

**NEP-2020 Aligned Curriculum for
Three Year (Six Semester) Diploma Programme in**

**FASHION DESIGNING AND GARMENT
TECHNOLOGY**

For the State of Uttar Pradesh



**PREPARED & COMPILED BY:
INSTITUTE OF RESEARCH DEVELOPMENT & TRAINING,
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PREFACE

An important issue generally debated amongst the planners and educators world over is how technical education can contribute to sustainable development of the societies struggling hard to come in the same bracket as that of the developed nations. The rapid industrialization and globalization has created an environment for free flow of information and technology through fast and efficient means. This has led to shrinking of the world, bringing people from different culture and environment together and giving rise to the concept of world turning into a global village. In India, a shift has taken place from the forgettable years of closed economy to knowledge based and opens economy in the last few decades. In order to cope with the challenges of handling new technologies, materials and methods, we have to develop human resources having appropriate professional knowledge, skills and attitude. Technical education system is one of the significant components of the human resource development and has grown phenomenally during all these years. Now it is time to consolidate and infuse quality aspect through developing human resources, in the delivery system. Polytechnics play an important role in meeting the requirements of trained technical manpower for industries and field organizations.

In order to meet the requirements of future technical manpower, we will have to revamp our existing technical education system and one of the most important requirements is to develop outcome-based curricula of diploma programmes. The curricula for diploma programmes have been revised by adopting time-tested and nationally acclaimed scientific method, laying emphasis on the identification of learning outcomes of diploma programme.

The real success of the diploma programme depends upon its effective implementation. However best the curriculum document is designed, if that is not implemented properly, the output will not be as expected. In addition to acquisition of appropriate physical resources, the availability of motivated, competent and qualified faculty is essential for effective implementation of the curricula.

It is expected of the polytechnics to carry out job market research on a continuous basis to identify the new skill requirements, reduce or remove outdated and redundant courses, develop innovative methods of course offering and thereby infuse the much needed dynamism in the system.

F.R. Khan
Director

Institute of Research, Development & Training, Kanpur

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Vikas Kulshreshtha
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1. SALIENT FEATURES

- | | |
|---|---|
| 1. Name of the Program | ➤ Diploma Programme in Fashion Designing and Garment Technology. |
| 2. Duration of the Program | ➤ Three years (Six Semesters) |
| 3. Entry Qualification | ➤ Matriculation or equivalent NEP-2020/NSQF Level 4 as Prescribed by State Board of Technical Education, U.P. |
| 4. Pattern of the Program | ➤ Semester System |
| 5. NSQF Level | ➤ Level – 5 |
| 6. Ratio between theory and Practice | ➤ 40% (Theory)/60% (Practical) |

1) **Industrial Training/Internship:**

Four and six weeks of industrial training is made mandatory after the II and IV semesters during summer vacation. Total marks allotted to industrial training will be respectively 50 & 100.

In the last (6th Semester) we have made the one semester Industrial training/Internship as optional along with usual classroom training.

2) **Audit & Pathways Subjects:**

As per AICTE and NEP-2020 directives, Essence of Indian Knowledge & Tradition, Indian Constitution, Entrepreneurship & Startup, subjects on Environmental Studies have been incorporated in the curriculum.

3) **Student Centered Activities:**

A provision of 3-6 Hrs per week has been made for organizing Student Centered Activities for overall personality development of students. Such activities will comprise co- curricular activities such as expert lectures, class room seminars, games, hobby club like photography, painting, singing etc. declamation contests, field visits, NCC, NSS and other cultural activities, etc.

4) **Project work:**

Micro/Mini/Major project work has been included in the curriculum to enable the student to get familiarized with the practices and procedures being followed in the industries and also provide an opportunity to work on some live projects in the industry.

2. LEARNING OUTCOMES OF THE PROGRAM

1. Program Outcomes (POs)

The Program Outcomes (POs) describe the knowledge, skills, and attitudes that students are expected to develop by the time they graduate from the Diploma in Fashion Designing and Garment Technology program. These outcomes reflect what graduates will be capable of doing because of the learning and training received throughout the course. They represent the professional abilities and attributes that define a diploma holder in engineering.

As per **National Board of Accreditation (NBA)**, the seven Program Outcomes for an engineering diploma graduate are as follows -

PO1: Basics and Discipline specific Knowledge

Assimilate knowledge of basic mathematics, science, engineering fundamentals, and electronics and communication engineering.

PO2: Problem's Analysis and solution

Identify, analyse and solve problems using standard methods and established techniques.

PO3: Design and Development

Design solutions for technical problems.

Assist in designing components, systems, or processes to meet specific requirements.

PO4: Engineering Tools, Experimentation, and Testing

Use modern engineering tools and appropriate techniques to conduct experiments as per BIS standard.

PO5: Socio/ Economic /Environmental impact assessment/remedy.

Apply relevant technologies while considering societal needs, environmental impact keeping in view sustainable and ethical responsibilities.

PO6: Project Management and Communication

Apply engineering management principles, work effectively as an individual or in a team, and communicate clearly on activities.

PO7: Lifelong Learning

Recognize the importance of continuous learning and actively pursue self-improvement to keep pace with technological developments.

3. EMPLOYMENT OPPORTUNITIES FOR DIPLOMA HOLDERS IN FASHION DESIGN AND GARMENT TECHNOLOGY

The following are the major employment opportunities for diploma holders in Fashion Design and Garment Technology:

Three areas were identified in which a diploma holder in fashion designing can begin his/her career.

- (A) Employment
- (B) Entrepreneurship
- (C) Teaching
- (D) Free Lancing

The detailed job description under each of the above fields may be summarised as below:

(A) Employment:

1. Fashion Merchandising.
2. Assistant Designers.
3. Sampling & Supervision.
4. Fashion Accessories Design
5. Fashion Design Institutions.
6. Fashion Co-ordinator.
7. Fashion Museums.
8. Research & Development.

(B) Entrepreneurship:

1. Boutiques
2. Fabricators
3. Fashion Ancillaries.
4. Designer Creations Exclusive.
5. Fashion Design job-production.
6. Large Scale Production
7. Fashion Specialization

(C) Free Lancing

1. Magazine Designers.
2. Fashion Exhibitions.
3. Window Display.
4. Consultancy
5. Fashion Shows.

4. DRIVING CURRICULUM AREA FROM LEARNING OUTCOMES OF DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY

Sr. No.	Learning Outcomes
After due completion of the course, a Diploma Programme In Fashion Design And Garment Technology will be able to:	
1	Describe the process of communication
2	Communicate effectively in different contexts
3	Apply historic costume knowledge for fashion design construction.
4	Identify, analyse and apply trends in the fashion Industry.
5	Draw complex and Geometric Objects.
6	Observe and analyse the work of art.
7	Create embroidery patterns
8	Recognize different Indian state embroideries
9	Interpreted working of different departments in the industry.
10	Identify and differentiate between different kinds of fibres.
11	Dye fabrics and yarns
12	Print on Fabrics with different designs
13	Stitch different types of stitches.
14	Coordinate with cognitive development and the development of motor skill.
15	Make drafts and patterns of different garments and design for children and ladies.
16	Do pattern layouts along with estimation and casting of Garments.
17	Describe the basic computer terminology and application.
18	Illustration of Design.
19	Do pattern Layout.
20	Determine overall style and beauty of a garment.
21	Design Garment made of leather
22	Explain different types of Leather
23	Demonstrate the working of sewing machines
24	Explain different types of stitches used for making a garment

25	Describe about retailing
26	Understand the parameters to consider while doing e-retailing
27	Making patterns by draping of fabric
28	Understand the concept for upgrading and downgrading industrial patterns
29	Understand the basic principles for display design techniques
30	Organize & present Fashion & related merchandise
31	Do quality assessment of different commercial fabrics
32	Basic understanding of fabric testing
33	Elementary knowledge of fabric processing
34	Explain sewing techniques which are involved in the process of leather garment construction
35	Design and validate Technological solution to defined problem and communicate clearly and effectively.
36	Comprehend the importance of ecosystem and sustainable
37	Produce very accurate design through CAD.
38	Draw 2D and 3D and Pattern design or object.
39	Design Garment and Outfits for Men, women and kids for every occasion.
40	To gain detailed knowledge of men's fashion
41	Design costume jewellery
42	Explain sewing techniques which involved in the process of construction.
43	Understand the different ways in which the fashion industry operates
44	Demonstrate interdisciplinary nature of environmental issues
45	Handle work pressures in a better manner
46	Have knowledge about how to start own business .
47	Improve their knowledge, attitudes, skill and wealth.
48	Sketch different kind of Body and silhouette of a garment.
49	Illustrate fashion ideas in a visual form.
50	Develop understanding regarding the size and scale of operations and nature of field-work in which students are going to play their role after completing the courses of study.
51	Develop understanding of subject based knowledge given in the classroom in the context of its application at work places.

