4 shall perform** ANY TWO **of the following activities (other similar activities may be considered) and write a report as a part of term work.** Activities :-1. Collection of data regarding loan facilities or other facilities available through different organizations / banks to budding entrepreneurs
2. Survey and interviews of successful entrepreneurs in near by areas
3. Survey of opportunities available in thrust areas identified by Government or DIC.
4. Survey of data regarding different types of ongoing fashions i.e. today’s fashions.
5. Collection of measurements for human body specifications for different sizes of men, women and kids.
 | 06 |
| **Total** | **48** |