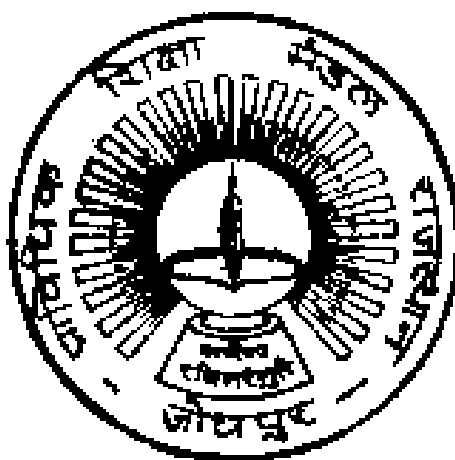


GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN
JODHPUR

SEMESTER SCHEME-2020-21

(SESSION 2021-2022 & ONWARDS)



TEACHING AND EXAMINATION SCHEME
AND SYLLABUS

FASHION DESIGN

(FD)

.....
Curriculum Development Cell
Board of Technical Education, Rajasthan
W-6 Residency Road,
Jodhpur

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR
TEACHING AND EXAMINATION SCHEME
(SEMESTER SCHEME-2020-21)

FOR DIPLOMA III SEMESTER (FASHION DESIGN)(FD) (Engg. and Technology Course)

SESSION 2021-2022 & ONWARDS

| Subject Category | Subject Code | Subjects | Distribution of Time | | | | Distribution of Max. Marks/ Duration | | | | | | | Total Marks | Credits |
|----------------------|--------------|--|----------------------|----------|-----------|-----------|--------------------------------------|-----------|------------|-----------|---------------------|-----------|-------------|-------------|-----------|
| | | | Hours per week | | | | End Semester Exam | | | | Internal Assessment | | | | |
| | | | L | T | P | Tot | TH | Hrs. | PR | Hrs. | CT | TU/Assi. | PR(S) | | |
| PC | FD 3001 | Textile Science - I | 2 | 1 | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PC | FD 3002 | Pattern Making -I | 2 | -- | -- | 2 | 60 | 3 | -- | -- | 20 | 20 | - | 100 | 2 |
| PC | FD 3003 | Fashion Illustration – I | -- | -- | 6 | 6 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 3 |
| PC | FD 3004 | Elements of Fashion | 2 | -- | -- | 2 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 2 |
| PC | FD 3005 | Basic Design | 2 | -- | -- | 2 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 2 |
| PC | FD 3006 | Garment Construction – I Lab | -- | -- | 4 | 4 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 2 |
| PC | FD 3007 | Basic Design Lab | -- | -- | 4 | 4 | -- | -- | 40 | 6 | -- | -- | 60 | 100 | 2 |
| PC | FD 3008 | Fashion Illustration – I Lab | -- | -- | 4 | 4 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 2 |
| SI | FD 3009 | Summer Internship – I (4 weeks after II Sem) | -- | -- | -- | -- | -- | -- | 100 | -- | -- | -- | -- | 100 | 2 |
| VS | +FD 3333 | Anandam (Joy of Giving) | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | 100 | 100 | 2 |
| | | Students Centered Activities | 0 | 0 | 3 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | Total | 8 | 1 | 22 | 30 | 240 | -- | 260 | -- | 80 | 80 | 240 | 1000 | 22 |
| Grand Total : | | | | | | | | | | | | | 1000 | 22 | |

1. L : Lecture
2. T : Tutorial
3. P : Practical
4. TH : Marks for End Semester Exam for Theory

5. PR : Marks for End Semester Exam for Practical
6. CT : Marks for class tests (Internal Assessment)
7. TU/Assi : Marks for tutorials/Assignment (Internal Assessment)
8. PR(S) : Marks for practical and viva (Internal Assessment)

1. +FD 3333 is same in all branches of Engineering

Student Centered Activities will be graded as A, B, C & D on the basis of attendance and interest of the student in learning.

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR
(SEMESTER SCHEME-2020-21)

TEACHING AND EXAMINATION SCHEME
FOR DIPLOMA IV SEMESTER (FASHION DESIGN)(FD) (Engg. and Technology Course)

SESSION 2021-2022 & ONWARDS

| Subject Category | Subject Code | Subjects | Distribution of Time | | | | Distribution of Max. Marks/ Duration | | | | | | | Total Marks | Credits |
|------------------|--------------|--|----------------------|-----------|-----------|-----------|--------------------------------------|-----------|------------|-----------|---------------------|-----------|------------|-------------|-----------|
| | | | Hours per week | | | | End Semester Exam | | | | Internal Assessment | | | | |
| | | | L | T | P | Tot | TH | Hrs. | PR | Hrs. | CT | TU/Assign | PR(S) | | |
| PC | FD 4001 | Textile Science – II | 3 | - | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PC | FD 4002 | Pattern Making – II | 3 | - | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PC | FD 4003 | Fashion Illustration – II | - | - | 2 | 2 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 1 |
| PC | FD 4004 | History of Costumes-I | 1 | - | -- | 1 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 1 |
| PE | FD 4005 | Programme Elective-I FD40051- Apparel Management & Quality Control FD40052- Grading | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PC | FD 4006 | Textile Science – II Lab | -- | -- | 2 | 2 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 1 |
| PC | FD 4007 | Pattern Making – II Lab | -- | -- | 4 | 4 | -- | -- | 40 | 6 | -- | -- | 60 | 100 | 2 |
| PC | FD 4008 | Fashion Illustration – II Lab | -- | -- | 4 | 4 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 2 |
| PC | FD 4009 | Thematic Approach to Design Lab | -- | -- | 4 | 4 | -- | -- | 40 | -- | -- | -- | 60 | 100 | 2 |
| PR | FD 4010 | Minor Project | -- | -- | 4 | 4 | -- | -- | 40 | -- | -- | -- | 60 | 100 | 2 |
| AU | +FD 4222 | Essence of Indian Knowledge and Tradition | 2 | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| VS | +FD 4444 | Anandam (Joy of Giving) | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | 100 | 100 | 2 |
| | | Students Centered Activities | 0 | 0 | 3 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | Total | 12 | 00 | 24 | 36 | 240 | -- | 240 | -- | 80 | 80 | 460 | 1100 | 22 |
| | | Grand Total : | | | | | | | | | | | | 1100 | 22 |

- | | |
|--|---|
| 1. L : Lecture | 5. PR : Marks for End Semester Exam for Practical |
| 2. T : Tutorial | 6. CT : Marks for class tests (Internal Assessment) |
| 3. P : Practical | 7. TU/Assi : Marks for tutorials/Assignment (Internal Assessment) |
| 4. TH : Marks for End Semester Exam for Theory | 8. PR(S) : Marks for practical and viva (Internal Assessment) |

1. +FD 4222 and +FD 4444 are same in all branches of Engineering

Student Centered Activities will be graded as A, B, C & D on the basis of attendance and interest of the student in learning.

Note: Students will go for 6 Weeks Summer Internship in the Summer Vacations after Fourth Semester. The assessment of the Summer Internship will be done in Fifth Semester

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR
(SEMESTER SCHEME-2020-21)

TEACHING AND EXAMINATION SCHEME
FOR DIPLOMA V SEMESTER (FASHION DESIGN)(FD) (Engg. and Technology Course)
SESSION 2022-2023 & ONWARDS

| Subject Category | Subject Code | Subject | Distribution of Time | | | | Distribution of Max. Marks/ Duration | | | | | | Total Marks | Credits | |
|----------------------|--------------|--|----------------------|-----------|-----------|-----------|--------------------------------------|------|------------|---------------------|------------|------------|-------------|------------|-----------|
| | | | Hours per week | | | | End Semester Exam | | | Internal Assessment | | | | | |
| | | | L | T | P | Tot | TH | Hrs. | PR | Hrs. | CT | TU/Assi | | | PR(S) |
| PC | FD 5001 | Knitting | 2 | 1 | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PC | FD 5002 | Lather Science | 2 | 1 | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| OE | FD 5100 | Open Elective-I +FD51001- Economic Policies in India +FD 51002- Engineering Economics & Accountancy | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PE | FD5003 | Programme Elective-II FD50031- Basics of Management FD50032- Traditional Indian Textiles | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PE | FD 5004 | Programme Elective-III FD50041- History of Costumes - II FD50042- Fashion Retailing and Apparel Merchandising | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PC | FD 5005 | Embroidery Lab | -- | -- | 6 | 6 | -- | -- | 40 | 6 | -- | -- | 60 | 100 | 3 |
| PC | FD 5006 | Garment Construction - II Lab | -- | -- | 6 | 6 | -- | -- | 40 | 6 | -- | -- | 60 | 100 | 3 |
| SI | FD 5007 | Summer Internship – II(6 weeks after IV em) | -- | -- | -- | -- | -- | -- | 100 | -- | -- | -- | -- | 100 | 3 |
| PR | FD 5008 | Major Project | -- | -- | 2 | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| VS | +FD 5555 | Anandam (Joy of Giving) | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | 100 | 100 | 2 |
| | | Students Centered Activities | 0 | 0 | 3 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | Total | 13 | 02 | 18 | 33 | 360 | | 140 | | 120 | 120 | 160 | 900 | 26 |
| Grand Total : | | | | | | | | | | | | | 900 | 26 | |

- | | |
|--|---|
| 1. L : Lecture | 5. PR : Marks for End Semester Exam for Practical |
| 2. T : Tutorial | 6. CT : Marks for class tests (Internal Assessment) |
| 3. P : Practical | 7. TU/Assi : Marks for tutorials/Assignment (Internal Assessment) |
| 4. TH : Marks for End Semester Exam for Theory | 8. PR(S) : Marks for practical and viva (Internal Assessment) |

1. +FD 51001, +FD 51002 and +FD 5555 are same in all branches of Engineering

Student Centered Activities will be graded as A, B, C & D on the basis of attendance and interest of the student in learning.

Note:Major Project will be continued and Assesed in VI Semester

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR
(SEMESTER SCHEME-2020-21)

TEACHING AND EXAMINATION SCHEME
FOR DIPLOMA VI SEMESTER (FASHION DESIGN)(FD) (Engg. and Technology Course)
SESSION 2022-2023 & ONWARDS

| Subject Category | Subject Code | Subject | Distribution of Time | | | | Distribution of Max. Marks/ Duration | | | | | | Total Marks | Credits | |
|----------------------|--------------|---|----------------------|----------|-----------|-----------|--------------------------------------|------|------------|---------------------|-----------|-----------|-------------|------------|-----------|
| | | | Hours per week | | | | End Semester Exam | | | Internal Assessment | | | | | |
| | | | L | T | P | Tot | TH | Hrs. | PR | Hrs. | CT | TU/Assi. | | | PR(S) |
| HS | +FD 6111 | Entrepreneurship and Start-ups | 3 | 1 | -- | 4 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 4 |
| OE | FD 6200 | Open Elective-II +FD 62001- Project Management +FD 62002- Renewable Energy Technologies | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| OE | FD 6300 | Open Elective-III +FD 63001- Product Design +FD 63002- Disaster Management | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| AU | +FD 6333 | Indian Constitution | 2 | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| PE | FD 6001 | Programme Elective-IV FD60011- Apparel Industry and Production Management FD60012— Industrial Machines Tools & Equipments | 3 | -- | -- | 3 | 60 | 3 | -- | -- | 20 | 20 | -- | 100 | 3 |
| PE | FD 6002 | Programme Elective-IV Lab FD60021- Apparel Industry and Production Management Lab FD60022-- Industrial Machines Tools & Equipments Lab | -- | -- | 4 | 4 | -- | -- | 40 | 3 | -- | -- | 60 | 100 | 2 |
| PC | FD 6003 | Garment Construction- III Lab | -- | -- | 4 | 4 | -- | -- | 40 | 6 | -- | -- | 60 | 100 | 2 |
| PR | FD 6004 | Major Project | -- | -- | 6 | 6 | -- | -- | 40 | -- | -- | -- | 60 | 100 | 4 |
| SE | FD 6005 | Seminar | 1 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 100 | 100 | 1 |
| VS | +FD 6666 | Anandam (Joy of Giving) | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | 100 | 100 | 2 |
| | | Students Centered Activities | 0 | 0 | 3 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | Total | 15 | 1 | 18 | 34 | 240 | -- | 120 | -- | 80 | 80 | 380 | 900 | 24 |
| Grand Total : | | | | | | | | | | | | | 900 | 24 | |

- | | |
|--|---|
| 1. L : Lecture | 5. PR : Marks for End Semester Exam for Practical |
| 2. T : Tutorial | 6. CT : Marks for class tests (Internal Assessment) |
| 3. P : Practical | 7. TU/Assi : Marks for tutorials/Assignment (Internal Assessment) |
| 4. TH : Marks for End Semester Exam for Theory | 8. PR(S) : Marks for practical and viva (Internal Assessment) |

1. +FD 6111, +FD 62001, +FD 62002, +FD 63001, +FD 63002, +FD 6333 and +FD 6666 are same in all branches of Engineering

Student Centered Activities will be graded as A, B, C & D on the basis of attendance and interest of the student in learning.