5. DERIVING CURRICULUM AREAS FROM LEARNING OUTCOMES OF THE PROGRAMME

The following curriculum areas/subjects have been derived from learning outcomes:

Sr. No.	Learning Outcomes	Curriculum Area/Subject
1.	Describe the process of communication	*Communication Skills in English Student Centred Activities (SCA)
2.	Communicate effectively in different contexts	*Communication Skills in English Student Centred Activities (SCA)
3.	Apply historic costume knowledge for fashion design construction.	Fashion Design Concept
4.	Identify, analyze and apply trends in fashion Industry.	Fashion Design Concept
5.	Draw complex and Geometric Object.	Basic Design and Sketching
6.	Observe and analyze the work of art.	Basic Design and Sketching
7.	Make drafts and Patterns of different Garment and design for children and ladies.	Drafting And Pattern Making-I
8.	Do pattern layouts along with estimation and casting of Garments.	Drafting And Pattern Making-I
9.	Interpreted working of different department in the industry.	Industrial Machines Tools & Equipment's
10.	Identify and differentiate between different kinds of fibres.	Textile Science
11.	Dye fabrics and yarns	Textile Science
12.	Print on Fabrics with different designs	Textile Science
13.	Stitch different types of stitches.	Basic Stitching Techniques
14.	Coordinate with cognitive development and the development of motor skill.	Basic Stitching Techniques
15.	Create embroidery patterns	Embroidery
16.	Recognize different Indian state embroideries	Embroidery
17.	Illustration of Design.	Design Ideas
18.	Design Garment made of leather	Design Ideas

19.	Make draft and pattern of different equipment.	Drafting and Pattern Making-II
20.	Do pattern Layout.	Drafting and Pattern Making-II
21.	Determine overall style and beauty of a Garment.	Fabric Selection and Identification
22.	Explain Marketing and Merchandising	Fashion Retail Management
23.	Describe about retail	Fashion Retail Management
24.	Comprehend the language correctly	Communication Skills in English
25.	Demonstrate the working of sewing machines	Garment Fabrication
26.	Explain different types of stitches used for making a garment	Garment Fabrication
27.	Explain different types of Leather	Leather Garment Construction
28.	Design and validate Technological solution to defined problem and communicate clearly and effectively.	Cad For Costume-I
29.	Comprehend the importance of ecosystem and sustainable	Cad For Costume-I
30.	Demonstrate interdisciplinary nature of environmental issues	Environmental Studies
31.	Produce very accurate design through CAD.	Cad For Costume-II
32.	Draw 2D and 3D and Pattern design or object.	Cad For Costume-II
33.	Design Garment and Outfits for Men, women and kids for every occasion.	Dress Designing
34.	Explain sewing techniques which involved in the process of construction.	Leather Garment Construction
35.	Design costume jewelry	Jewellery and Fashion Accessories
36.	Understand the different ways in which the fashion industry operates	Apparel Industry & Production Management
37.	Handle work pressures in a better manner	Apparel Industry & Production Management
38.	Sketch different kind of Body and silhouette of a garment.	Fashion Illustration and Model Drawing

39.	Illustrate fashion ideas in a visual form.	Fashion Illustration and Model Drawing
40.	To gain specific pattern knowledge	Advance Pattern Making
41.	To gain detailed knowledge of men's fashion	Men's Fashion
42.	Develop understanding regarding the size and scale of operations and nature of field-work in which students are going to play their role after completing the courses of study	Project Work
43.	Develop understanding of subject based knowledge given in the classroom in the context of its application at work places.	Project Work

STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
FIRST SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	COURSE TYPE & CATEGORY
		Periods/Week				INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
1.1	*Communication Skills in English	3	-	2	4	40	60	100	60	3	40	3	100	200	Practicum	
1.2	Fashion Design Concept	4		-	4	40	-	40	60	3	-	-	60	100	Theory	
1.3	Basic Design and Sketching	1	-	6	4	-	60	60	-	-	40	3	40	100	Practicum	
1.4	Embroidery	1	-	6	4	-	60	60	-	-	40	5	40	100	Practicum	
1.5	Industrial Machine Tool and Equipments	2	-	4	4	40	60	100	60	3	40	3	100	200	Practicum	
1.6	Sports & Yoga	-	-	2	1	-	50	50	-	-	-	-	-	50	Humanities Course	
#Student Centred Activities (SCA)		-	-	5	-	-	50	50	-	-	-	-	-	50		
Total		11	-	25	21	120	340	460	180		160	-	340	800		

* Common with other diploma programmes

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY

SECOND SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME								Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
		L	T	P			Th	Pr	Tot	Th	Hrs	Pr	Hrs		
2.1	Textile Science	3	-	4	5	40	90	130	60	3	60	3	120	250	Practicum
2.2	Basic stitching techniques	1	-	8	5	-	60	60	-	-	40	5	40	100	Practicum
2.3	Drafting and Pattern Making-I	1	-	8	5	-	60	60	-	-	40	3	40	100	Practicum
2.4	*Introduction to IT and AI	2	-	4	4	40	60	100	60	3	40	3	100	200	Practicum
2.5	(Q) Environmental Sciences	3	-	-	-	-	-	-	60^	3	-	-	60^	-	Audit Course
#Student Centred Activities (SCA)		-	-	2	-	-	50	50	-	-	-	-	-	50	
Total		10		26	19	80	320	400	180		180	-	360	700	

Note- (Q) Environmental Sciences Subject is compulsory to appear & to pass in examination, But marks will not be included for division and percentage of obtained marks.

* Common with other diploma programmes

#Student Centred Activities will comprise of co-curricular activities like extension lectures, self-study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

- After the Examination students of II Semester shall have a 4 week hands on training in any concern engaged in Garment (Textile, leather & Knitwear) manufacturing/NGO/Industry/related Fields. The purpose of the visit is to enrich the students learning. Every student will submit the institution a report of his/her training engagement. The report will invariably contain the description of his observations about(1)Products/Work/Design(2)Tools and equipment's Used(3)Packing, Dispatching of products. He will be evaluated by III Semester project examiner for 50 marks--40 for viva and 10 for the report presented.

STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME INFASHION DESIGNING AND GARMENT TECHNOLOGY
THIRD SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
3.1	Design Ideas	2	-	6	5	40	60	100	60	3	40	4	100	200	Practicum	
3.2	Drafting and Pattern Making-II	-	-	10	5	-	60	60	-	-	40	4	40	100	Practical	
3.3	Garment Fabrication	-	-	10	5	-	60	60	-	-	40	4	40	100	Practical	
3.4	Fashion Retail Management	2	-	-	2	40	-	40	60	3	-	-	60	100	Theory	
3.5	Artificial Intelligence	2	-	-	2	50*	-	50*							Open Elective	
	Product Design															
	Fundamentals of Innovation and Design Thinking (TATA Tech)															
3.6	Summer Internship -I (4Weeks after 2 nd Sem.)	-	-	-	1	-	50	50	-	-	-	-	-	50	Practical	
#Student Centred Activities (SCA)		-	-	4	-	-	50	50	-	-	-	-	-	50		
Total		06	-	30	20	130	280	410	120		120		240	600		

* Common with other diploma programmes

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

**STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
FOURTH SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME								Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
4.1	Advance Pattern Making	2	-	6	5	-	60	60	-	-	40	3	100	100	Practicum
4.2	Visual Merchandising & Display	2	-	2	3	40	0	40	60	3	0	0	60	100	Practicum
4.3	Fabric Selection and Identification	2	-	4	4	40	60	100	60	3	40	4	100	200	Practicum
4.4	Leather Garment Construction	2	-	2	4	40	0	40	60	3	0	3	60	100	Practicum
4.5	CAD For Costume-I	1	-	6	4	40	60	100	60	3	40	3	100	200	Practicum
4.6	(Q) Essence of Indian Knowledge & Tradition	2	-	-	-	50*	-	50*	-	-	-	-	-	-	Audit Course
#Student Centred Activities (SCA)		-	-	5	-	-	50	50	-	-	-	-	-	50	
Total		11	-	25	20	210	230	440	240	-	120	-	420	750	

Note : (Q) - It is compulsory to appear & to pass in internal assessment, But marks will not be included for division and percentage of obtained marks.

* Common with other diploma programme

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

- After the Examination students of IV Semester shall have a 4 week hands on training in any concern engaged in Garment (Textile, leather & Knitwears) manufacturing/NGO/Industry/related Fields. The purpose of the visit is to enrich the students learning. Every student will submit the institution a report of his/her training engagement. The report will invariably contain the description of his observations about (1) Products/Work/Design (2) Tools and equipment's Used (3) Packing, Dispatching of products. He will be evaluated by III Semester project examiner for 50 marks--40 for viva and 10 for the report presented.

**STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
FIFTH SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
5.1	Industrial Training-II (4 Weeks)	-	-	-	2	-	10 0	100	-	-	-	-	-	100	Practical	
5.2	CAD for Costume-II	1	-	8	5	40	60	100	60	3	40	3	100	200	Practicum	
5.3	Dress Designing and Illustration	0	-	6	3	-	60	60	-	-	40	3	40	100	Practical	
5.4	Advance Design & Digital Thinking	2	-	2	3	40	-	40	60	3	-	-	60	100	Practicum	
5.5	Men’s Fashion	2	-	4	4	40	60	100	60	3	40	3	100	200	Practicum	
5.6	Jewellery & Fashion Accessories	1	-	4	3	-	60	60	-	-	40	3	40	100	Practicum	
5.7	(Q) Indian Constitution	2	-	-	-	50*	-	50*	-	-	-	-	-	-	Audit Course	
Student Centred Activities (SCA)		-	-	4	-	-	50	50	-	-	-	-	-	50	-	
Total		8	-	28	20	170	290	460	180	-	160	-	340	750	-	

NOTE:-

(Q) - It is compulsory to appear & to pass in internal assessment, But marks will not be included for division and percentage of obtained marks.

* Common with other diploma programme

- The quality of education and learning is to be enhanced by frequent industrial visit, guest lectures, seminars and fashion exhibition in collaboration with industrial units by displaying students' achievements. A live contact with industries is to be maintained for the purpose.

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

**STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
SIXTH SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	Course Type & Category
		L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
						Th	Pr	Tot	Th	Hrs	Pr	Hrs	Total			
6.1	Entrepreneurship and Startups*	3	-	-	3	40	-	40	60	3	-	-	60	100	Theory	
6.2	Apparel Industry and Production Management	4	-	-	4	40	-	40	60	3	-	-	60	100	Theory	
6.3	Fashion Illustration and Model Drawing	1	-	8	5	-	60	60	-	-	40	3	40	100	Practical	
6.4	Project Work	-	-	16	8	-	200	200	-	-	100	3	100	300	Practical	
#Student Centred Activities (SCA) -		-	-	4	-	-	50	50	-	-	-	-	-	50		
Total		08	-	28	20	80	310	390	120		140	-	260	650		

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

OR

SIXTH SEMESTER (INDUSTRIAL PATHWAY)

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME Periods/Week			Credit	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
			L	T	P/Drg		Th	Pr	Total	Th	Hrs	Pr	Hrs	Total		
6.1	Entrepreneurship and start-up (online mode)	Humanities / Theory	-	-	-	2	-	-	-	100	3	-	-	100	100	
6.2	Industrial hands –on practice	Industrial Training				12										350
6.3	Industrial project	During Industrial Training	-	-	-	4										100
6.4	Seminar	At Institute Level (Presentation)	-	-	-	2	-	100	100						100	
Total			-	-	-	20	-	-	-	-	-	-	-	-	650	

NOTE:-

- The Industrial training tenure should not be less than 4 months.
- Industry must be registered with MSME / Directorate of industries/Limited Organization/ State/Central Government establishments.
- Monthly progress reports of Intern/ Trainee should be attested and forwarded by industrial supervisor (allotted to Intern) during industrial Internship .
- The Industrial unit/organization must evaluate students using the format provided by polytechnic in the form of marks.
- The Industrial Hands on Practice, Industrial Project and seminar must be evaluated on the basis of the BTE Internship / Training Policy -2025.
- **“Entrepreneurship and Start-up”** course is also mandatory in Industrial internship/training mode. It will be conducted in online mode by his/her polytechnic institute. After completing the online course, students must appear for exam conducted by the Board of Technical Education, Lucknow.
- Those Students, who will opt for Minimum 4 Months internship / Field Exposure with any of the Industry / Export houses or buying agencies / Government departments related to textiles, handlooms, or fashion / Fashion design studios or fashion houses/ Apparel and garment manufacturing units/ Textile and fabric design units / Fashion retail brands or e-commerce fashion platforms/ Costume design departments (Film/TV/Theatre)/ Fashion technology and CAD-based design firms/ Independent fashion designers or design consultancies etc. will submit their portfolio (Project Work) with a Report statement showing day to day work flow chart and duly signed certificate of internship by the Head of office/Organization.

**STUDY AND EVALUATION SCHEME FOR LATERAL AND ITI PASSED STUDENTS
THREE YEAR (Six Semester) DIPLOMA COURSE IN FASHION DESIGNING & GARMENT TECHNOLOGY**

THIRD SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
3.1	Design Ideas	2	-	6	5	40	60	100	60	3	40	4	100	200	Practicum	
3.2	Drafting and Pattern Making-II	-	-	10	5	-	60	60	-	-	40	4	40	100	Practical	
3.3	Garment Fabrication	-	-	10	5	-	60	60	-	-	40	4	40	100	Practical	
3.4	Fashion Retail Management	2	-	-	2	40	-	40	60	3	-	-	60	100	Theory	
3.5	Artificial Intelligence	2	-	-	2	50*	-	50*							Open Elective	
	Product Design															
	Fundamentals of Innovation and Design Thinking (TATA Tech)															
3.6	Summer Internship -I (4Weeks after 2 nd Sem.)	-	-	-	1	-	50	50	-	-	-	-	-	50	Practical	
#Student Centred Activities (SCA)		-	-	4	-	-	50	50	-	-	-	-	-	50		
Total		06	-	30	20	130	280	410	120		120		240	600		

* Common with other diploma programmes

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

**STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
FOURTH SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME								Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
4.1	Advance Pattern Making	2	-	6	5	-	60	60	-	-	40	3	100	100	Practicum
4.2	Visual Merchandising & Display	2	-	2	3	40	0	40	60	3	0	0	60	100	Practicum
4.3	Fabric Selection and Identification	2	-	4	4	40	60	100	60	3	40	4	100	200	Practicum
4.4	Leather Garment Construction	2	-	2	4	40	0	40	60	3	0	3	60	100	Practicum
4.5	CAD For Costume-I	1	-	6	4	40	60	100	60	3	40	3	100	200	Practicum
4.6	(Q) Essence of Indian Knowledge & Tradition	2	-	-	-	50*	-	50*	-	-	-	-	-	-	Audit Course
#Student Centred Activities (SCA)		-	-	5	-	-	50	50	-	-	-	-	-	50	
Total		11	-	25	20	210	230	440	240	-	120	-	420	750	

Note : (Q) - It is compulsory to appear & to pass in internal assessment, But marks will not be included for division and percentage of obtained marks.

* Common with other diploma programme

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

- After the Examination students of IV Semester shall have a 4 week hands on training in any concern engaged in Garment (Textile, leather & Knitwears) manufacturing/NGO/Industry/related Fields. The purpose of the visit is to enrich the students learning. Every student will submit the institution a report of his/her training engagement. The report will invariably contain the description of his observations about (1) Products/Work/Design (2) Tools and equipment's Used (3) Packing, Dispatching of products. He will be evaluated by III Semester project examiner for 50 marks--40 for viva and 10 for the report presented.

A. COMPULSORY SUBJECT OF I & II Semester FASHION DESIGNING & GARMENT TECHNOLOGY TO BE TAUGHT IN III Sem TO ITI PASSED STUDENTS OF TRADES AS FOLLOWS :

I. DRESS MAKING AND FASHION TECHNOLOGY

1 YEARS 10 PASS(10+2 Scheme)

- **Qualifying subject of Ist Semester in III Semester**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
1.1	*Communication Skills in English	3	-	2	4	40	60	100	60	3	40	3	100	200	

- **Qualifying subject of IInd Semester in IV Semester**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
2.4	*Introduction to IT Systems	2	-	4	4	40	60	100	60	3	40	3	100	200	

**STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
FIFTH SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	COURSE TYPE & CATEGORY
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
		L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
5.1	Industrial Training-II (4 Weeks)	-	-	-	2	-	10 0	100	-	-	-	-	-	100	Practical	
5.2	CAD for Costume-II	1	-	8	5	40	60	100	60	3	40	3	100	200	Practicum	
5.3	Dress Designing and Illustration	0	-	6	3	-	60	60	-	-	40	3	40	100	Practical	
5.4	Advance Design & Digital Thinking	2	-	2	3	40	-	40	60	3	-	-	60	100	Practicum	
5.5	Men’s Fashion	2	-	4	4	40	60	100	60	3	40	3	100	200	Practicum	
5.6	Jewellery & Fashion Accessories	1	-	4	3	-	60	60	-	-	40	3	40	100	Practicum	
5.7	(Q) Indian Constitution	2	-	-	-	50*	-	50*	-	-	-	-	-	-	Audit Course	
Student Centred Activities (SCA)		-	-	4	-	-	50	50	-	-	-	-	-	50	-	
Total		8	-	28	20	170	290	460	180	-	160	-	340	750	-	

NOTE:-

(Q) - It is compulsory to appear & to pass in internal assessment, But marks will not be included for division and percentage of obtained marks.

* Common with other diploma programme

- The quality of education and learning is to be enhanced by frequent industrial visit, guest lectures, seminars and fashion exhibition in collaboration with industrial units by displaying students' achievements. A live contact with industries is to be maintained for the purpose.

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars,

declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

**STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN FASHION DESIGNING AND GARMENT TECHNOLOGY
SIXTH SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External	Course Type & Category
		L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
						Th	Pr	Tot	Th	Hrs	Pr	Hrs	Total			
6.1	Entrepreneurship and Startups*	3	-	-	3	40	-	40	60	3	-	-	60	100	Theory	
6.2	Apparel Industry and Production Management	4	-	-	4	40	-	40	60	3	-	-	60	100	Theory	
6.3	Fashion Illustration and Model Drawing	1	-	8	5	-	60	60	-	-	40	3	40	100	Practical	
6.4	Project Work	-	-	16	8	-	200	200	-	-	100	3	100	300	Practical	
#Student Centred Activities (SCA) -		-	-	4	-	-	50	50	-	-	-	-	-	50		
Total		08	-	28	20	80	310	390	120		140	-	260	650		

Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

OR

SIXTH SEMESTER (INDUSTRIAL PATHWAY)

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME Periods/Week			Credit	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
			L	T	P/Drg		Th	Pr	Total	Th	Hrs	Pr	Hrs	Total		
6.1	Entrepreneurship and start-up (online mode)	Humanities / Theory	-	-	-	2	-	-	-	100	3	-	-	100	100	
6.2	Industrial hands –on practice	Industrial Training				12										350
6.3	Industrial project	During Industrial Training	-	-	-	4										100
6.4	Seminar	At Institute Level (Presentation)	-	-	-	2	-	100	100						100	
Total			-	-	-	20	-	-	-	-	-	-	-	-	650	

NOTE:-

- 1 The Industrial training tenure should not be less than 4 months.
- 2 Industry must be registered with MSME / Directorate of industries/Limited Organization/ State/Central Government establishments.
- 3 Monthly progress reports of Intern/ Trainee should be attested and forwarded by industrial supervisor (allotted to Intern) during industrial
- 4 Internship.
- 5 The Industrial unit/organization must evaluate students using the format provided by polytechnic in the form of marks.
- 6 The Industrial Hands on Practice, Industrial Project and seminar must be evaluated on the basis of the BTE Internship / Training Policy -2025.
- 7 **“Entrepreneurship and Start-up”** course is also mandatory in Industrial internship/training mode. It will be conducted in online mode by his/her polytechnic institute. After completing the online course, students must appear for exam conducted by the Board of Technical Education, Lucknow.
- 8 Those Students, who will opt for Minimum 4 Months internship / Field Exposure with any of the Industry / Export houses or buying agencies / Government departments related to textiles, handlooms, or fashion / Fashion design studios or fashion houses/ Apparel and garment manufacturing units/ Textile and fabric design units / Fashion retail brands or e-commerce fashion platforms/ Costume design departments (Film/TV/Theatre)/ Fashion technology and CAD-based design firms/ Independent fashion designers or design consultancies etc. will submit their portfolio (Project Work) with a Report statement showing day to day work flow chart and duly signed certificate of internship by the Head of office/Organization.

7. GUIDELINES FOR ASSESSMENTS OF STUDENT CENTERED ACTIVITIES (SCA)

It was discussed and decided that the maximum marks for SCA should be 50 as it involves a lot of subjectivity in the evaluation. The marks may be distributed as follows:

i. 15 Marks for general behaviour and discipline
(by HODs in consultation with all the teachers of the department)

ii. 10 Marks for attendance as per following:
(by HODs in consultation with all the teachers of the department)

- a) 75 - 80% 6 Marks
- b) 80 - 85% 8 Marks
- c) Above 85% 10 Marks

iii. * Even Semester:

25 Marks maximum for Sports/NCC/Cultural/Co-curricular/NSS activities as per following: (by In-charge Sports/NCC/Cultural/Co-curricular/NSS)

- a) State/National Level participation
- b) Participation in two of above activities
- c) Inter-Polytechnic level participation
- d)

**Odd Semester:

25 Marks maximum

- a) Language Lab Practices
- b) Group Discussion and Personality Development
- c) Industrial Visits/Industrial Talks
- d) Power Point Presentations and Resume Making
- e) Development of Aptitude and Reasoning Skills
- f) Participation in the technical Exhibitions, Symposiums, Seminars, Workshops at the Institute /District/State/National Level.