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN JODHPUR
SEMESTER SCHEME-2020-21



III SEMESTER
(SESSION 2021-2022 & ONWARDS)

TEXTILE SCIENCE -I

| | |
|-----------------|--------------------|
| Course Code | FD-3001 |
| Course Title | TEXTILE SCIENCE -I |
| No. of Credits | 3(L-2,T-1,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The knowledge and skills related to textile science is essential to provide a comprehensive insight into the basic knowledge about fibers, yarns and relevant properties affecting the ultimate performance and use of fabrics by the consumer, hence the subject is included in the curriculum

DETAILED CONTENTS

1. Textile fibers
 - a) Classification of important textile fibres based on their origin and constituents
 - b) Important properties of fibres: cotton, wool, silk, polyester, rayon, acrylic
 - Physical and Chemical properties
 - c) Man-made fibre production
 - Wet spinning
 - Dry Spinning
 - Melt spinning
2. Yarn Manufacturing
 - a) Elementary knowledge of spinning of cotton
 - b) Types of yarns
 - Simple yarns: single, ply, cord
 - Novelty yarns: slub, boucle, chenille, nubs, corkscrew, grindelle
 - c) Yarn properties
 - Twist
 - Yarn numbering system
3. Fabric Manufacturing
 - a) Different techniques of fabric manufacture, definition of weaving, knitting, non-wovens
 - b) Weaving:
 1. Working of looms-primary, secondary and auxiliary motions.
 2. Types of looms-conventional, automatic and shuttleless.
 3. Basic weaves-plain, twill, satin and sateen
 4. Weaving defects

REFERENCE

1. Encyclopedia of Textiles, Fibres and Non-woven Fabrics, Kohli Publishers, 34 Industrial Area, Phase -II, Chandigarh
2. Essentials of Textiles by Marjery Josphe; Holt, Rinehart and Winston, Inc, UBS Publishers Distributors Ltd. New Delhi
3. Textile Fibres and their Uses by KP Hes, Khanna Publishers, Delhi
4. Textiles by Hollen and Sodler, Macmillan Publishing, India
5. Introductory Textile Science by Marjory Joseph, CBS Publishers distributors Pvt. Ltd. Chennai
6. Principles of Textile Testing by Booth
7. Clothing, Textiles and Laundry by Sushma Gupta, Neeru Garg and Renu Saini, Kalyani Publishers, New Delhi

PATTERN MAKING -I

| | |
|-----------------|-------------------|
| Course Code | FD-3002 |
| Course Title | Pattern Making -I |
| No. of Credits | 2(L-2,T-0,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The students should know various considerations in making of garments, incorporation of standard measurements, scope and importance of drafting and pattern making so that they are able to take measurements, interpret the style of any given design and make the pattern. The subject, therefore deals with basics of pattern making and styling of garments.

DETAILED CONTENTS**THEORY**

1. Classification of measurements - circumference, horizontal and & vertical measurements
 - Introduction to standard measurements
 - Importance of standard measurements
 - Methods of taking measurements (direct, indirect)
2. Methods of developing pattern
 - Flat pattern
 - Draping
3. Pattern making tools
Pins and pin holders, scissors, measuring tapes, french curves, scales, notcher, tracing wheel, pattern papers, markers etc.
4. Pattern making terms
Basic pattern set, templates, working pattern, production pattern, design specification sheet, pattern chart, cost sheet, grain, selvedge, apex, dart, dart legs, dart intake, trueing and blending, plumb line, vertical, horizontal and perpendicular lines, symmetrical and asymmetrical lines, style no., pattern size, pivotal point, pattern manipulation, seam allowance, ease allowance.
5. Style interpretation
Meaning of style interpretation, benefits of style interpretation.
6. Fabric preparation procedure

REFERENCE

Pattern Making for Fashion design by Helen Joseph Armstrong, Harper & Row, New York
Pattern Cutting and Making up by Martin Shoben, Janet Ward Publisher, London

FASHION ILLUSTRATION-I

| | |
|-----------------|------------------------|
| Course Code | FD-3003 |
| Course Title | Fashion Illustration-I |
| No. of Credits | 3(L-0T-0,P-6) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The skill in fashion illustration is essential for the students so as to develop in them the creativity and ability to illustrate different types of figures and dresses in different colour media. After going through this subject, the students will be able to illustrate different types of figures and dresses.

CONTENTS

1. Knowledge of drawing equipment and tools
 - Paper
 - Markers and Pencils of different grades (HB,B,2B,4B,6B)
 - Drawing Board
 - Ruler
 - Tape
 - Erasers
 - Knives
 - Different media (charcoal, ink, Water Colour , water proof ink etc.)
2. Sketch drawing of the following:
 - Collars, sleeves, necklines
 - Pleats, ruffles, gathers, tucks
3. Sketching a basic 8-head figure of a women
4. Colour and texture rendering:
 - Leather, Crepe, net, tweed, Woolen, Fur, etc.
5. Anatomy Drawing
6. Front View, Side View & Back View of Fashion Figure
7. Structures of legs,hands, foot and face shapes with hair style
8. Maintaining a scrapbook

REFERENCE

Fashion Drawing Designs by Magazine of Thailandi
 Fashion Drawing – The Basic Principles by Anne Allen and Julion Seaman,
 Fashion Illustration by Bina Abling,
 Drawing from Anatomy by Victor Perard, Grace Parkashan , Bombay,
 20,000 Years Of Fashion,The History Of Costume and Personal Adornment by Francois Boucher,
 Harry N. Abrams, Inc Publishers,
 Human Figures by A.K Dhawan, Tip Top Trading Co., Ludhiana.

ELEMENTS OF FASHION

| | |
|-----------------|---------------------|
| Course Code | FD-3004 |
| Course Title | Elements of Fashion |
| No. of Credits | 2(L-2,T-0,P-0) |
| Course Category | PC |
| Pre requisite | None |

The students of fashion design require to know various elements of fashion and fashion terminologies to have better hold in industry.

Contents

1. Definition, Introduction and evolution of fashion
2. Fashion Terminology- Fashion, Fad, style, high Fashion, Mass fashion, ensemble, classic, prêt-o-porte, Haute couture, Design Trend, Taste
3. Fashion theories, fashion cycle and factors influencing fashion
4. What is fashion forecasting? Factors affecting Fashion forecasting and the agencies involved in Fashion Forecasting
5. Study of Fashion designer's profile (their history of work, labels, boutiques, shows etc. a) International Designers – Gucci, Gabana, CK
b) Indian Designers – Ritu kumar, Satya Paul, Manish Arora
6. Sources for Inspiration for Fashion Designers

Note: Different journals like vogue, collezione, treads etc should be shown to the students depicting style designs.

RECOMMENDED BOOKS

1. Fashion Buying and Merchandising by Sidney Packard and Arthus A Witness and Nathan Axelrod.
2. Retail fashion promotion and advertising by Jaunce Harriosn Hebet Grumwald.
3. Fashion Buying by Hellen Goworik
4. Inside fashion Business by Jarnow / Guerrcic / Judille
5. Fashion Merchandising by Elaine stone Jean A samplus
6. Illustrating fashion by Mckelrey and Meusslow
7. Fashion from concept to Consumer by Gini Stephen Frings
8. Professional fashion illustration by Indian seamas

BASIC DESIGN

| | |
|-----------------|----------------|
| Course Code | FD-3005 |
| Course Title | Basic Design |
| No. of Credits | 2(L-2,T-0,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The knowledge and skill related to basic design is essential for the students in order to develop the understanding regarding how to make a design using lines, dot, shape and colour combination

CONTENTS

1. Understanding the Elements of Art
 - a) Lines – Horizontal, vertical, zigzag, diagonal and curve.
 - b) Colour – colour wheel; primary, secondary and warm, cool, tertiary value: tints, shades; colour schemes; analogous, mono-chromatic, complimentary and split complimentary.
 - c) Textures- Different types of textures, identification and suitability of textures for different garments
 - d) Shape
 - Geometrical
 - Realistic
 - Stylized
 - Abstract
 - e) Different types of Silhouettes
2. Understanding the Principles of Design
 - a) Rhythm
 - b) Harmony
 - c) Proportion
 - d) Balance
 - e) Emphasis
3. Collage and its types – relief and flat

REFERENCE

1. Fashion Drawing Designs; Magazine of Thailand, New Age Publishers, Delhi
2. Pattern Designs for Haute Couture, Volume 1, New Age Publishers, Delhi
3. Latest Fashion Style by Winter Hiver, New Age Publishers, Delhi
4. Jasmine's New Look, On Indian Fashion Scene, Haper and Row, New York
5. Lifestyles: Fashion Styles by Katheryn Samuel, McGraw Hill Book Co. New York
6. Reader's Digest

GARMENT CONSTRUCTION – I LAB

| | |
|-----------------|----------------------------|
| Course Code | FD-3006 |
| Course Title | Garment Construction-I Lab |
| No. of Credits | 2(L-0, T-0, P-4) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The students are supposed to fabricate various components of garments such as pleats and gather, darts, tucks etc., as per measurements and go for mass production for all ages and size. Hence this subject has been included in the curriculum to develop such competencies in the students. The subject deals with basics of garment construction technology.