Humanities & Social Science	1.4 Communication Skills in English	L	T	P
		3	-	2

COURSE OBJECTIVES

Communication Skills play an important role in career development. This lab course aims at actively involving students in various activities to improve their communication skills with an emphasis on developing personality of the students.

COURSE OUTCOMES

After undergoing this course, the students will be able to:

CO1: Explain the fundamentals and principles of effective communication and apply appropriate communication tools in professional contexts

CO2: Demonstrate effective listening and speaking skills using appropriate pronunciation and professional soft skills

CO3: Read and interpret professional and technical texts to extract relevant information

CO4: Apply correct grammar and vocabulary in written and spoken communication

CO5: Write clear and grammatically correct professional documents and formal correspondence

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning	PSO1	PSO2
CO1	3	2	-	1	-	1	3	*	*
CO2	3	3	-	-	2	3	3	*	*
CO3	3	3	2	-	-	2	3	*	*
CO4	3	2	-	-	2	2	3	*	*
CO5	3	2	2	1	2	2	2	*	*

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

COURSE CONTENTS

Unit -1 Communication: Theory and Practice (08 Periods)

- 1.1 Basics of Communication, Definition, Process of Communication
- 1.2 Types of communication (formal and informal, verbal and non-verbal), 7 C's of Communication
- 1.3 Barriers to communication and ways to overcome them
- 1.4 Tools or devices of Communication

Unit – 2 Soft Skills for Professional Excellence (04 Periods)

- 2.1 Introduction to Soft skills and hard skills
- 2.2 Importance of soft skills

Unit – 3 Reading Comprehension: Unseen Passages (08 Periods)

- 3.1 Introduction to Reading Comprehension
- 3.2 Questions & Answers
- 3.3 Prefix & Suffix
- 3.4 Antonyms & Synonyms

Unit: 4 Functional Grammar (08 Periods)

- 4.1 Sentence and its Types
- 4.2 Parts of Speech
- 4.3 Tenses
- 4.4 Active and Passive Voice
- 4.5 Punctuation

Unit: 5 Professional Writing (14 Periods)

- 5.1 CV Writing, Resume, Covering Letter
- 5.2 Agenda, Minutes of Meeting
- 5.3 Notices
- 5.4 Official Letters: Memo, Circular, Office Orders
- 5.5 Letter-Reports
- 5.6 E-mail Drafting

LIST OF PRACTICALS

Unit-1 Listening Skills

- 1.1 Introduction to listening process and practice
- 1.2 Listening to lectures/speeches/poems/interviews and Dialogues

Unit 2 Beginning to Express

- 2.1 Introducing Self and Others
- 2.2 Extempore- Just a minute session
- 2.3 Scenario and role-based conversations (e.g. Manager and Team; Customer and Salesperson)
- 2.4 Leave taking

Unit 3 Speaking Skills

- 3.1 Talking about likes and dislikes
- 3.2 Asking questions-polite responses
- 3.3 Apologizing & forgiving
- 3.4 Complaining & Warning

Unit 4 Steps Towards Future

- 4.1 Delivering formal speeches
- 4.2 Mock Interviews
- 4.3 Presentation
- 4.4 Group Discussion

INSTRUCTIONAL STRATEGY

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

RECOMMENDED BOOKS

1. Communicating Effectively in English, Book-I by RevathiSrinivas; Abhishek Publications, Chandigarh.
2. Communication Techniques and Skills by R. K. Chadha; DhanpatRai Publications, New Delhi.
3. High School English Grammar and Composition by Wren & Martin; S. Chand & Company Ltd., Delhi.
4. Excellent General English-R.B.Varshnay, R.K. Bansal, Mittal Book Depot, Malhotra
5. The Functional aspects of Communication Skills – Dr. P. Prasad, S.K. Katria& Sons, New Delhi
6. Q. Skills for success – Level & Margaret Books, Oxford University Press.
7. E-books/e-tools/relevant software to be used as recommended by AICTE/UPBTE/NITTTR.
8. English for Communication (text Book Published by IRDT, Kanpur 1998).

Websites for Reference:

1. [http://www.mindtools.com/ page 8.html](http://www.mindtools.com/page 8.html) – 99k
2. <http://www.letstalk.com.in>
3. <http://www.englishlearning.com>
4. <http://learnenglish.britishcouncil.org/en/>
5. <http://swayam.gov.in>

SUGGESTED DISTRIBUTION OF MARKS

Unit No.	Time Allotted (Periods)	Marks Allotted (%)
1	8	20
2	4	10
3	8	20
4	8	20
5	14	30
Total	42	100

1.2	FASHION DESIGN CONCEPT	L	T	P
THEORY		4	-	-

COURSE OBJECTIVE

The importance of the paper lies in the fact that it enables the student to develop a proper concept of fashion and its trends.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Use Industry Technology.
- CO2- Apply knowledge and terminology for fashion language.
- CO3- Identify, analyze and apply trends in the fashion Industry.
- CO4- Develop a sketch book of Fashion croquis. {Male & Female sketches}
- CO5- Understand the evolution of garments and accessories in Ancient, Medieval, and Modern India.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	2	2	3	2	3	2	1
CO2	3	2	2	-	1	2	-
CO3	2	3	2	2	2	2	1
CO4	2	2	3	-	2	1	-
CO5	3	2	1	-	1	2	2

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. INTRODUCTION:

(10 periods)

Meaning of fashion, its classification & types. Understanding of Fashion Design & Fashion technology. Why fashion? How to keep in touch with the latest fashion? Selecting Fashion for oneself. Fashion Industry & its Scope.

2.FASHION TERMINOLOGY: (10 periods)

Fashion terminologies.Fashion industry language guide, Dictionary of Fashion terms.

3.DISTINGUISHED FASHION DESIGNERS: (10 periods)

Introduction to Fashion designers of National & International fame & their views. Future forecasting of Fashion trends - Analytical approach with respect to design & involvement of technology.Fashion designers & Technologist of Tomorrow. Know the famous labels &International producers of today.

4.FASHION ILLUSTRATION: (10 periods)

Definition, Importance & Role of Fashion illustration in today's competitive fashion world.Methods & their application.

5.HISTORY OF FASHION: (10 periods)

5.A Garments and accessories worn during the Ancient Indian Period, the Medieval Indian Period and the Modern Indian Period.

5.B Garments and accessories worn in different Indian State-Kashmir, Punjab, Rajasthan, Bengal, Uttar Pradesh, Maharashtra, Eastern States, South India.

5.C Western , Egyptian, Greek and Roman fashion

5.D Twentieth and Twenty First Century Fashion Trends.

6.WAXING & WANING OF FASHIONS: (6 periods)

Causes. Fashion occasions in social life, formal gatherings, Fashion cycle.

INSTRUCTIONAL STRATEGY

Teacher should encourage student to adopt their artistic abilities to support their future design careers.

MEANS OF ASSESSMENT

- Assignments and quiz/class tests.
- Mid term and end term written test.
- Presentation

RECOMMENDED BOOKS

- Element of fashion and Apparel Design by Sumathi G J: New Age international limited, Publications.
- Fashion Design and Technology by Gayatri Verma.
- Comdex fashion Design by Vikas Gupta, Navneet Kaur: Wiley India Pvt.Limited.

Websites for Reference:

- <https://www.tandfonline.com>
- <https://fashioninsiders.co>
- <https://en.m.wikipedia.org>
- <https://www.instyle.com>

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	10	15
2	10	15
3	10	20
4	10	15
5	10	20
6	6	15
Total	56	100

1.3	BASIC DESIGN AND SKETCHING	L	T	P
PRACTIUM		1	-	6

COURSE OBJECTIVE

A student of fashion designing must have a well-developed aesthetic sense to recognize beauty in objects and a capability to make best use of the experience in designing and developing fashion objects. The paper aims to develop such capability in the student by essential knowledge and practice.

Note:

The lecturer/demonstration will go along in the drawing room. Four periods in tutorial are to be utilized in practice of the problems relevant to topics in the paper plus problems depending upon teacher fancy. A half imperial size file is to be maintained for sketching, colouring, designs and drawings. At least 25 exercises. Student should be given demonstration on computer also in developing designs and taking out their prints.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Draw complex and Geometric Objects.
- CO2- Understanding and application of principal of design.
- CO3- Drawing of Traditional and Modern art forms in colour.
- CO4- Understanding Illusion and its impact on drawings.
- CO5- Draw still life composition, Prismatic object, human Hand and Foot, animal.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	3	1	3	1	1
CO2	3	3	2	2	2	1	2
CO3	2	3	3	2	3	2	2
CO4	2	2	3	3	2	1	2
CO5	3	3	3	2	3	1	2

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. INTRODUCTION: (2 periods)

- (1.a) Medium of Expression: Water-Based Mediums, Oil-Based Mediums, Dry Mediums, Ink-Based Mediums
- (1.b) Tools & Materials: T-Square, Set Squares, Drawing Board. Compass. Liner & Equipment for creating Textures.

2. ELEMENTS OF DESIGN: (3 periods)

Dots; Lines (thick, thin, Straight, Curve, Wavy, Vertical, Horizontal & Diagonal Lines); Shapes (Geometrical: Circle, Square, Triangle, Rectangle etc. & Natural shapes: Birds, Trees, Plants, Flowers, Leaves, Foliage etc.); Colours (Primary, Secondary, Tertiary Colours. Warm & Cool Colours), Colour Theory, Colour scheme; Texture (Actual and visual texture); Space (Positive and negative space); Form; Value

3. PRINCIPLES OF DESIGN: (2 periods)

Balance, Contrast, Emphasis, Movement, Pattern, Rhythm, Proportion, Unity

4. PRACTICE OF FOLLOWING ARTS FORMS IN COLOUR: (2 periods)

- (4.a) Traditional & Modern (b) Folk & Geometrical

5. CONCEPT OF ILLUSION IN ART EXPRESSION: (2 periods)

Optical Illusion, Three-Dimensional effect

6. SKETCHES: (3 periods)

Following to be Sketched in different media, i.e.- Pencil/Ink/crayons/Water Colour.

- (6.a) Flowers & Twigs
- (6.b) Trees foliage
- (6.c) Vegetables & Fruits
- (6.d) Human & Animal Figures
- (6.e) Birds
- (6.f) Landscape
- (6.g) Motifs
- (6.h) Designs for Embroidery

List of Practical

- Make composition using different medium of expression

- Using Elements of Design make different compositions
- Draw abstract based on Principle of Design
- Exploring designs based on negative and positive space
- Make sketches inspired by nature using different media

INSTRUCTIONAL STRATEGY

-Since this subject is practice oriented, the teacher should demonstrate the capabilities of Design & Sketching.

MEANS OF ASSESSMENT

- Assignments and quiz/class tests.
- Actual Practical work.
- Model Making.
- Presentation

RECOMMENDED BOOKS

- Observational sketching by mariko Higaki. Rockport Publication.
- Drawing Made easy by Subodh Narvekar and Avdhut Narvekar Navneet Publication.
- Basic Drawing by Christopher Hart Watson-Guption Publication.

Websites for Reference:

- <https://www.hongkiat.com>
- <https://www.Designsketchbook.com>
- <https://www.udemy.com>

1.4	EMBROIDERY	L	T	P
PRACTICUM	(Common with one year PG Diploma in Fashion Technology)	1	-	6

COURSE OBJECTIVE

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 cannot be ignored in fashion designing curriculum.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1- Create embroidery patterns
- 2- Recognize different Indian state embroideries
- 3- Use embroidery stitches and patterns to enhance garment designs
- 4- Trace and transfer embroidery patterns on fabric

Note: Lecturer/Demonstration will go along followed by practice during practical periods. At least 20 exercises (Patterns) of different kinds relevant topics in the paper. Student should be given demonstration of these exercises on computer also. There will not be any theory examination.

DETAILED CONTENTS

1. Introduction of the appropriate tools, machines and materials for hand and machine embroidery work. (03 Periods)
2. Knowledge of tracing design on various types of embroidery materials. (02 Periods)

EMBROIDERY:

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

3. HAND EMBROIDERY: (03 Periods)

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, Cross- stitch.

4. FANCY EMBROIDERY WORK: (03 Periods)

- (4.a) Applique work (Blind, Net, lace, figure appliques)
- (4.b) Patch work (c) Bead work
- (4.c) Ribbon work(e) Punch work
- (4.d) Laid work

- (4.e) Zari work
- (4.f) Shadow work
- (4.g) Quilting
- (4.h) Smocking

5. **TRADITIONAL INDIAN EMBROIDERY:**

(03 Periods)

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

LIST OF PRACTICAL

Prepare a file of with the embroidery samples based on

- Hand embroidery
- Machine embroidery
- Fancy Embroidery

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students can understand where and how the various instruments are used in the industry.

MEANS OF ASSESSMENT

- Model/ Patternmaking
- Actual practical work
- Viva-Voce

RECOMMENDED BOOKS

1. Good House Keeping- Step-by-step Encyclopedia of needle craft by Judy Brittain Publication Darling Kindersley Ltd.
2. Dictionary of Stitches by Sheila Brull, Publication: Canvendish House
3. Embroidery in Fashion by Annwen Nicholas and Daphane Teague, Publication Pitam Publishing

Websites for Reference:

1. www.embroiderydesignsforfree.com
2. www.sewguide.com/hand-embroidery-stitches

1.5	INDUSTRIAL MACHINE TOOL & EQUIPMENTS	L	T	P
Practicum		2	-	4

COURSE OBJECTIVE

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

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understanding the Industrial machine and tools.
- CO2- Elementary idea of operation of various attachments of sewing machines.
- CO3- Understanding the different types of swing machine operations.
- CO4- Application of Machine adjustments and its effect.
- CO5- Understanding the Maintenance of Machines; Cleaning and lubrication.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	2	1	3	1	1
CO2	3	2	3	1	3	1	1
CO3	3	2	3	1	3	1	1
CO4	3	3	3	2	3	1	1
CO5	2	2	2	1	3	2	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

SEWING MACHINES:

1. 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.

Periods)

(6

2.Attachment: (Elementary idea of operation) Pressure foot, Folders, Seam Guide, Special Attachments.

(5 Periods)

3.Principles of operation of special purpose/basic machines: Lockstitch, chainstitch, overlock, blind stitch, button hole, and button stitching machines, long stitching machine, zigzag machine, double needle machine, tacking machine, blind stitch machine, presses, fusing presses, cutting and laying up machines.

(6 Periods)

4. Machine adjustments and the effect of these adjustments.

(5 Periods)

5.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.

(6 Periods)

Tools and Equipment's:

1.Cutting equipment: Use and care of scissors, shears, pinking scissors.

2.Sewing Tools: Use and care of needles, pins, thimble, tape measure, ruler, square adjustable gauge, skirt marker, French curve.

3.Marking Tool:Use of tracing paper, tracing wheel, tailors chalk.

4.Miscellaneous Tools: Bobbin, button hole scissors, eyelets, electric iron, steam iron.

LIST OF PRACTICALS

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 buttonhole 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 zigzag machine.

7. Operation cleaning lubrication and adjustments of arm stitching machine.

INSTRUCTIONAL STRATEGY

The Subject require both theory and practical emphasis simultaneously so that student can understand practical significance of practical areas.

MEANS OF ASSESSMENT

- Assignment / quiz / class test.
- Mid term and End term written test.
- viva-voce.

RECOMMENDED BOOKS

- machine Tool design and numerical control By N K Mehta, McGraw Hill Publication.
- Technology of machine Tool By Steve F Krar, McGraw Hill Publication.

Websites for Reference:

- <https://industrialmachinetool.com>
- [https:// www.britannica.com](https://www.britannica.com)
- <https://en.m.wikipedia.org>.

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	6	15
2	5	15
3	6	15
4	5	20
5	6	35
Total	28	100

1.6	SPORTS AND YOGA	L	T	P
Humanities Course		-	-	2

Course Objectives:

- To make the students understand the importance of sound health and fitness principles as they relate to better health.
- To expose the students to a variety of physical and yogic activities aimed at stimulating their continued inquiry about Yoga, physical education, health and fitness.
- To create a safe, progressive, methodical and efficient activity based plan to enhance improvement and minimize risk of injury.
- To develop among students an appreciation of physical activity as a lifetime pursuit and a means to better health.

Course Content:

- **Introduction to Physical Education**
 - Meaning & definition of Physical Education
 - Aims & Objectives of Physical Education
 - Changing trends in Physical Education
- **Olympic Movement**
 - Ancient & Modern Olympics (Summer & Winter)
 - Olympic Symbols, Ideals, Objectives & Values
 - Awards and Honours in the field of Sports in India (Dronacharya Award, Arjuna Award, Dhyan Chand Award, Rajiv Gandhi Khel Ratna Award etc.)
- **Physical Fitness, Wellness & Lifestyle**
 - Meaning & Importance of Physical Fitness & Wellness
 - Components of Physical fitness
 - Components of Health related fitness

- Componentsofwellness
- PreventingHealthThreatsthroughLifestyleChange
- ConceptofPositiveLifestyle
- **FundamentalsofAnatomy&PhysiologyinPhysicalEducation,SportsandYoga**
 - DefineAnatomy,Physiology&ItsImportance
 - EffectofexerciseonthefunctioningofVariousBodySystems.(CirculatorySystem,Respi-ratorySystem, Neuro-MuscularSystem etc.)
- **Kinesiology,Biomechanics&Sports**
 - Meaning&ImportanceofKinesiology&BiomechanicsinPhysicalEdu.&Sports
 - Newton'sLawofMotion&itsapplicationinsports.
 - Frictionanditseffectsinsports.
- **Postures**
 - MeaningandConceptofPostures.
 - CausesofBadPosture.
 - Advantages&disadvantagesofweighttraining.
 - Concept&advantagesofCorrectPosture.
 - CommonPosturalDeformities–
KnockKnee;FlatFoot;RoundShoulders;Lordosis,Kyphosis,BowLegs
andScoliosis.
 - CorrectiveMeasuresforPosturalDeformities
- **Yoga**
 - Meaning&ImportanceofYoga
 - ElementsofYoga
 - Introduction-Asanas,Pranayama,Meditation&YogicKriyas
 - Yogaforconcentration&relatedAsanas(Sukhasana;Tadasana;Padmasana&
Shashankasana)
 - RelaxationTechniquesforimprovingconcentration-Yog-nidra
- **Yoga&Lifestyle**
 - Asanasaspreventivemeasures.
 - Hypertension:Tadasana,Vajrasana,PavanMuktasana,ArdhaChakrasana,Bh
ujangasana,Sharasana.

- Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, ArdhMatsyendrasana.
- Back Pain: Tadasana, ArdhMatsyendrasana, Vakrasana, Shalabhasana, Bhujangasana.
- Diabetes: Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana, Pawanmuktasana, ArdhMatsyendrasana.
- Asthma: Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana.
- **Training and Planning in Sports**
 - Meaning of Training
 - Warming up and limbering down
 - Skill, Technique & Style
 - Meaning and Objectives of Planning.
 - Tournament–Knock-Out, League/Round Robin & Combination.
- **Psychology & Sports**
 - Definition & Importance of Psychology in Physical Edu. & Sports
 - Define & Differentiate Between Growth & Development
 - Adolescent Problems & Their Management
 - Emotion: Concept, Type & Controlling of emotions
 - Meaning, Concept & Types of Aggressions in Sports.
 - Psychological benefits of exercise.
 - Anxiety & Fear and its effect on Sports Performance.
 - Motivation, its type & techniques.
 - Understanding Stress & Coping Strategies.
- **Doping**
 - Meaning and Concept of Doping
 - Prohibited Substances & Methods
 - Side Effects of Prohibited Substances

- **SportsMedicine**

- FirstAid–Definition,Aims&Objectives.
- Sportsinjuries:Classification,Causes&Prevention.
- ManagementofInjuries:SoftTissueInjuriesandBone&JointInjuries

- **Sports/Games**

Following sub topics related to any one Game/Sport of choice of student out of: Athletics,Badminton, Basketball, Chess, Cricket, Kabaddi, Lawn Tennis, Swimming, Table Tennis, Volleyball,Yogaetc.