PRACTICAL

1. Tools and equipment used in measuring, marking, cutting, sewing and finishing of garments
2. (a) Parts of basic sewing machine and its operation
(b) Sewing machine- its defects and remedies.
3. Basic stitches e.g. basting, tacking, hemming, button hole.
4. Straight line, square, concentric square, curved, circle
Machine control exercises on speed control, paper exercises, fabric exercises
5. Different types of seams
Practice on various samples of seam – plain, run and fell, French, lapped seam, top stitch, slot seam, beading
6. Pleats and its variations
Preparation of pleats variations
7. Darts, tucks
Preparation of darts and tucks samples
8. Gathers, shirring
Preparation of samples for gathers and shirring
9. Finishing different necklines –bias binding, bias facing, shaped facing
Preparation of samples of different necklines using bias binding, bias facing and shaped facing
10. Attaching fasteners – hooks, snaps, loops, button, Velcro
Practice on various types of fasteners
11. Types of plackets (Two piece; continuous and kurta placket)
Preparation of various types of plackets
12. Types of pockets (patch, bello, welt,bound, in-seam)
Preparation of various types of Pockets (patch, bello, welt, bound, inseam)
13. Types of sleeves (plain, puff, flared, bell, cap, magyar) to be fitted in a bodice
Preparation of various types of sleeves (plain, puff, flared, belt, cap, magyar)
14. Types of Collars
Preparation of various types of collars (peter pan-flat and roll, cape collar, Sailor's collar, convertible collar)
15. Making of child's bloomer
Construction of bloomer

REFERENCES

1. Clothing Construction by Doongaji, Raj Parkashan, New Delhi
2. System of Cutting by Zarakar, Navneet Publications (India) Ltd.
3. Simplicity Revised ABC of Short-Cut Sewing, UBS Publishers & Distributors Pvt. Ltd. New Delhi.
4. Stitch by Stitch by Tarstar Books, UBS Publishers Distributors Ltd. New Delhi
5. Complete Guide to sewing by Reader's Digest, Pitman Publishing Corporation, New York.

BASIC DESIGN LAB

| | |
|-----------------|------------------|
| Course Code | FD-3007 |
| Course Title | Basic Design Lab |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PC |

RATIONALE

The knowledge and skill related to basic design is essential for the students in order to develop the understanding regarding how to make a design using lines, dot, shape and colour combination

PRACTICAL

- (a) Illustrate different type of lines: vertical, horizontal, diagonal, zigzag, curved, thick and thin (4 sheets)
- (b) Corresponding colour exercises on colour to be carried out such as colour wheel, tints, shades, colour schemes (4 sheets)
- (c) Collection of samples for different textures (2 sheets)
- (d) Sketching of different shapes (2 sheets)
- (e) Sketching of different Silhouettes (4 sheets)
- (f) Corresponding exercises with rhythm, harmony, proportion, balance and emphasis (5 sheets)

- (g) Making collage with waste material (1 sheet)
- (h) Making collage with paper (1 sheet)
- (i) Making collage with fabrics (1 sheet)
- (j) Exercises of replica & enlargement with the help of swatches of various prints. (2 sheets)

FASHION ILLUSTRATION-I LAB

| | |
|-----------------|-----------------------------|
| Course Code | FD-3008 |
| Course Title | Fashion Illustration -I Lab |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The skill in fashion illustration is essential for the students so as to develop in them the creativity and ability to illustrate different types of figures and dresses in different colour media. After going through this subject, the students will be able to illustrate different types of figures and dresses.

PRACTICAL

1. Knowledge of drawing equipment and tools
 - Paper
 - Markers and Pencils of different grades (HB,B,2B,4B,6B)
 - Drawing Board
 - Ruler
 - Tape
 - Erasers
 - Knives
 - Different media (charcoal, ink, Water Colour , water proof ink etc.)
2. Sketch drawing of the following:
 - a. Collars, sleeves, necklines
 - b. Pleats, ruffles, gathers, tucks
3. Sketching a basic 8-head figure of a women
4. Colour and texture rendering:
 - a. Leather, Crepe, net, tweed, Woolen, Fur, etc.
5. Anatomy Drawing
6. Front View, Side View & Back View of Fashion Figure
 7. Structures of legs,hands, foot and face shapes with hair style
 8. Maintaining a scrapbook

REFERENCE

Fashion Drawing Designs by Magazine of Thailandi
 Fashion Drawing – The Basic Principles by Anne Allen and Julion Seaman,
 Fashion Illustration by Bina Abling,
 Drawing from Anatomy by Victor Perard, Grace Parkashan , Bombay,
 20,000 Years Of Fashion,The History Of Costume and Personal Adornment by Francois Boucher,
 Harry N. Abrams, Inc Publishers,
 Human Figures by A.K Dhawan, Tip Top Trading Co., Ludhiana.

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN JODHPUR
SEMESTER SCHEME-2020-21



IV SEMESTER
(SESSION 2021-2022 & ONWARDS)

TEXTILESCIENCE -II

| | |
|-----------------|--------------------|
| Course Code | FD-4001 |
| Course Title | Textile Science-II |
| No. of Credits | 2(L-2,T-0,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The knowledge and skills related to textile science is essential to provide a comprehensive insight into the basic knowledge about fabric structure, dyeing, printing and finishing affecting the ultimate performance and use of the fabric by the consumer, hence the subject is included in the curriculum

CONTENTS

1. Knitting
 - 1.1 Classification
 - 1.1.1 Warp
 - 1.1.2 Weft knitting
 - 1.1.3 Plain
 - 1.1.4 Purl
 - 1.1.5 Rib
 - 1.1.6 interlock
 - 1.1.7 Tricot and raschel
2. Finishes
 - 2.1 Importance and classifications of finishes
 - 2.1.1 Basic Finishes
 - 2.1.2 Bleaching
 - 2.1.3 Calendaring
 - 2.1.4 Tentering
 - 2.1.5 Scouring
 - 2.1.6 Weighting,
 - 2.1.7 Singeing
 - 2.2 Functional Finishes
 - 2.2.1 Sanforization
 - 2.2.2 Mercerization
 - 2.2.3 Crease resistant
 - 2.2.4 flame
 - 2.2.5 retardant
 - 2.2.6 waterproof
3. Dying
 - 3.1 Definition
 - 3.2 Stages of dyeing
 - 3.2.1 fibre
 - 3.2.2 yarn
 - 3.2.3 piece dyeing

- 3.2.4 garment dyeing)
- 4. Printing – definition, methods and type of printing techniques
 - 4.1 Direct
 - 4.1.1 block
 - 4.1.2 Screen
 - 4.2 Resist
 - 4.3 Batik, tie and dye
 - 4.4 Photographic printing
- 5. Common faults in fabrics
 - 5.1 Colour defects
 - 5.2 Printing defects
 - 5.3 Knitting defects

REFERENCES

1. Encyclopedia of Textiles, Fibres and Non-woven Fabrics
2. Fabric Defects (Causes and Remedies) by SS Satsangi , Usha Publishers, New Delhi
3. Managing Quality in the Apparel Industry – PV Mehta and SK Bhardwaj
4. Clothing,Textiles and Their Care by Dr.Rajwinder K.Randhawa, Happer & Row Publishers, New York
5. Clothing, Textiles and Laundry by Sushma Gupta,Neeru Garg and Renu Saini, Kalyani Publishers, New Delhi
6. A Text Book of Home Science by Dr.Neelam Grewal, Wiley Publishers, New York

PATTERN MAKING-II

| | |
|-----------------|--------------------|
| Course Code | FD-4002 |
| Course Title | Pattern Making -II |
| No. of Credits | 2(L-2,T-0,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The students are supposed to know how to adapt basic blocks to various garment designs, and layouts. Thus the subject deals with variations of pattern and styling of garments. After going through this subject, the students will be able to draft various components of the garments and express design ideas by a three dimensional process of pattern making.

CONTENTS

1. Pattern details – terminology and classification of:
 - 1.1 Collar
 - 1.2 Sleeves
 - 1.3 Yokes – functional and decorative
 - 1.4 Empire and princess line
 - 1.5 Pockets
 - 1.6 plackets
2. Pattern styles
 - 2.1 Skirts - Categorization of skirts on the basis of length and flare and their variations
 - 2.2 Pants – Terminology - Categorization of pants on the basis of length and fit and their variations
3. Study of the basic figure types and figure defects

REFERENCES

1. Pattern Making for Fashion design by Helen Joseph Armstrong, Vikas Publishing House Pvt. Ltd. New Delhi
2. The ABC's of Grading by Murray Sachi
3. Basic Pattern Skills for Fashion Design by Bernard Zamko, A& C Black Publishers, New York
4. Design Apparel Through the Flat Pattern by Ernestine Ko
5. Pattern Cutting and Making up by Martin Shoben, CBS Publishers,& Distributors Pvt. Ltd. Chennai.

FASHION ILLUSTRATION - II

| | |
|-----------------|-------------------------|
| Course Code | FD-4003 |
| Course Title | Fashion Illustration-II |
| No. of Credits | 1(L-0,T-0,P-2) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The skill in fashion illustration is essential for the students of fashion design so as to develop in them the creativity. After going through this subject, the student of fashion designing technology will be able to illustrate different types of figures and dresses in different colour media.

THEORY

1. Illustration of Female croque in front, back, side and $\frac{3}{4}$ pose
2. Making hands, feet, face shape, hair styles, shoes
3. Creating back drops behind fashion figures
4. Draping figures in casual wear, formal wear, ethnic wear, active wear, swim wear and rendering the dresses in different colours and textures along with suitable accessories
5. Making special sheets and working drawing

REFERENCES

1. Fashion Drawing Designs from Magazine of Thailand, New Age Publisher, Delhi
2. Fashion Drawing – The Basic Principles by Anne Allen and Julion Seaman, Happer & Row Publishers, New York
3. Fashion Illustration by Bina Abling, Fair child books, New York

HISTORY OF COSTUMES-I

| | |
|-----------------|-----------------------|
| Course Code | FD-4004 |
| Course Title | HISTORY OF COSTUMES-I |
| No. of Credits | 1(L-1,T-0,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The students of fashion design should be able to appreciate our ancient civilization, the fashion existing in the different periods, their contribution in shaping the present and promoting the future trends in the field of fashion.

CONTENTS

1. Origin of Clothing: theories – Protection, modesty, Adornment
2. A brief study of the ancient Indian Civilizations
 - 2.1 Indus Valley Civilization
 - 2.1.1 Women’s Costumes-dresses, jewellery, hairstyles, footwear
 - 2.1.2 Men’s costumes - dresses, jewellery, hairstyles, footwear
 - 2.2 Mauryan and Sunga Period
 - 2.2.1 Women’s Costumes-dresses, jewellery, hairstyles, footwear
 - 2.2.2 Men’s costumes - dresses, jewellery, hairstyles, footwear
 - 2.3 Kushan Period
 - 2.3.1 Women’s Costumes-dresses, jewellery, hairstyles, footwear
 - 2.3.2 Men’s costumes - dresses, jewellery, hairstyles, footwear
 - 2.4 Gandhara Period
 - 2.4.1 Women’s Costumes-dresses, jewellery, hairstyles, footwear
 - 2.4.2 Men’s costumes - dresses, jewellery, hairstyles, footwear
 - 2.5 Gupta Period
 - 2.5.1 Women’s Costumes-dresses, jewellery, hairstyles, footwear
 - 2.5.2 Men’s costumes - dresses, jewellery, hairstyles, footwear
3. Medieval period
 - 3.1 Mughal Period
 - 3.1.1 Women’s Costumes-dresses, jewellery, hairstyles, footwear
 - 3.1.2 Men’s costumes - dresses, jewellery, hairstyles, footwear
4. Traditional Costumes of India: Types of costumes for male and female, significance of culture and rituals(Jammu and Kashmir, Punjab, Rajasthan, UP, Gujarat, West Bengal, Assam, Maharashtra, Tamil Nadu and North East States)

RECOMMENDED BOOKS

1. Costumes of India and Pakistan by S. N. Dhar.
2. Costumes of India by Dhar.
3. Ancient Indian Costumes by Roshan Alkazi
4. Man’s Costumes – Dresses, jewellery, hairstyles, footwear
5. Fashion Memoir by Yves Saint Laurent, Pieme Berge
6. A History of Costume in the West by Boucher
7. Costume 1066 – 1990’s by Peacock
8. Fashion Drawing how to do it by Hazal R. Boteu and Constance Boulard Publishers – Haper and Row, New York.
9. Costume and Fashion – a complete history by Browioyn cosqrsue octopus publishing group Ltd.