- Historyof theGame/Sport.
- LatestGeneralRulesoftheGame/Sport.
- SpecificationsofPlayFieldsandRelatedSportsEquipment.
- ImportantTournamentsandVenues.
- SportsPersonalities.
- ProperSportsGearanditsImportance.

References:

1. ModernTrendsandPhysicalEducationbyProf.AjmerSingh.
2. LightOnYogaByB.K.S.Iyengar.
3. HealthandPhysicalEducation–NCERT(11thand12thClasses)

CourseOutcomes:

Onsuccessfulcompletionofthecoursethestudentswillbeableto:

- (i) PracticePhysicalactivitiesandHathaYogafocusingonyogaforstrength,flexibility, andrelaxation.
- (ii) Learntechniquesforincreasingconcentrationanddecreasinganxietywhichleadsto strongeracademicperformance.
- (iii) Learnbreathingexercisesandhealthyfitnessactivities
- (iv) Understandbasicskillsassociatedwithyogaandphysicalactivitiesincludingstrengt h andflexibility,balanceandcoordination.
- (v) Performyogamovementsinvariouscombinationandforms.
- (vi) Assesscurrentpersonalfitnesslevels.
- (vii) Identifyopportunitiesforparticipationinyogaandsportsactivities.
- (viii) Developunderstandingofhealth-relatedfitnesscomponents:cardiorespiratoryendurance,flexibilityandbodycomp ositionetc.
- (ix) Improvepersonalfitnessthroughparticipationinsportsandyogicactivities.
- (x) Developunderstandingofpsychologicalproblemsassociatedwiththeageandlifesty le.

- (xi) Demonstrate an understanding of sound nutritional practices as related to health and physical performance.
- (xii) Assess yoga activities in terms of fitness value.
- (xiii) Identify and apply injury prevention principles related to yoga and physical fitness activities.
- (xiv) Understand and correctly apply biomechanical and physiological principles related to exercise and training.

2.1	TEXTILE SCIENCE (Common with one year PG Diploma in Fashion Technology)	L	T	P
PRACTICUM		3	-	4

COURSE OBJECTIVE

A diploma holder in Fashion Designing, has to interact with skilled labor on one hand and he/she has to assist his/her seniors in the procurement of raw materials and various types of fabrics on the other. Therefore, he/she should be equipped with the technique of selecting textile and synthetic fibers by visual inspection and laboratory tests, processing of fabrics, dyeing of fabrics etc.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Identify and differentiate between different kinds of fibres.
- CO2- Dye fabrics and yarns
- CO3- Understanding of Hand and machine Knitting.
- CO4- Understanding different types of Weaves.
- CO5- Understanding different types of Tie & Dye & Batik Techniques

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	1	1	2
CO2	2	2	3	1	2	2	2
CO3	2	2	3	1	2	1	2
CO4	3	2	2	1	2	1	1
CO5	2	2	3	1	2	2	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. Textile Fibres

(8 Periods)

1.1 Classification of textile fibres and their general & essential properties and their use

Natural fibres: Animal, Vegetable, Mineral Fibres

Man – made Fibres:

- (a) Regenerated fibers.- Rayon (Viscose, Acetate, Cupra ammonium)
- (b) Synthetic fibers - Nylon, Polyester (Terelene/Dacron), Acrylic (Orlon)

1.2 Identification of textile fibres: Visual inspection, Burning test, Chemical test (elementary)

1.3 Elementary knowledge of blends

2. Textile Yarns

(6 Periods)

2.1 Types of yarn: Staple, filament, Single, ply, core-spun, textured yarn, fancy yarns (slub, boucle, chenille)

2.2 Yarn numbering system, yarn twist and yarn ply

3. Elementary Knowledge of Knitting

(06 Periods)

3.1 Knitting Terminology and knitting software

3.2 Hand Knitting - Basic stitches

3.3 Machine knitting – circular Knitting and Flat knitting

4. Woven Fabric Construction

(6 Periods)

4.1 Classification of woven fabrics

4.2 Elementary knowledge of different processes involved in the conversion of yarn into fabric.

4.3 Weaves: Types of weaves Simple weaves - Plain, Twill, Satin and Sateen

5. Dyeing

(10 Periods)

5.1 Classification of dyes

a: Natural Dyes

-Vegetable

-Animal

-Mineral

b: Synthetic dyes

-Disperse

-Acid

-Basic

- Pigments

c: Eco-friendly dyes

5.2 Different types of dyeing methods (Batik, Tie and dye etc.)

5.3 Factors which effect fading of dyed fabrics

(6 Periods)

(i) Light

(ii) Humidity

(iii) Perspiration

(iv) Gas fumes

(v) Laundering

(vi) Heat

6. Printing

(06 Periods)

a- Vegetable printing

b- Block printing

c- Screen printing

LIST OF PRACTICALS

Practical's Based on Theory

1. Identification of fibres. (Natural & Man made fibres)
2. Study of fabric structure to identify basic weaves.
3. To prepare an article in
 - Batik
 - Tie and dye
 - Block printing
 - Stencil or spray printing.
4. Basic knitting by hand knit stitch, rib stitch, slip stitch, Knitting of socks, booties, cap, sweaters.

INSTRUCTIONAL STRATEGY

The subject requires both theory and practical emphasis simultaneously, so that the student can understand the practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students can understand where and how the various instruments are used in the industry.

MEANS OF ASSESSMENT

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Model making
- Actual practical work
- Viva-Voce

RECOMMENDED BOOKS

1. Vastravigyan Avam Paridhan by Dr. Pramilla Verma, Publication: Rajhans Press Publications
2. Textile Fibre & Fabric by M. David Potter, Publication Haryana Sahitya Academy.
3. Fundamentals of Textiles and their Care (Fourth Edition) Vol 1 & 2 by Susheela Dantiyagi, Publication: Orient Longman.

Websites for Reference:

- 3.1. www.en.wikipedia.org
- 3.2. www.britannica.com

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	8	18
2	6	10
3	6	18
4	6	18

5	10	20
6	6	16
TOTAL	42	100

2.2	BASIC STITCHING TECHNIQUES	L	T	P
PRACTICUM		1	-	8

COURSE OBJECTIVE

The objective of this paper is to make students familiar with selection and matching the thread with fabrics, basic stitches, seams, decorative, stitches, different types of plackets, design and putting in different types of pockets, waist bands, sleeves, collars and fasteners etc.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1- Stitch different types of stitches.
- 2- Coordinate with cognitive development and the development of motor skill.
- 3- Encourage creative thinking and enhance Knowledge.

DETAILED CONTENTS

1. Selection and matching the thread and needle with the fabric.
2. Basic stitches with hand and sewing machine. Construction of marking, running, button hole, hemming, individual hemming, blind stitch. Temporary and permanent stitches and their use.
3. Construction and finishing of seams : Plain, french, flat, lapped, crossed, curved, angled, pinking, over base, binding
4. Construction of following:
 - Different types of plackets
 - Different types of fasteners
 - Waist bands
 - Pockets
5. Making and fixing of plain, puff, flared, butterfly sleeve
6. Making and fixing of shirt collar, jabot, peter pan and tailor collar
7. Fabrication of Baby Panty, Jhabla, Sunsuit, Combination Suit, Baby Frock, Night Suit

LIST OF PRACTICALS

1. Demonstration on use of sewing machine

2. Practice of making basic stitches and seams
3. Practice of making sleeves
4. Making of different types of collar
5. Practice on fabrication of garments studied in Drafting and Patternmaking I

INSTRUCTIONAL STRATEGY

The teacher should demonstrate the capabilities of the student while doing practical work.

MEANS OF ASSESSMENT

- Model Making
- Actual Practical work
- viva-voce

RECOMMENDED BOOKS

- Sewing Basics by Sandra Bardwell Harry N. Abrams, Publication.

Websites for Reference:

- www.moodfabrics.com

2.3	DRAFTING AND PATTERN MAKING-I	L	T	P
PRACTICUM		1	-	8

COURSE OBJECTIVE

This paper will make students familiar with human anatomy, measurement methods, measurement charts, difference between paper pattern and drafting, figure types and figure defects. The student will also be equipped with the knowledge of operation of equipment used in drafting.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1-Understood of the Drafting terms.
- 2-Make drafts and Patterns of different Garment and design for children and ladies.
- 3-Do pattern layouts along with estimation and casting of Garments.
- 4-Cover figure objects through illusion of drafting and design.

DETAILED CONTENTS

- 1.Scope and importance of drafting and pattern making, terminology, drafting equipment and its uses, Difference between drafting and patterns
2. Study of human body with reference to Skelton, muscles, joints, organs, growth of body, various considerations in making of cloth, Different figure types and figure defects
3. Various methods of taking measurements on the body, Sequence of recording measurements, Study of measurement charts
4. Types of layouts, Principles of layout, Importance of layout Drafting and Pattern Layout

LIST OF PRACTICALS

1. Practice on taking measurements directly from body and from readymade garments
2. Kids basic bodice Block and kids Sleeve Block
3. Types of sleeves: Plain, Puff, Flared, Leg O Mutton, Cap, Magyar, Dolman, Butterfly, Raglan, Kimono, set-in sleeve, tulip, full sleeves with cuff, lantern sleeve
4. Types of Collars: Peter pan (Single and 2 Piece), Cape, Tennis Collar, Sailors, shirt collar, jabot
5. Practice in drafting, layout and estimation of different types of kidswear: Baby Panty, Jhabla, Sunsuit, Combination Suit, Baby Frock, Night Suit

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate the capabilities of Drafting to students while doing practical exercises.