APPAREL MANAGEMENT AND QUALITY CONTROL

| | |
|-----------------|--|
| Course Code | FD-40051 |
| Course Title | APPAREL MANAGEMENT AND QUALITY CONTROL |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

Diploma holders in fashion design are required to lead a team of workers and motivate them towards realization of organizational objectives, with the knowledge and skill of apparel management and quality control.

CONTENTS**PART A: PRODUCTION MANAGEMENT**

1. Introduction to Basic Production Terms (definitions only)
 - 1.1 Production
 - 1.2 productivity
 - 1.3 work in process
 - 1.4 Time Study,
 - 1.5 Motion
 - 1.6 Study
 - 1.7 Ergonomics
2. Types of production processes (a brief idea of following types)
 - 2.1 Progressive Bundle System
 - 2.2 Modular
 - 2.3 UPS
3. Material Handling
 - 3.1 Introduction
 - 3.2 need of material handling

PART B: QUALITY CONTROL

4. Quality - Definition and Importance of following
 - 4.1 Quality Control
 - 4.2 Quality Assurance
 - 4.3 Quality Standards
 - 4.4 Quality Specifications
5. Quality Control
 - 5.1 7 tools of Quality control
 - 5.2 4 Costs of Quality
6. Inspection
 - 6.1 Definition and Importance
 - 6.1.1 Inspection systems
 - 6.1.1.1 4 point system
 - 6.1.1.2 AQL (2.5 and 4.0)
- 7.ISO – 9000 Series
 - 7.1 Definition
 - 7.2 Need and benefits of ISO – 9000

RECOMMENDED BOOKS

1. Managing Quality by SK Bhardwaj and PV Mehta; New Age Publisher, Delhi
2. ISO 90001 –Textile Committee Manual

GRADING

| | |
|-----------------|----------------|
| Course Code | FD-40052 |
| Course Title | Grading |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

The students are supposed to perform the jobs of grading when engaged in garment manufacturing industries. After going through this subject, student will be able to manipulate darts and increase or decrease and grading proportions.

CONTENTS

1. Pattern manipulation
 - 1.1 Shifting and relocating of Drafts
 - 1.2 Yoke manipulation different style
 - 1.2.1 Pivot
 - 1.2.2 Slash
 - 1.2.3 Measurement method.
2. Principles of grading :
 - 2.1 Women's Sizing and Surveys :
 - 2.1.1 Study of basic size charts
 - 2.1.2 height analysis
 - 2.1.3 height grade
 - 2.1.4 choice of bust and waist size
 - 2.1.5 Area increment charts.
 - 2.2 Women's Grading Increments :
 - 2.2.1 Covering all types of basic block
 - 2.2.1.1 three dimensional grade
 - 2.2.2.2 two dimensional grade.
3. Area Commentaries :
 - 3.1 Part by part examination of the body increments and the problem arising in each area
 - 3.1.1 Height
 - 3.1.2 Weight.
4. Selecting Grading System & Techniques Grading System :
 - 4.1 Three dimensional grading
 - 4.2 two dimensional system
 - 4.2.1 Grading Technique
 - 4.2.2 The draft grade
 - 4.2.3 the track grade.
5. Grading techniques :
 - 5.1 Draft grading basic block
 - 5.1.1 back bodice
 - 5.1.1 height and girth grading

5.1.2 front bodice

5.1.3grading the set-in-sleeve

5.1.4 grading the skirt block

5.1.5 Selecting Zero Point - Methods selecting a zero point - draft grading using different points.

6. Women's style grading :

6.1 The grading of a complete style

6.1.1 grading specification size chart, size range, 6.1.2 height/girth/length, Proportioning

6.1.3 Types of Grade, Zero point front

6.1.4 Zero point back zero point sleeve

6.1.5 Categories of Fit.

7. Men's Grading :

7.1 Trouser Grading

7.2 Shirt sizing grading.

TEXTILE SCIENCE –II LAB

| | |
|-----------------|------------------------|
| Course Code | FD-4006 |
| Course Title | TEXTILE SCIENCE II LAB |
| No. of Credits | 1(L-0,T-0,P-2) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The knowledge and skills related to textile science is essential to provide a comprehensive insight into the basic knowledge about fabric structure, dyeing, printing and finishing affecting the ultimate performance and use of the fabric by the consumer, hence the subject is included in the curriculum

PRACTICALS

1. Identify and analyze different type of knits samples and enlist their characteristics (design)
Visit to a knitting unit to understand different knitting machines and processes
2. Visit to a finishing mill to observe various finishing processes
3. Measurement and comparison of fabric shrinkage
4. Dyeing of cotton fabrics
5. Identify the fabric samples on basis of the printing techniques
6. Block printing, screen, batik printing
7. Making sample by different methods of tie and dye
8. Exercises related to locating and recognition of fabric defects with magnifying glass

PATTERN MAKING-II LAB

| | |
|-----------------|-----------------------|
| Course Code | FD-4007 |
| Course Title | PATTERN MAKING-II LAB |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The students are supposed to know how to adapt basic blocks to various garment designs, and layouts. Thus the subject deals with variations of pattern and styling of garments. After going through this subject, the students will be able to draft various components of the garments and express design ideas by a three dimensional process of pattern making.

PRACTICALS

1. Drafting of women's adult's bodice block and sleeve
2. Adaptation of adult's bodice block to saree blouse
3. Drafting of adult bodice block and sleeve for knit fabric
4. Adaptation of basic block into T-shirt
5. Drafting of adult's skirt block
6. Adaptation of skirt block to various styles
7. Adaptation of plain sleeve to the following sleeves
 - 7.1 Ruffle sleeve
 - 7.2 Bishop sleeve
 - 7.3 Kimono sleeve
 - 7.4 Raglan sleeve
 - 7.5 Dolman
8. Drafting of the following collars
 - 8.1 Chinese band
 - 8.2 Shawl collar
 - 8.3 Stand and fall collar
 - 8.4 Two piece notched collar
 - 8.5 Reversible
 - 8.6 Cowls
9. Introduction of style lines in the garment
 - 9.1 Princess line
 - 9.2 Empire line

REFERENCE

1. Pattern Making for Fashion design by Helen Joseph Armstrong, Harper & Row, New York
2. Pattern Cutting and Making up by Martin Shoben, Janet Ward Publisher, London

FASHION ILLUSTRATION – II LAB

| | |
|-----------------|-------------------------------|
| Course Code | FD-4008 |
| Course Title | FASHION ILLUSTRATION – II LAB |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The skill in fashion illustration is essential for the students of fashion design so as to develop in them the creativity. After going through this subject, the student of fashion designing technology will be able to illustrate different types of figures and dresses in different colour media.

PRACTICALS

1. Illustration of Female croque in front, back, side and $\frac{3}{4}$ pose
2. Making hands, feet, face shape, hair styles, shoes
3. Creating back drops behind fashion figures
4. Draping figures in casual wear, formal wear, ethnic wear, active wear, swim wear and rendering the dresses in different colours and textures along with suitable accessories
5. Making special sheets and working drawing

THEMATIC APPROACH TO DESIGN - LAB

| | |
|-----------------|-----------------------------------|
| Course Code | FD-4009 |
| Course Title | THEMATIC APPROACH TO DESIGN - LAB |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The aim of this course is to develop an understanding the use of design elements into the process of fabric i.e. range development and critically analyze them.

PRACTICALS

1. Developing a theme by taking inspiration from different sources – Nature, Architecture, History, Folk art.
2. Develop outfits based on the developed theme keeping in mind the silhouette, colour, texture and other details.
3. Sourcing the fabric for the designed outfits and collection of swatches

RECOMMENDED BOOKS

1. Inside Fashion Design published by M/S CBS Publisher, New Delhi
2. Reader's Digest – Complete guide to sewing published by Reader's Digest Association, New Delhi
3. Fashion Drawing by Bries Abing published by M/S Fairchild publication, New York

GOVERNMENT OF RAJASTHAN
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SEMESTER SCHEME-2020-21



V SEMESTER
(SESSION 2021-2022 & ONWARDS)

KNITTING

| | |
|-----------------|----------------|
| Course Code | FD-5001 |
| Course Title | KNITTING |
| No. of Credits | 3(L-2,T-1,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

Knitted garments are quite in vogue and their acceptability is growing fast. The objective of the paper is to produce students trained in knitted products who can understand manufacturing technology and commercial influences on product development.

CONTENTS

- 1. FUNDAMENTALS OF KNITTING :**
 - 1.1 Origin and definition of art of knitting .
 - 1.2 History of knitting.
 - 1.3 Techniques of knitting.
- 2. KNITTING TERMINOLOGY :**
 - 2.1 Common use by Yarn Industry
 - 2.2 Terms & Common measurements
- 3. KNITTING ELEMENTS :**
 - 3.1 Wale
 - 3.2 Course
 - 3.3 Loop
 - 3.5 Needle
 - 3.6 Sinker
 - 3.6 Feeder
 - 3.7 Cyliner/Dial
- 4. WEFT KNITTING :**
 - 4.1 Brief idea of weft knitting machine.
 - 4.2 Flat and circular knitted structures.
- 5. WARP KNITTING :**
 - 5.1 Brief idea of warp knitting machine
 - 5.2 Raschal and Tricot and Knitted structures.

REFERENCE BOOKS

1. "Vogue Knitting" by Vogue
2. "400 Knitting Stiches" by Potter Craft
3. "Patch Work" by the editor Ray Ramsay book
- devison 4. "Embriodiry & cross stitch" by On Deru

LEATHER SCIENCE

| | |
|-----------------|-----------------|
| Course Code | FD-5002 |
| Course Title | LEATHER SCIENCE |
| No. of Credits | 3(L-2,T-1,P-0) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

Leather sciences are now well accepted artical of fashion and utility. Knowledge of their leather sceince techniques is essential for any modern fashion design.

CONTENTS**1. LEATHER STRUCTURE AND ITS SUITABILITY TO VARIOUS USES:**

- 1.1 Animal use for leather garment, shoes and accessories.
- 1.2 Structure of various animal as Buffalo, Cow, Goat, Seep and pig.
- 1.3 Structure of leather and chemical composition of Hi skin
- 1.4 Suitability of different leather areas for specific garment part as front, back, armhole, etc.

2. LEATHER QUALITY:

- 2.1 General definition and recognition of quality within leather
- 2.2 Defect of leather, shade
- 2.3 Identification and sorting.

3. PROCESSING:

- 3.1 Understanding of leather processing
- 3.2 Preservation curing
- 3.3 Soaking
- 3.4 Liming
- 3.5 Pickling tannage
- 3.6 Retannage
- 3.7 Fat
- 3.8 Liquoring
- 3.9 Dying
- 3.10 Finishing.

4. FASHION EFFECT:

- 4.1 Various fashion effects
- 4.2 Screen printing
- 4.3 Embossed/abraded pattern
- 4.4 Purehing and purporating
- 4.5 Embroidery, Zomping

5. LEATHER CARE:

- 5.1 Treatment of leather garment before cleaning
- 5.2 Home care of leather garments
- 5.3 Care of unfinished or finished "Grain leathers
- 5.4 Care of suede leather
- 5.5 Reoiling suede and grain leather

REFERENCE BOOKS

1. "Science for Students of leather technology" by R Reed Pergamon 2019
2. "Fundamental of leather science" by D. Woorafee A Harvey Publisher

ECONOMIC POLICIES IN INDIA

| | |
|-------------------|---|
| Course Code | FD 51001(Same in All Branches of Engg.) |
| Course Title | Economic Policies in India |
| Number of Credits | 3 (L:3,T:0,P:0) |
| Prerequisites | NIL |
| CourseCategory | OE |

COURSE LEARNING OBJECTIVES:

The objective of this course is to familiarize the students of different streams with the basic concepts, structure, problems and issues concerning Indian economy.

| | |
|-----|---|
| CO1 | Understand Indian economics policy, planning strategies |
| CO2 | It will enable to students to comprehend theoretical and empirical development across countries and region for policy purposes |
| CO3 | Development Economics as a discipline encompasses different approaches to the problems of unemployment, poverty, income generation, industrialization from different perspectives |
| CO4 | Able to identify the problems and capable to decide the application for future development |
| CO5 | Analyze economic issues and find solutions to complex economic problems and take correct economic judgment |

COURSE CONTENTS:**1. BASIC FEATURES AND PROBLEMS OF INDIAN ECONOMY:**

- 1.1. Economic History of India;
- 1.2. Nature of Indian Economy
- 1.3. Demographic features and Human Development Index,
- 1.4. Problems of Poverty, Unemployment, Inflation, income inequality, Blackmoney in India.

2. SECTORAL COMPOSITION OF INDIAN ECONOMY:

- 2.1. Issues in Agriculture sector in India,
- 2.2. land reforms
- 2.3. Green Revolution
- 2.4. agriculture policies of India,
- 2.5.

3. INDUSTRIAL DEVELOPMENT,

- 3.1. Small scale and cottage industries,
- 3.2. Industrial Policy,
- 3.3. Public sector in India,
- 3.4. Service sector in India.

4. ECONOMIC POLICIES:

- 4.1. Economic Planning in India,
- 4.2. Planning commission v/s NITI Aayog,
- 4.3. Five Year Plans,
- 4.4. Monetary policy in India,
- 4.5. Fiscal Policy in India,
- 4.6. Centre state Finance Relations,
- 4.7. Finance commission in India
- 4.8. LPG policy in India

5. EXTERNAL SECTOR IN INDIA

- 5.1. India's foreign trade value composition and direction,
- 5.2. India Balance of payment since 1991,
- 5.3. FDI in India,
- 5.4. Impact of Globalization on Indian Economy,

5.5. WTO and India.

REFERENCE BOOKS:

1. Dutt Rudder and K.P.M Sunderam (2017). Indian Economy .S Chand & Co.Ltd. New Delhi.
2. Mishra S. K & V. K Puri (2017). Indian Economy and Its Development Experience. Himalaya Publishing House.
3. Singh, Ramesh, (2016): Indian Economy, Tata-McGraw Hill Publications, New Delhi.
4. Dhingra, I.C., (2017): March of the Indian Economy, Heed Publications Pvt. Ltd.
5. Karam Singh Gill, (1978): Evolution of the Indian Economy, NCERT, NewDelhi
6. Kaushik Basu (2007): The Oxford Companion to Economics of India ,Oxford University Press.

SEMESTER SCHEME 2020-21

ENGINEERING ECONOMICS & ACCOUNTANCY

| | |
|-------------------|--|
| Course Code | FD 51002 (Same in All Branches of Engg.) |
| Course Title | Engineering Economics & Accountancy |
| Number of Credits | 3 (L:3,T:0,P:0) |
| Prerequisites | NIL |
| Course Category | OE |

COURSE OBJECTIVES

- To acquire knowledge of basic economics to facilitate the process of economic decision making.
- To acquire knowledge on basic financial management aspects.
- To develop the basic skills to analyze financial statements.

COURSE OUTCOMES:

At the end of the course, the student will be able to:

| | |
|-----|---|
| CO1 | Understand the macro-economic environment of the business and its impact on enterprise |
| CO2 | Understand cost elements of the product and its effect on decision making |
| CO3 | Prepare accounting records and summarize and interpret the accounting data for managerial decisions |
| CO4 | Understand accounting systems and analyze financial statements using ratio analysis |
| CO5 | Understand the concepts of financial management and investment |

COURSE CONTENTS**1. INTRODUCTION:**

- 1.1. Managerial Economics;
- 1.2. Relationship with other disciplines;
- 1.3. Firms: Types, objectives and goals;
- 1.4. Managerial decisions;
- 1.5. Decision analysis.

2. DEMAND & SUPPLY ANALYSIS:

- 2.1. Demand;
 - 2.1.1. Types of demand;
 - 2.1.2. Determinants of demand;
 - 2.1.3. Demand function;
 - 2.1.4. Demand elasticity;
 - 2.1.5. Demand forecasting;
- 2.2. Supply;
 - 2.2.1. Determinants of supply;
 - 2.2.2. Supply function;
 - 2.2.3. Supply elasticity.

3. PRODUCTION AND COST ANALYSIS:

- 3.1. Production function;
- 3.2. Returns to scale;
- 3.3. Production optimization;
- 3.4. Least cost input; Iso quants;
- 3.5. Managerial uses of production function;
- 3.6. Cost Concepts;
 - 3.6.1. Cost function;
 - 3.6.2. Types of Cost;
 - 3.6.3. Determinants of cost;
 - 3.6.4. Short run and Long run cost curves;
 - 3.6.5. Cost Output Decision;
 - 3.6.6. Estimation of Cost.

4. PRICING:

- 4.1. Determinants of Price;
- 4.2. Pricing under different objectives and different market structures;
- 4.3. Price discrimination;
- 4.4. Pricing methods in practice;
- 4.5. Role of Government in pricing control.

5. FINANCIAL ACCOUNTING (ELEMENTARY TREATMENT):

- 5.1. Balance sheet and related concepts;
- 5.2. Profit & Loss Statement and related concepts;
- 5.3. Financial Ratio Analysis;
- 5.4. Cash flow analysis;
- 5.5. Funds flow analysis;
- 5.6. Comparative financial statements;
- 5.7. Analysis & Interpretation of financial statements;
- 5.8. Investments;
- 5.9. Risks and return evaluation of investment decision;
- 5.10. Average rate of return;
- 5.11. Payback Period;
- 5.12. Net Present Value;
- 5.13. Internal rate of return,

REFERENCE BOOKS:

1. Mc Guigan, Moyer and Harris, 'Managerial Economics; Applications, Strategy and Tactics', Thomson South Western, 10th Edition, 2005.
2. Prasanna Chandra. 'Fundamentals of Financial Management', Tata Mcgraw Hill Publishing Ltd., 4th edition, 2005.
3. Samuelson. Paul A and Nordhaus W. D., 'Economics', Tata Mcgraw Hill Publishing Company Limited, New Delhi, 2004.
4. Paresh Shah, 'Basic Financial Accounting for Management', Oxford University Press, New Delhi, 2007.
5. Salvatore Dominick, 'Managerial Economics in a global economy'. Thomson South Western, 4th Edition, 2001.

BASICS OF MANAGEMENT

| | |
|-----------------|----------------------|
| Course Code | FD-50031 |
| Course Title | BASICS OF MANAGEMENT |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

The diploma holders are generally expected to take up middle level managerial positions, their exposure to basic management principles is very essential. Topics like Structure of Organization, Leadership, Motivation, Ethics and Values, Customer Relationship Management (CRM) etc. have been included in the subject to provide elementary knowledge about these management areas.

CONTENTS

1. Principles of Management
 - 1.1 Introduction, definition and importance of management
 - 1.2 Functions of Management
 - 1.3 Planning, Organizing, Staffing, Coordinating, Directing, Motivating and Controlling
 - 1.4 Hierarchical Management Structure
 - 1.4.1 Top, middle and lower level management
 - 1.4.2 Departmentalization
2. Work Culture
 - 2.1 Introduction and importance of Healthy Work Culture in organization
 - 2.2 Components of Culture
 - 2.3 Importance of attitude, values and behaviour, Behavioural Science
3. Leadership and Motivation
 - 3.1 Leadership
 - 3.2 Definition and Need of Leadership
 - 3.3 Qualities of a good leader
 - 3.4 Manager vs. leader
4. Motivation
 - 4.1 Definition and characteristics of motivation
 - 4.2 Factors affecting motivation
 - 4.3 Maslow's Need Hierarchy Theory of Motivation
 - 4.4 Job Satisfaction

RECOMMENDED BOOKS

1. Principles of Management by Philip Kotler TEE Publication
2. Principles and Practice of Management by Shyamal Bannerjee: Oxford and IBM Publishing Co, New Delhi.
3. Financial Management by MY Khan and PK Jain, Tata McGraw Hill Publishing Co., 7, West Patel Nagar , New Delhi.
4. Modern Management Techniques by SL Goel: Deep and Deep Publications Pvt Limited , Rajouri Garden, New Delhi

TRADITIONAL INDIAN TEXTILES

| | |
|-----------------|-----------------------------|
| Course Code | FD-50032 |
| Course Title | TRADITIONAL INDIAN TEXTILES |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

Rationale

The students of fashion designing should know and acquire relevant skills in embroidery techniques of different types of traditional Indian embroideries and textiles. The subject aims at developing skills in various types of stitches, traditional embroidery.

CONTENTS

1. Embroidered Textile

- 1.1 Kantha of Bengal
- 1.2 Kasuti of Karnataka
- 1.3 Chikankari of Uttar Pradesh.
- 1.4 Chamba of Himachal Pradesh
- 1.5 Kashida and aariwork of Kashmir
- 1.6 Phulkari of Punjab
- 1.7 Kutch of Gujarat

2. A brief study of various woven textiles of India:

Brocades, Chanderi, Paithani, Maheshwari, Kanchiwaram, Patolas, Pochampalli, Ikat, Kani shawls of Kashmir, Jamdani, Baluchars, Jamawar

3. Printed Textiles of India

Sanganeri prints, Bagroo, Tie and Dye – Leharia and Bandhunis

4. To study in brief the traditional Painted Textiles – Kalamkari

5. To study in brief the Carpets and Namdas of Kashmir

RECOMMENDED BOOKS

1. Embroidered Textiles; Traditional Pattern Form Five Continents by Paine published by M/S Haper & Row, New York
2. Traditional Embroideries of India by Shailja D. Naik published by M/S APH Publishing Book Centre, New Delhi
3. Traditional Indian Embroideries by Samrity Pandit published by M/S APH Publishing Book Centre, New Delhi
4. Master Pieces of Indian Textiles by Rustam Mehta published by M/S D,B. Taraporevala Sons, New Delhi
5. Traditional Textiles of India by Kamaldevi Chatopadhya published by M/S APH Publishing Book Centre, New Delhi

HISTORY OF COSTUMES-II

| | |
|-----------------|------------------------|
| Course Code | FD-50041 |
| Course Title | HISTORY OF COSTUMES-II |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

The students of fashion design should appreciate fashion developments of the Western Civilizations and to draw the inference on their influence on costumes of the World.