MEANS OF ASSESSMENT

- Model/ Pattern making
- Actual practical work
- Viva-Voce/ Presentation

RECOMMENDED BOOKS

1. Zarapkar System of Cutting by Shri K. R. Zarapkar, Publication: Navneet Publications.
2. Pattern Grading for Women's Clothing by GekeyCooklins, Publication: Blackwell Science
3. Rapidex Home Training Course by Asha Rani Vohra, Publication: PustakMahal
4. Encyclopedia of Dress Making by Marshall Cavendish Marshall Cavendish Books Ltd. 58 Old CambtonStreet .
5. Basic Fashion by Wardrobe Pamelalee Singer Co.,(U.K.) Ltd.
6. Dress Making Ronkelty Terry Evon Himalayan Publishing Group LTd. Landon

Websites for Reference:

1. www.textileschool.com
2. www.clothingindustry.blogspot.com

2.3 INTRODUCTION TO IT AND AI

L T P
2 - 4

COURSE OBJECTIVES:

Information technology has great influence on all aspects of life. Primary purpose of using computer is to make the life easier. Almost all work places and living environment are being computerized. The subject introduces the fundamentals of computer system for using various hardware and software components. In order to prepare diploma holders to work in these environments, it is essential that they are exposed to various aspects of information technology such as understanding the concept of information technology and its scope; operating a computer use of various tools using MS Office/Open Office/Libre Office using internet etc., after the introductory knowledge of IT tools and definitions it is required to know new age technology of industry 4.0,. to fulfil this objects, we also introduced the fundamental of artificial intelligent (AI) & Its application in several areas for broad competency profile of diploma holders. This exposure will enable the students to enter their professions with confidence, live in a harmonious way and contribute to the productivity.

COURSE OUTCOMES

After undergoing the subject, the students will be able to:

CO1:

Explain the basic concepts of computers, their generations, components, memory types, and commonly used input and output devices.

CO2:

Demonstrate the use of operating systems and application software including document creation, spreadsheets, presentations, and basic system utilities.

CO3:

Describe the fundamentals of computer networking and the Internet, including network types, connecting devices, IP addressing, and web-based services such as email and search engines.

CO4:

Identify information security principles and cyber threats, and explain basic protection mechanisms, cyber security practices, and relevant cyber laws.

CO5:

Explain the fundamentals of Artificial Intelligence, including types of AI, differences between AI, Machine Learning, and Deep Learning, and demonstrate basic interaction with AI tools using prompt engineering

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning	PSO1	PSO2
CO1	3	1	-	2	-	-	1	*	*
CO2	2	1	1	3	-	1	2	*	*
CO3	2	2	1	2	1	-	2	*	*
CO4	2	2	1	1	2	-	2	*	*
CO5	2	2	2	3	1	1	3	*	*

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

COURSE CONTENTS

1. Introduction to Computers and Peripherals. (05 Periods)

Introduction, Computer Generations, Components of Computer, Types of Computers, CPU, Memory & its types, Input & Output devices, Printer, Scanner, Modem, Sound Cards, CMOS battery, Sharing of Printers.

2. Operating System and Application Software (06 Periods)

System Software, Application Software, Utility Software, MS Office/Open Office/Office 365: Creation of document, Spreadsheets and Presentation, working with windows OS, Desktop components, Menu bars, Creating shortcut of program. Google Suits (Google drive, google sheet, google doc, google presentation), Installation of Application software's, Antivirus and Drivers.

3. Internet (06 Periods)

Network topologies, Basics of Networking, – LAN, MAN, WAN, Connecting Devices (Bridge, Switch, Router, Gateway), Wi-Fi technologies, Concept of IP Address, DNS, Search Engines, e- mail, Web Browsing.

4. Basics of Information Security (05 Periods)

Introduction to security, CIA Triads, Security threats: Virus, Worms, Malware, Trojan Horse, Detection and prevention, Types of Attacks: Active Passive attacks, Cyber Security & Frauds, Access control Biometrics, Indian Cyber laws.

5. Fundamentals and Applications of Artificial Intelligence: (06 Periods)

Definition and scope of AI, History and evolution of AI, Types of AI (Narrow AI, General AI, Super AI), Difference among AI, Machine Learning and Deep Learning, Basic Introduction to Popular Tools: ChatGPT, Gemini and other text, audio and video generator tools. The basics of talking to AI: Prompt Engineering, Introduction to Heuristic Search Techniques (Uninformed and Informed search).

Applications and use cases of AI: AI in healthcare, AI in finance, AI in agriculture, AI in education, AI in cyber security etc.

LIST OF PRACTICAL EXERCISES

1. Identify various components, peripherals of computer and list their functions.
2. Installation of operating system. (windows/linux/others)
3. Installation of various application software and peripheral drivers.
4. Creation and Management of files and folders (Rename, delete, search)
5. Installation of Antivirus and remove virus.
6. Scanning and printing documents.
7. Browsing, Downloading, Information using Internet.
8. E-Mail ID creation, composing, sending and receiving e-mail. Attaching a file with e- mail message.
9. Word Processing (MS Office/Open Office) File Management, Editing documents, Mail Merge, Security etc.
10. Spread Sheet Processing (MS Office/Open office/LibreOffice) Addition, deletion, formulation, Security etc.
11. PowerPoint Presentation (MS Office/Open Office/Libre Office) Preparing Slides, customization, animation, Security etc.
12. Google Suite.
13. Working on Power point presentation, spreadsheet, document preparation using AI tools.
14. Working on Text, Audio and Video using AI tools.
15. Generating different documents by using AI prompts.

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate the capabilities of computers to students while doing practical exercises. The students should be made familiar with computer parts, peripherals, connections and proficient in making use of MS Office/Open Office/Libre office/Google Suit in addition to working on internet. The student should be made capable of working on computers independently.

MEANS OF ASSESSMENT

- Class Tests/Quiz
- Software Installation and Use
- Viva-Voce
- Presentation

RECOMMENDED BOOKS

1. Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd., New Delhi
2. Information Technology for Management by Henery Lucas, Tata McGraw Hills, New Delhi
3. Computers Fundamentals Architecture and Organisation by B Ram, revised Edition, New Age International Publishers, New Delhi

4. Computers Today by SK Basandara, Galgotia publication Pvt Ltd. Daryaganj, New Delhi.
5. Internet for Every One by Alexis Leon and Mathews Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi.
6. A First Course in Computer by Sanjay Saxena; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
7. Computer Fundamentals by PK Sinha; BPB Publication, New Delhi
8. Fundamentals of Information Technology by Leon and Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
9. On Your Marks - Net...Set...Go... Surviving in an e-world by AnushkaWirasinha, Prentice Hall of India Pvt. Ltd., New Delhi
10. Fundamentals of Information Technology by Vipin Arora, Eagle Parkashan, Jalandhar

Reference websites

1. www.sf.net
2. Gsuite.google.com
3. Spoken-tutorial.org
4. Swayam.gov.in

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	5	18
2	6	21
3	6	18
4	5	21
5	6	22
Total	28	100

2.5	ENVIRONMENTAL SCIENCE	L	T	P
AUDIT COURSE		3	-	-

Course Objectives:

Technicians working in industries or elsewhere essentially require the knowledge of environmental science so as to enable them to work and produce most efficient, economical and eco-friendly finished products.

- ☐ Solve various engineering problems applying ecosystem to produce eco – friendly products.
- ☐ Use relevant air and noise control method to solve domestic and industrial problems.
- ☐ Use relevant water and soil control method to solve domestic and industrial problems.
- ☐ To recognize relevant energy sources required for domestic and industrial applications.
- ☐ Solve local solid and e-waste problems.

Course Content:

Pre requisite: - High School Chemistry

Unit-1 Ecosystem

Structure of ecosystem, Biotic & Abiotic components Food chain and food web

Aquatic (Lentic and Lotic) and terrestrial ecosystem Carbon, Nitrogen, Sulphur, Phosphorus cycle.

Global warming -Causes, effects, process, Green House Effect, Ozone depletion

Unit– 2 Air and, Noise Pollution

Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refrigerants, I.C., Boiler)

Air Pollutants: Types, Particulate Pollutants: Effects and control (Bag filter, Cyclone separator, Electrostatic Precipitator)

Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler

Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution Noise pollution (Regulation and Control) Rules, 2000

Unit- 3 Water and Soil Pollution

Sources of water pollution, Types of water pollutants, Characteristics of water pollutants Turbidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation Waste Water

Treatment: Primary methods: sedimentation, froth floatation, Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor, Tertiary Method: Membrane separation technology, RO (reverse osmosis). Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste.

Unit– 4 Renewable sources of Energy

Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate collector. Importance of coating. Advanced collector. Solar pond. Solar water heater, solar dryer. Solar stills.

Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas.

Wind energy: Current status and future prospects of wind energy. Wind energy in India. Environmental benefits and problem of wind energy.

New Energy Sources: Need of new sources. Different types new energy sources. Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.) Concept, origin and power plants of geothermal energy.

Unit-5 Solid Waste Management, ISO 14000 & Environmental Management 06 hours

Solid waste generation- Sources and characteristics of : Municipal solid waste, E- waste, bio-medical waste.

Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries.

Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous waste

Air quality act 2004, air pollution control act 1981 and water pollution and control act 1996.

Structure and role of Central and state pollution control board.

Concept of Carbon Credit, Carbon Footprint. Environmental management in fabrication industry. ISO14000:

Implementation in industries, Benefits.

References:

(a) Suggested Learning Resources:

Books:

1. S.C. Sharma & M.P. Poonia, Environmental Studies, Khanna Publishing House, New Delhi
2. C.N. R. Rao, Understanding Chemistry, Universities Press (India) Pvt. Ltd., 2011.

3.1	DESIGN IDEAS	L	T	P
PRACTICUM		2	-	6

COURSE OBJECTIVE

The objective of this paper is to familiarize the students with the factors influencing fashion, garment construction according to the figure size, fashion accessories like neck lines, trimmings, collars, sleeves etc.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understanding factor influencing of fashion.
- CO2- Understanding of normal and abnormal figures.
- CO3- Understanding neckling and collars of garments.
- CO4- Understanding sleeves and pocket of garments.
- CO5- Understanding darts, trucks, pleats and types of skirts.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	2	2
CO2	3	2	2	2	2	1	2
CO3	3	3	3	2	3	1	1
CO4	3	3	3	2	3	1	1
CO5	3	3	3	1	2	3	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. FACTORS INFLUENCING DESIGN OF DRESS: (03 Periods)

Factors influencing fashion; age, gender, physical characteristics, geographical factors, Environmental influences, occasion etc. child/adults/male/female.