CONTENTS

A brief study of the main costumes of the following civilizations:

1. Egyptian costumes
 - a) Women's costumes – Dresses, jewellery, hairstyles, footwear
 - b) Men's costumes – Dresses, Jewellery.
2. Greek Costumes
 - a) Women's costumes – Dresses, jewellery, hairstyles, footwear
 - b) Men's costumes – Dresses, Jewellery.
3. Roman Period
 - a) Women's costumes – Dresses, jewellery, hairstyles, footwear
 - b) Men's costumes – Dresses, Jewellery, hairstyles, footwear
4. Byzantine Period
 - a) Women's costumes – Dresses, Jewellery, hairstyles, footwear
 - b) Men's costumes – Dresses, Jewellery, hairstyle, footwear
5. Victorian period
 - a) Women's costumes – Dresses, jewellery, hairstyles, footwear
 - b) Men's costumes – Dresses, Jewellery, hairstyle, footwear
6. French Revolution
 - a) Women's costumes – Dresses, jewellery, hairstyles, footwear
 - b) Men's costumes – Dresses, Jewellery, hairstyle, footwear
7. 20th Century Fashion

RECOMMENDED BOOKS

1. 20th Century Fashion by Peacock J, published by M/S Thames & Edison. London
2. Fashion Memoir by Yves Saint Laurent, Pieme Berge published by M/S Vikas Publishing House Pvt. Ltd. New Delhi
3. A History of Costume in the West by Boucher published by Thames and Hudson, London
4. Costume 1066 – 1990's by Peacock published by Thames & Hudson, London
5. World Costume by Doreen Y, published by A& C Black
6. The Concise History of Fashion by James Lever, published by M/S Thames & Hudson publishers, London

FASHION RETAILING AND APPAREL MERCHANDISING

| | |
|-----------------|---|
| Course Code | FD-50042 |
| Course Title | FASHION RETAILING AND APPAREL MERCHANDISING |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

Some diploma holders of fashion design may find employment in export houses and apparel merchandising agencies. After studying this subject the students will understand marketing in domestic and international markets and their quota systems. It focuses attention on apparel industry giving thorough knowledge of merchandizing.

CONTENTS

1. Basic Concept of retailing – definition need and functions
2. Introduction to various terms
Cost price, selling price, markups, markdowns, distribution channel, wholesale, agent, broker, vendor, distributor
3. Introduction to retail organizations
 - 3.1 Departmental store
 - 3.2 Discount stores
 - 3.3 Speciality stores
 - 3.4 Direct Retailing
 - 3.5 E- Retailing
4. Introduction to retail organizations
5. Concept of buying houses – definition, importance and types
6. Retail Mix
7. Concept of visual merchandising – definition, types of window examples
8. Fashion merchandizing – definition, role of merchandiser, buyer - interface, time and action sheet
9. Consumer Buying Behaviour – definition, consumer black box, decision making process

RECOMMENDED BOOKS

1. Fashion from Concept to Consumer published by M/S Perl Books, London
2. Fashion Retail Merchandising published by M/S Fairchild Books, New York
3. Inside the Fashion Business by Joonow, Jea published by M/S Tartan video, USA
4. Fashion Merchandising by Stone, Ela published by McGraw Hill Book Company, New Delhi
5. Ready to Wear Apparel Analysis by Petty and Brown published by M/S Perl Books, London

EMBROIDERY LAB

| | |
|-----------------|----------------|
| Course Code | FD-5005 |
| Course Title | EMBROIDERY LAB |
| No. of Credits | 3(L-0,T-0,P-6) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

Embroidery is a process of adding design and decoration to the fabric surface. It holds significant importance in fashion wears for children and women. so it can not be ignored in fashion designing curriculum

CONTENTS**1. INTRODUCTION :**

- a) Introduction of the appropriate tools, machines and materials for hand and machine embroidery work.
- b) Knowledge of tracing design on various types of embroidery materials.

2. EMBROIDARY :

Prepare a file of the following embroidery samples with their characteristics, special features and uses.

a) HAND EMBROIDERY :

Basic stitches (Including variations) - stem stitch, Back stitch, Chain stitch, Buttonhole stitch, Satin stitch, Long & Short stitch, Herringbone stitch, french knots, Couching, Darning-stitch, Feather-stitch, Crossstitch.

FANCY EMBROIDERY WORK :

- (a) Applique work (Blind, Net, lace, figure appliques)
- (b) Patch work
- (c) Bead work
- (d) Ribbon work
- (e) Punch work
- (f) Black work
- (g) Laid work
- (h) Zari work
- (i) Shadow work
- (j) Quilting
- (k) Smocking

TRADITIONAL INDIAN EMBROIDERY :

- (a) Kashmiri
- (b) Phulkari
- (c) Chicken Kari
- (d) Sindhi mirror embroidery
- (e) Kantha
- (f) Miscellaneous Embroidery

b) MACHINE EMBROIDERY :

- (i) BASIC STITCHES : Running stitch, Round stitch, Eyelet stitch, Cording, Satin stitch, Long & Short stitch
- (ii) TYPICAL EMBROIDERY :
- (a) Quilting

3. PREPARATION OF ARTICLES USING ABOVE SKILLS

- 3.1 Preparation of basic stitches embroidery folder.
- 3.2 Prepare Traditional embroidery Folder

GARMENT CONSTRUCTION - II LAB

| | |
|-----------------|-----------------------------|
| Course Code | FD-5006 |
| Course Title | GARMENT CONSTRUCTION II LAB |
| No. of Credits | 3(L-0,T-0,P-6) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

The diploma holders in fashion design are supposed to fabricate the garments, so it is very essential that they should be able to fabricate various garments as per the layouts and specifications. Hence this subject has been included in the curriculum in order to develop such competencies.

PRACTICAL EXERCISES

1. Construction of:
 - 1.1 Jump suit
 - 1.2 Boys shorts
 - 1.3 Circular skirt
 - 1.4 T-shirt (in Knits)
2. Construction of Women's garments such as:
 - 2.1 Salwar Kameez
 - 2.2 Kalidar Kurta and ladies pents
 - 2.3 Women's Trouser
 - 2.4 Blouse
 - 2.5 Lahanga

Note: The above have to be carried out keeping in view the operation breakdown..

RECOMMENDED BOOKS

1. Pattern Making for Fashion design by Armstrong, Vikas Publishing House Pvt.Ltd. Delhi
2. Clothing Construction by Doongaji, Raj Parkashan, Delhi.
3. System of Cutting by Zarpkar, Navneet Publications
4. Clothing Construction by Evelyn A Mansfield, Hougutan Miffin Co., Boston
5. Creative Sewing by Allynie Bane; McGraw Hill Book Co., Inc., New York
6. How You Look and Dress by Byrta Carson, McGraw Hill Book Co., Inc., New York

GOVERNMENT OF RAJASTHAN
BOARD OF TECHNICAL EDUCATION RAJASTHAN JODHPUR
SEMESTER SCHEME-2020-21



VI SEMESTER
(SESSION 2021-2022 & ONWARDS)

ENTREPRENEURSHIP AND START-UPS

| | |
|-----------------------------|--|
| Course Code | FD 6111(Same in All Branches of Engg.) |
| Course Title | Entrepreneurship and Start-ups |
| Number of Credits | 4 (L-3 ,T-1, P-0) |
| Prerequisites (Course code) | None |
| Course Category | HS |

COURSE LEARNING OBJECTIVES:

1. Acquiring Entrepreneurial spirit and resourcefulness.
2. Familiarization with various uses of human resource for earning dignified means of living.
3. Understanding the concept and process of entrepreneurship-its contribution and role in the growth and development of individual and the nation.
4. Acquiring entrepreneurial quality, competency, and motivation.
5. Learning the process and skills of creation and management of entrepreneurial venture.

LEARNING OUTCOME:

Upon completion of the course, these student will be able to demonstrate knowledge of the following topics:

1. Understanding the dynamic role of entrepreneurship and small businesses
2. Organizing and Managing a Small Business
3. Financial Planning and Control
4. Forms of Ownership for Small Business
5. Strategic Marketing Planning
6. New Product or Service Development
7. Business Plan Creation

COURSE CONTENTS:**1. INTRODUCTION TO ENTREPRENEURSHIP AND START-UPS**

- 1.1. Definitions, Traits of an entrepreneur, Intrapreneurship, Motivation
- 1.2. Types of Business Structures,
- 1.3. Similarities / differences between entrepreneurs and managers.

2. BUSINESS IDEAS AND THEIR IMPLEMENTATION

- 2.1. Discovering ideas and visualizing the business
- 2.2. Activity map
- 2.3. Business Plan

3. IDEA TO START-UP

- 3.1. Market Analysis– Identifying the target market,
- 3.2. Competition evaluation and Strategy Development,
- 3.3. Marketing and accounting,
- 3.4. Risk analysis

4. MANAGEMENT

- 4.1. Company's Organization Structure,
- 4.2. Recruitment and management of talent.
- 4.3. Financial organization and management

5. FINANCING AND PROTECTION OF IDEAS

- 5.1. Financing methods available for start-ups in India
- 5.2. Communication of Ideas to potential investors– Investor Pitch
- 5.3. Patenting and Licenses

6. EXIT STRATEGIES FOR ENTREPRENEURS ,BANKRUPTCY, AND SUCCESSION AND HARVESTING STRATEGY

SUGGESTED LEARNING RESOURCES:

| S.No. | Title of Book | Author | Publication |
|-------|---|-------------------------------------|---|
| 1. | The Startup Owner's Manual: The Step by-Step Guide for Building a Great Company | Steve Blank and Bob Dorf | K & S Ranch ISBN-978-0984999392 |
| 2. | The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses | Eric Ries | Penguin UK ISBN-978-0670921607 |
| 3. | Demand: Creating What People Love Before They Know They Want It | Adrian J. Slywotzky with Karl Weber | Headline Book Publishing ISBN-978-0755388974 |
| 4. | The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business | Clayton M. Chris Tensen | Harvard business ISBN:978-142219602 |

SUGGESTED SOFTWARE/LEARNING WEBSITES:

- a. <https://www.fundable.com/learn/resources/guides/startup>
- b. <https://corporatefinanceinstitute.com/resources/knowledge/finance/corporatehstructure/>
- c. <https://www.finder.com/small-business-finance-tips>
- d. <https://www.profitbooks.net/funding-options-to-raise-startup-capital-for-your-business/>

SEMESTER SCHEME 2020-21

PROJECT MANAGEMENT

| | |
|-----------------|---|
| CourseCode | FD 62001(Same in All Branches of Engg.) |
| CourseTitle | Project Management |
| NumberofCredits | 3(L:3,T:0,P:0) |
| Prerequisites | NIL |
| CourseCategory | OE |

COURSE LEARNING OBJECTIVES

- To develop the idea of project plan, from defining and confirming the project goals and objectives, identifying tasks and how goals will be achieved.
- To develop an understanding of key project management skills and strategies.

COURSE OUTCOMES

At the end of the course, the student will be able to:

| | |
|-----|--|
| CO1 | Understand the importance of projects and its phases. |
| CO2 | Analyze projects from marketing, operational and financial perspectives. |
| CO3 | Evaluate projects based on discount and non-discount methods. |
| CO4 | Develop network diagrams for planning and execution of a given project. |
| CO5 | Apply crashing procedures for time and cost optimization. |

COURSE CONTENTS**1. CONCEPT OF A PROJECT:**

- 1.1. Classification of projects
- 1.2. Importance of project management
- 1.3. The project Life cycle
- 1.4. Establishing project priorities (scope-cost-time)
- 1.5. Project priority matrix
- 1.6. Work break down structure.

2. CAPITAL BUDGETING PROCESS:

- 2.1. Planning -Analysis-Selection-Financing-Implementation-Review.
- 2.2. Generation and screening of project ideas
- 2.3. Market and demand analysis
- 2.4. Demand forecasting techniques.
- 2.5. Market planning and marketing research process
- 2.6. Technical analysis

3. FINANCIAL ESTIMATES AND PROJECTIONS:

- 3.1. Cost of projects
- 3.2. Means of financing
- 3.3. Estimates of sales and production-cost of production
- 3.4. Working capital requirement and its financing
- 3.5. Profitability project , cash flow statement and balance sheet.
- 3.6. Breakeven analysis.

4. BASIC TECHNIQUES IN CAPITAL BUDGETING:

- 4.1. Non discounting and discounting methods
- 4.2. pay-back period
- 4.3. Accounting rate of return

- 4.4. Net present value
- 4.5. Benefit cost ratio
- 4.6. Internal rate of return.
- 4.7. Project risk.
- 4.8. Social cost benefit analysis and economic rate of return.
- 4.9. Non-financial justification of projects.

5. PROJECT ADMINISTRATION:

- 5.1. Progress payments,
- 5.2. Expenditure planning,
- 5.3. Project scheduling and network planning,
- 5.4. Use of Critical Path Method(CPM),
- 5.5. Schedule of payments and physical progress,
- 5.6. time-cost trade off.
- 5.7. Concepts and uses of PERT
- 5.8. Cost as a function of time,
- 5.9. Project Evaluation and Review Techniques
- 5.10. Cost mechanisms.
- 5.11. Determination of least cost duration.
- 5.12. Post project evaluation.
- 5.13. Introduction to various Project management softwares.

REFERENCE BOOKS

- 1. Project planning, analysis, selection, implementation and review –Prasannachandra–Tata McGraw Hill
- 2. Project Management – the Managerial Process– Clifford F. Gray & Erik W. Larson-McGrawHill
- 3. Project management- David I Cleland- McGraw Hill International Edition, 1999
- 4. Project Management– Gopala krishnan– Mcmillan India Ltd.
- 5. Project Management- Harry – Maylor – Peason Publication

SEMESTER SCHEME 2020-21

RENEWABLE ENERGY TECHNOLOGIES

| | |
|-------------------|---|
| Course Code | FD 62002(Same in All Branches of Engg.) |
| Course Title | Renewable Energy Technologies |
| Number of Credits | 3 (L:3,T:0,P:0) |
| Prerequisites | NIL |
| Course Category | OE |

COURSE LEARNING OBJECTIVES

- To understand present and future scenario of world energy use.
- To understand fundamentals of solar energy systems.
- To understand basics of wind energy.
- To understand bio energy and its usage in different ways.
- To identify different available non-conventional energy sources.

COURSE OUTCOMES

At the end of the course, the student will be able to:

| | |
|-----|--|
| CO1 | Understand present and future energy scenario of the world. |
| CO2 | Understand various methods of solar energy harvesting. |
| CO3 | Identify various wind energy systems. |
| CO4 | Evaluate appropriate methods for Bio energy generations from various Bio wastes. |
| CO5 | Identify suitable energy sources for a location. |

COURSE CONTENTS**1. INTRODUCTION:**

- 1.1. World Energy Use;
- 1.2. Reserves of Energy Resources;
- 1.3. Environmental Aspects OF Energy Utilisation;
- 1.4. Renewable Energy Scenario in India and around the World;
- 1.5. Potentials; Achievements/ Applications;
- 1.6. Economics of renewable energy systems.

2. SOLAR ENERGY:

- 2.1. Solar Radiation;
- 2.2. Measurements of Solar Radiation;
- 2.3. Flat Plate and Concentrating Collectors;
- 2.4. Solar direct Thermal Applications;
- 2.5. Solar thermal Power Generation
- 2.6. Fundamentals of Solar Photo Voltaic Conversion;
- 2.7. Solar Cells;
- 2.8. Solar PV Power Generation;
- 2.9. Solar PV Applications.

3. WIND ENERGY:

- 3.1. Wind Data and Energy Estimation;
- 3.2. Types of Wind Energy Systems;
- 3.3. Performance; Site Selection;
- 3.4. Details of Wind Turbine Generator;
- 3.5. Safety and Environmental Aspects.

4. BIO-ENERGY:

- 4.1. Bio mass direct combustion;
- 4.2. Bio mass gasifiers;
- 4.3. Bio gas plants;
- 4.4. Digesters;
- 4.5. Ethanol production;
- 4.6. Bio diesel;
- 4.7. Cogeneration;
- 4.8. Bio mass Applications.

5. OTHER RENEWABLE ENERGY SOURCES:

- 5.1. Tidal energy;
- 5.2. Wave Energy;
- 5.3. Open and Closed OTEC Cycles;
- 5.4. Small Hydro Geothermal Energy;
- 5.5. Hydrogen and Storage;
- 5.6. Fuel Cell Systems;
- 5.7. Hybrid Systems.

REFERENCE BOOKS

1. Non-Conventional Energy Sources, Rai. G. D., Khanna Publishers, New Delhi, 2011.
2. Renewable Energy Sources, Twidell, J.W. & Weir, A., EFN SponLtd.,UK,2 006.
3. Solar Energy, Sukhatme. S. P., Tata Mc Graw Hill Publishing CompanyLtd. ,New Delhi, 1997.
4. Renewable Energy, Power for a Sustainable Future, Godfrey Boyle, Oxford University Press, U.K., 1996.
5. Fundamental of Renewable Energy Sources, G N Tiwari and M K Ghoshal, Narosa, New Delhi, 2007.
6. Renewable Energy and Environment A Policy Analysis for India ,NH Ravindranath, U K Rao, B Natarajan, P Monga, Tata McGraw Hill.
7. Energy and The Environment, R A Ristinen and J J Kraushaar, second edition, John Willey & Sons, New York, 2006.
8. Renewable Energy Resources, J W T widell and A D Weir, ELBS, 2006.

PRODUCT DESIGN

| | |
|-------------------|---|
| Course Code | FD 63001(Same in All Branches of Engg.) |
| Course Title | Product Design |
| Number of Credits | 3 (L:3,T:0,P:0) |
| Prerequisites | NIL |
| Course Category | OE |

COURSE LEARNING OBJECTIVES

- To acquire the basic concepts of product design and development process
- To understand the engineering and scientific process in executing a design from concept to finished product
- To study the key reasons for design or redesign.

COURSE OUTCOMES

At the end of the course, the student will be able to:

| | |
|-----|---|
| CO1 | Understand the basic concepts of product design and development process. |
| CO2 | Illustrate the methods to define the customer needs. |
| CO3 | Describe an engineering design and development process. |
| CO4 | Understand the intuitive and advanced methods used to develop and evaluate a concept. |
| CO5 | Apply modelling and embodiment principles in product design and development process. |

COURSE CONTENTS**1. DEFINITION OF A PRODUCT**

- 1.1. Types of product;
- 1.2. Levels of product;
- 1.3. Product-market mix;
- 1.4. New product development (NPD) process;
- 1.5. Idea generation methods;
- 1.6. Creativity;
 - 1.6.1. Creative attitude;
 - 1.6.2. Creative design process;
- 1.7. Morphological analysis;
- 1.8. Analysis of inter-connected decision areas;
- 1.9. Brain storming.

2. PRODUCT LIFECYCLE;

- 2.1. The challenges of Product development;
- 2.2. Product analysis;
- 2.3. Product characteristics;
- 2.4. Economic considerations;
- 2.5. Production and Marketing aspects;
- 2.6. Characteristics of successful Product development;
- 2.7. Phases of a generic product development process;
- 2.8. Customer need identification;
- 2.9. Product development practices and industry-product strategies.

3. PRODUCT DESIGN

- 3.1. Design by evolution;
- 3.2. Design by innovation;
- 3.3. Design by imitation;
- 3.4. Factors affecting product design;
- 3.5. Standards of performance and environmental factors;

- 3.6. Decision making and iteration;
- 3.7. Morphology of design (different phases);
- 3.8. Role of aesthetics in design.

4. INTRODUCTION TO OPTIMIZATION IN DESIGN

- 4.1. Economic factors in design;
- 4.2. Design for safety and reliability;
- 4.3. Role of computers in design;
- 4.4. Modeling and Simulation;
- 4.5. The role of models in engineering design;
- 4.6. Mathematical modeling;
- 4.7. Similitude and scale models;
- 4.8. Concurrent design;
- 4.9. Six sigma and design for six sigma;
- 4.10. Introduction to optimization in design;
- 4.11. Economic factors and financial feasibility in design;
- 4.12. Design for manufacturing;
- 4.13. Rapid Proto typing (RP);
- 4.14. Application of RP in product design;
- 4.15. Product Development versus Design.

5. DESIGN OF SIMPLE PRODUCTS DEALING WITH VARIOUS ASPECTS OF PRODUCT DEVELOPMENT;

- 5.1. Design Starting from need till the manufacture of the product

REFERENCE BOOKS

- 1.Product Design and Development, Karl T.Ulrichand Steven D.Eppinger, TataMc Graw–Hill edition.
- 2.Engineering Design– George E. Dieter.
- 3.An Introduction to Engineering Design methods Vijay Gupta.
- 4.Merie Crawford: New Product management, McGraw-Hill Irwin.
- 5.Chitale A K and Gupta R C,“ Product Design and Manufacturing”, Prentice Hall of India, 2005.
- 6.Kevin Otto and Kristin Wood, Product Design, Techniques in Reverse Engineering and New Product Development, Pears on education.

DISASTER MANAGEMENT

| | |
|-------------------|--|
| Course Code | FD63002(Same in All Branches of Engg.) |
| Course Title | Disaster Management |
| Number of Credits | 3 (L: 3, T: 0 ,P :0) |
| Prerequisites | NIL |
| Course Category | OE |

COURSE LEARNING OBJECTIVES

Following are the objectives of this course:

- To learn about various types of natural and man-made disasters.
- To know pre and post-disaster management for some of the disasters.
- To know about various information and organizations in disaster management in India.
- To get exposed to technological tools and their role in disaster management.

COURSE OUTCOMES:

- 1.1. After competing this course, student will be:
- 1.2. Acquainted with basic information on various types of disasters
- 1.3. Knowing the precautions and awareness regarding various disasters
- 1.4. Decide first action to be taken under various disasters
- 1.5. Familiarised with organization in India which are dealing with disasters
- 1.6. Able to select IT tools to help in disaster management

COURSE CONTENTS**1. UNDERSTANDING DISASTER**

- 1.1. Understanding the Concepts and definitions of Disaster,
- 1.2. Hazard,
- 1.3. Vulnerability,
- 1.4. Risk,
- 1.5. Capacity–Disaster and Development,
- 1.6. Disaster management.

2. TYPES, TRENDS, CAUSES, CONSEQUENCES AND CONTROL OF DISASTERS

- 2.1. Geological Disasters (earth quakes, landslides, tsunami, mining);
- 2.2. Hydro-Meteorological Disasters (floods, cyclones, lightning, thunder-storms, hailstorms, avalanches, droughts, cold and heat waves)
- 2.3. Biological Disasters (epidemics, pest attacks, forest fire);
- 2.4. Technological Disasters (chemical, industrial, radiological, nuclear)
- 2.5. Manmade Disasters (building collapse, rural and urban fire, road and rail accidents, nuclear, radiological, chemicals and biological disasters)
- 2.6. Global Disaster Trends
- 2.7. Emerging Risks of Disasters
- 2.8. Climate Change and Urban Disasters.

3. DISASTER MANAGEMENT CYCLE AND FRAME WORK

- 3.1. Disaster Management Cycle
- 3.2. Paradigm Shift in Disaster Management.
- 3.3. Pre-Disaster
- 3.4. Risk Assessment and Analysis,
- 3.5. Risk Mapping,
- 3.6. Zonation and Micro zonation,
- 3.7. Prevention and Mitigation of Disasters,
- 3.8. Early Warning System
 - 3.8.1. Preparedness,
 - 3.8.2. Capacity Development;
 - 3.8.3. Awareness.

- 3.9. During Disaster
 - 3.9.1. Evacuation
 - 3.9.2. Disaster Communication
 - 3.9.3. Search and Rescue
 - 3.9.4. Emergency Operation Centre
 - 3.9.5. Incident Comm and System
 - 3.9.6. Relief and Rehabilitation
- 3.10. Post-disaster
 - 3.10.1. Damage and Needs Assessment,
 - 3.10.2. Restoration of Critical Infra structure
 - 3.10.3. Early Recovery Reconstruction and Redevelopment;
 - 3.10.4. IDNDR, Yokohama Strategy, Hyogo Frame-work of Action.

4. DISASTER MANAGEMENT IN INDIA

- 4.1. Disaster Profile of India
- 4.2. Mega Disasters of India and Lessons Learnt.
- 4.3. Disaster Management Act 2005
- 4.4. Institutional and Financial Mechanism,
- 4.5. National Policy on Disaster Management,
- 4.6. National Guidelines and Plans on Disaster Management;
- 4.7. Role of Government (local, state and national),
- 4.8. Non-Government and Inter Governmental Agencies

5. APPLICATIONS OF SCIENCE AND TECHNOLOGY FOR DISASTER MANAGEMENT

- 5.1. Geo informatics in Disaster Management (RS, GIS, GPS and RS).
- 5.2. Disaster Communication System (Early Warning and Its Dissemination).
- 5.3. Land Use Planning and Development Regulations,
- 5.4. Disaster Safe Designs and Constructions,
- 5.5. Structural and Non Structural Mitigation of Disasters
- 5.6. S & T Institutions for Disaster Management in India

REFERENCES

- 1.Publications of National Disaster Management Authority (NDMA) on Various Templates and Guide lines for Disaster Management
- 2.Bhandani, R. K., An over view on natural & man-made disasters and their reduction, CSIR, New Delhi
- 3.Srivastava, H. N., and Gupta G. D., Management of Natural Disasters in developing countries, Daya Publishers, Delhi
- 4.Alexander, David, Natural Disasters, Kluwer Academic London
- 5.Ghosh, G .K. ,Disaster Management, APH Publishing Corporation
- 6.Murthy, D. B. N., Disaster Management: Text & Case Studies, Deep & Deep Pvt. Ltd.

INDIAN CONSTITUTION

| | |
|---------------------------|--|
| CourseCode | FD 6333(Same in All Branches of Engg.) |
| CourseTitle | Indian Constitution |
| NumberofCredits | 0 (L:2,T:0;P:0) |
| Prerequisites(Coursecode) | None |
| CourseCategory | AU |

COURSE CONTENT**1. THE CONSTITUTION –**

- 1.1. Introduction
- 1.2. The History of the Making of the Indian Constitution
- 1.3. Preamble and the Basic Structure, and its interpretation
- 1.4. Fundamental Rights and Duties and their interpretation
- 1.5. State Policy Principles

2. UNION GOVERNMENT

- 2.1. Structure of the Indian Union
- 2.2. President– Role and Power
- 2.3. Prime Minister and Council of Ministers
- 2.4. Lok Sabha and Rajya Sabha

3. STATE GOVERNMENT

- 3.1. Governor– Role and Power
- 3.2. Chief Minister and Council of Ministers
- 3.3. State Secretariat

4. LOCAL ADMINISTRATION

- 4.1. District Administration
- 4.2. Municipal Corporation
- 4.3. Zila Panchayat

5. ELECTION COMMISSION

- 5.1. Role and Functioning
- 5.2. Chief Election Commissioner
- 5.3. State Election Commission

SUGGESTED LEARNING RESOURCES:

| S.No. | Title of Book | Author | Publication |
|-------|--|-----------------|--|
| 1. | Ethics and Politics of the Indian Constitution | Rajeev Bhargava | Oxford University Press, New Delhi, 2008 |
| 2. | The Constitution of India | B.L.Fadia | Sahitya Bhawan; New edition(2017) |
| 3. | Introduction to the Constitution of India | D D Basu | Lexis Nexis; Twenty-Third 2018 edition |

SUGGESTED SOFTWARE / LEARNING WEBSITES:

1. <https://www.constitution.org/cons/india/const.html>
2. <http://www.legislative.gov.in/constitution-of-india>
3. <https://www.sci.gov.in/constitution>
4. <https://www.toppr.com/guides/civics/the-indian-constitution/the-constitution-of-india/>

APPAREL INDUSTRY AND PRODUCTION MANAGEMENT

| | |
|-----------------|--|
| Course Code | FD-60011 |
| Course Title | APPAREL INDUSTRY AND PRODUCTION MANAGEMENT |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

A fashion technologist involved in dress making should have idea of market, readymade garments industry and its scope, strength and threats to it. He should be able to control the industry's managerial and technological aspects.

CONTENTS**1. ORIGIN OF APPAREL INDUSTRY:**

Strength, weakness, threats and opportunities to industry.
 Present status of industry.
 Types of manufacturing system,
 Subcontract
 Whole garment
 Assembly

2. CUTTING ROOM PLANNING:

Planning
 Cutting
 Sorting
 Conditions for cutting room layout
 Manpower, Machines, Tools and equipments
 Marker making & Marker mode
 Spreading Techniques
 Symmetry,
 Asymmetry of fabrics and garments
 Different types of fabrics and special care to be taken for spreading and cutting, sorting, bundling.
 Inventory Control Lab Sessions
 Project - cutting room analysis, cutting room layout, cut plans.

3. SEWING PRODUCTION MANAGEMENT:

Stitch classifications
 Seams and their effect on elasticity
 Strength
 Slippage
 Definition, Time and motion study.
 Importance of time and motion study
 Fatigue
 Delays
 Effect on efficiency.
 Output- Using video cassettes for time & motion study
 Output - For quality and quantity analysis
 Documentation
 Control forms
 Flow charts.
 Production control systems
 Definition, types, criteria, planning and layout.

4. FINISHING:

Shaping
 Pressing
 Processes
 Equipments (Irons, Presses, others)
 Qualitative and quantitative analysis control
 Removal of different stains

REFERENCES BOOKS

- 1 Retailing Management by Swapna Pradhan.2/e TMH
- 2 Integrated Retail Management by James R Ogden & Denise T Ogden 2007,
Biztantra
- 3 Retail Management – Levy & Weitz TMH 5/e

SEMESTER SCHEME 2020-21

INDUSTRIAL MACHINES TOOLS & EQUIPMENTS

| | |
|-----------------|--|
| Course Code | FD-60012 |
| Course Title | INDUSTRIAL MACHINES TOOLS & EQUIPMENTS |
| No. of Credits | 3(L-3,T-0,P-0) |
| Course Category | PE |
| Pre requisite | None |

RATIONALE

The objective of this paper is to acquaint the students with different types of machines their attachments, adjustments and maintenance procedure. The students also become familiar with tools and equipments used in dress designing industry.

CONTENTS**1. SEWING MACHINES:**

General purpose sewing machine Construction and working of sewing machines-hand operated

Treadle operated and electric motor operated

Function of each part of sewing machine

Sewing machine feed mechanism.

Pressure foot

Folders

Seam Guide

Principles of operation of special purpose/basic machines:

Lockstitch

Chain stitch

Over lock

Blind stitch

Button hole, and button stitching machines

1.8.5.1, long stitching machine

Zigzag machine double needle machine

Double needle arm stitching machine

Tacking machine

Blind stitch machine

Presses - fusing presses, cutting and laying up machines.

Machine adjustments and effect of these adjustments.

Maintenance of Machines:

Necessity for preventive

Periodic and correcting

Maintenance

Cleaning and lubrication of ordinary sewing

Machines and special purpose basic machines.

Type of lubricating oil used.

Maintenance (i.e. cleaning lubrication and adjustment) schedules.

Common defects which occur in sewing machines

Basic and special purpose machines.

Trouble shooting and rectification of minor defects.

Tools and Equipments:

2. CUTTING EQUIPMENTS:

Use and care of scissors

Shears

Pinking scissors

3. SEWING TOOLS:

Use and care of needles

Pins

Thimble

Tape measure

Ruler

Square adjustable gauge

Skirt marker, French curve.

4. MARKING TOOL:

Use of tracing paper

Tracing wheel
Tailors chalk.

REFERENCES BOOKS

1. Basic Fashion Wardrobe by Pamela lee, Singer Co
2. Cross Stitch Design by Ondori, Ondori Japan Pub.
3. New look by Darshan, Jasmine, 98-ghadial Gully, M.J. Market Bombay

SEMESTER SCHEME 2020-21

APPERAL INDUSTRY AND PRODUCTION MANAGEMENT LAB

| | |
|-----------------|--|
| Course Code | FD-60021 |
| Course Title | Apperal Industry and Production Management Lab |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PE |
| Pre requisite | None |

1. A fashion design involved in dress making & ready garments in apparel industry
2. Cutting room
 - 2.1 Planning
 - 2.2 Cutting
 - 2.3 Shorting
 - 2.4 Cutting room layout
 - 2.5 Manpower & machines
 - 2.6 Tools & equipments
3. Spreading Techniques
4. Making a Cost Sheet with garments
5. Inventory of sheets
6. Use of
 - 6.1 Iron
 - 6.2 Presses
7. Removal of Stains
 - 7.1 Plain Stains
 - 7.2 hard stains
 - 7.3Other Stains

SEMESTER SCHEME 2020-21

INDUSTRIAL MACHINES TOOLS & EQUIPMENTS LAB

| | |
|-----------------|--|
| Course Code | FD-60022 |
| Course Title | Industrial Machines Tools & Equipments Lab |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PE |
| Pre requisite | None |

PRACTICAL

1. Operation, Cleaning, Lubricating and adjustment of sewing machine.
2. Operation, cleaning, lubrication and adjustments of over lock machine.
3. Operation, cleaning, lubrication and adjustments of button hole stitching machine.
4. Operation, cleaning, lubrication and adjustments of button stitch machine.
5. Operation, cleaning, lubrication and adjustments of double needle machine.
6. Operation, cleaning, lubrication and adjustments of zig zag machine.
7. Operation cleaning lubrication and adjustments of arm stitching machine.

REFERENCES BOOKS

1. Basic Fashion Wardrobe by Pamela lee, Singer Co
2. Cross Stitch Design by Ondori, Ondori Japan Pub.
3. New look by Darshan, Jasmine, 98-ghadial Gully, M.J. Market Bombay

SEMESTER SCHEME 2020-21

GARMENT CUNSTRUCTION : III LAB

| | |
|-----------------|--------------------------------|
| Course Code | FD-6003 |
| Course Title | GARMENT CUNSTRUCTION : III LAB |
| No. of Credits | 2(L-0,T-0,P-4) |
| Course Category | PC |
| Pre requisite | None |

RATIONALE

Students learn application of construction technology by undertaking a variety of exercises and projects using industrial equipment's. Each project emphasizes a specific procedure or necessary procedures

CONTENTS**1. PAYZAMA**

Plain Payzama
Churi dar Payzama
Aligadi Payzama
Trouser variations

2. KURTA

Plain Kurta
Kalidar Kurta
Nehru Kurta
Bangali Kuarta,

3. SHIRT

Shirt variations

4. COAT & JACKETS

Over coat
dressing gown
Term Garment
Jacket/ blazer variations
Vest

REFERENCES BOOKS

- 1 Dress Making by Ronkelty Terry Evon, Himalayan Publishing
- 2 Women's Fashion Doriwork Special by Fashion, Landeris Press
- 3 Encyclopedia of Dress Making by Marshall Cavendish, Marshall Cavendish Books Ltd.