2. FIGURE PROPORTIONS: (03 Periods)

Proportionate figure, its characteristics, relation of height to girth. Garments balance as applied to

normal, abnormal and deformed figures.

3.NECK LINES, TRIMMINGS: (02 Periods)

Neck lines Types: Necessity, stitches, trimming used for different shapes.

4.COLLARS: (03 Periods)

Collars: Types, Methods of attaching collars, selection of stitches, precautions for different types of collars, inspection, use of facing.

5.FIXING OF SLEEVES AND CUFFS: (03 Periods)

Sleeves: Types, Method of fabrication, precautions in fabrication, inspection of sleeve and its fitting. Precaution and necessity of fixing cuffs, balls, precautions to be used for their inspection.

6.POSITIONING OF POCKETS & YOKES: (03 Periods)

Types, Positioning the pockets and yokes: Selection of stitches and threads, precautions in stitching and its inspection.

7.LINING & INTERLINING: (03 Periods)

Types, Importance of lining and interlining, method of attaching with different types of garments, matching of lining and their inspection.

8.DARTS, TUCKS, PLEATS: (03 Periods)

Types and Importance of darts, tucks and pleats for proper fitting, their use in different garments, precautions to be taken, checking and mode of alterations for proper fitting.

9.SKIRTS: (03 Periods)

Types of skirts, method of fabrication.

10. BIFURCATED WEAR: (02 Periods)

Types of bifurcated wear, methods of fabrication.

LIST OF PRACTICALS

1. Prepare folders of the following:

- 1.a- Lace folder
- 1.b- Button folder
- 1.c- Snap button folder
- 1.d- Hooks and eye holder
- 1.e- Zip folder

2. Design different types of midi dresses in colour on 1/2 imperial size drawing sheet.
3. Design 10 summer wear with water colours on 1/2 imperial size drawing sheets.
4. On 1/2 imperial size sheet for each group sketch the following:

Group a-Children wear

1. Casual
2. Play time
3. Formal
4. Night wear

Group b-Men's wear

- (i) Sports wear
- (ii) Casual
- (iii) Formal

Group c-Women's wear

- (i) Night wear
- (ii) beach wear
- (iii) Salwarkameez
- (iv) Formal western
- (v) Winter wear (Pullover/knitwear) (vi) Coats/Caps
- (vii) Sari blouse
- (viii) Choli blouse

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students can understand where and how the various instruments are used in the industry

MEANS OF ASSESSMENT

- Model making
- Actual Practical Work
- Viva-voice

RECOMMENDED BOOKS

- Innovative Fashion Sketching By Rita Gersten, Innovative Enterprises publication.
- Rendering fashion Fabric By Steve Greenberg, M.Kathleen Colussy Publication.

Websites for Reference:

- www.wikihow.com
- www.en.wikipedia.org

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	3	8
2	3	10
3	2	7
4	3	11
5	3	10
6	3	12
7	3	10
8	3	11
9	3	11
10	2	10
Total	28	100

3.2	DRAFTING AND PATTERN MAKING-II	L	T	P
PRACTICAL		-	-	10

COURSE OBJECTIVE

The objective of this paper is to acquaint the students with the correct use of equipment, draping cloth into styles pattern making for commercial and individual designing.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- Understand Drafting Terms.
- Make drafts and patterns of different equipment.
- Do pattern Layout.

DETAILED CONTENTS

1. Pattern for individual designing and commercial use
2. Types of Skirts: Straight, Gathered, Flared, Paneled, Yoked, Pleated, Circular.

LIST OF PRACTICALS

1. Adult bodice Block for Ladies, Adult Sleeve Block
2. Drafting and pattern layout of different types of skirts
3. Drafting and pattern layout of different types of Salwar (2 piece), Dhoti Salwar, Patiala
4. Drafting and pattern layout of Straight Pants, Palazzos
5. Drafting and pattern layout of different types of Kurta: Straight, A-Line Kurta
6. Drafting and pattern layout of blouses: Plain and princess line
7. Drafting and pattern layout of Cord-set, Anarkali, House Coats
8. Drafting and pattern layout of Evening Gown, One-piece, Lehenga

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate the capabilities of drafting to students

while doing practical exercises.

MEANS OF ASSESSMENT

- Pattern making
- Actual Practical Work
- viva-voice

RECOMMENDED BOOKS

- Dress Making by Ronkelty Terry Evon, Himalayan Publication.

3.3	GARMENT FABRICATION	L	T	P
PRACTICAL		-	-	10

COURSE OBJECTIVE

The objective of this paper is to familiarize the student regarding fabrication of garments for children and various types of stitches, seams, trimmings, finishing of garments, different types of openings, plackets, fasteners, yokes and fittings etc.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1- Demonstrate the working of sewing machines
- 2- Explain different types of stitches used for making a garment
- 3- Stitch all types of kids and women wear garments
- 4- Address and resolve all types of fitting problems.

DETAILED CONTENTS

1. Importance of fitting, checking for fitting on figures and dummies. Alterations to be done for correct fitting.
2. Method of fabricating various types of yokes, piping, smoking, honey comb, pleats, gathers, tucks, ruffles and flounces, frills, bead work, shirring, ruching.

LIST OF PRACTICAL

1. Fabrication of different types of skirts: Straight, Gathered, Flared, Paneled, Yoked, Pleated, Circular.
2. Fabrication of different types of Salwar (2 piece), Dhoti Salwar, Patiala
3. Fabrication of Straight Pants, Palazzos
4. Fabrication of different types of Kurta: Straight, A-Line Kurta
5. Fabrication of blouses: Plain and princess line
6. Fabrication of Cord-set, Anarkali, House Coats
7. Fabrication of Evening Gown, One-piece, Lehenga

INSTRUCTIONAL STRATEGY

The subject requires both theory and practical emphasis simultaneously, so that the student can understand the practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students can understand where and how the various instruments are used in the industry

MEANS OF ASSESSMENT

- Assignment and quiz/ class test.
- Model Making
- Actual practical Work
- viva-voce

RECOMMENDED BOOKS

- Cutting & Tailoring Course ByGayatri Devi And kapilDevComputech Publications.
- Tailoring Cutting and Fashion Designing, DhanpatRai& Co Pvt Ltd.

Websites for Reference:

- www.textilescience.com

3.4	FASHION RETAIL MANAGEMENT	L	T	P
THEORY		2	-	-

COURSE OBJECTIVE

- The course intends to help the students in exploring the components of the fashion retail industry in India & abroad
- This course intends to dwell at length on the retail formats suitable for the fashion retail industry.
- The course focuses upon the changing power balance in the fashion retail industry within the country and the changing trends being experienced within the fashion retail industry.
- To develop an understanding of the environment developments in Fashion E-Retailing and its merchandising procedures

LEARNING OUTCOMES

After the completion of this course the students will be able to-

- CO1- Demonstrate a clear understanding of the concepts related to fashion retail management.
 CO2- Be able to apply their understanding of comparative fashion retail management to a company.
 CO3- analyze risks involved in fashion retail management
 CO4- Understanding the relevance of fashion e –retailing and analyzing the impact of fashion e-retailing
 CO5- Creating means of E-fashion promotions.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	2	2
CO2	3	3	3	2	3	2	2
CO3	3	3	2	3	2	2	2
CO4	3	2	2	3	2	2	3
CO5	2	3	3	2	3	2	3

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. INTRODUCTION (05 Periods)
Meaning & functions of retail, an overview of the Indian and abroad retail industry, Future of Fashion Retailing in India & abroad, Exclusivity of Fashion Retailing
2. RETAIL MIX AND FORMATS (05 Periods)
Meaning and components of retail mix, Retail as a channel member, Importance of retail mix

for Fashion Retail Industry, Types of retail formats, Formats based on Ownership, Price & Merchandise, fashion products used by various retail formats for attracting customers.

3. **RETAIL DEMAND** (05 Periods)
What are the types of demand & how a fashion retailer deals with them by various strategies. How a fashion retailer deals with customers during peak & lean hours, the differences between the strategies followed by a fashion retailer during economic booms & slumps
4. **RETAIL PRICING AND LOCATION** (05 Periods)
Retail Pricing: factors and pricing, retail pricing strategies.
Retail Location: types of retail location, their features, advantages and disadvantage
5. **FASHION E-RETAILING** (08 Periods)
Fashion E-retailing and its growth patterns, Trends in India in E-Retailing, Segmentation in Fashion E-Retailing, Different Fashion E-retailing sites
Modus –Operandi of various sites, Impact of the modus –operandi on retailers of fashion
Requirement & importance of Photo-shoots, Importance of descriptions, Listings, Return Policies and their impact
Understanding the importance of filters (price, product, product type etc)
E-Promotions: Seller promotions, Vendor Promotions, Ratings and their Relevance

INSTRUCTIONAL STRATEGY

Class room lectures, Case Studies, Presentations, Group Discussion, Projects.

MEANS OF ASSESSMENT

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Actual practical work
- Viva-Voce

RECOMMENDED BOOKS

- Fernie, J., Fernie, S. and Moore, C. (2003), Principles of Retailing, Butterworth-Heinemann
- Granger Michele M. (2007), Fashion: The Industry and Its Careers, Fairchild Publications
- Vogt Peter (2007), Career Opportunities in the Fashion Industry, Checkmark Books
- Iverson Annemarie (2010), In Fashion: From Runway to Retail, Everything You Need to Know to Break Into the Fashion Industry, Clarkson Potter

WEBSITES FOR REFERENCE

E-retailing sites like www.myntra.com; www.jabong.com etc.

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	5	18
2	5	18
3	5	18
4	5	18
5	8	28
Total	28	100

3.5(A)	ARTIFICIAL INTELLIGENCE	L	T	P
OPEN ELECTIVE		2	-	-

Course Content:**Unit 1** – Introduction to Artificial Intelligence

- Artificial Intelligence (AI) definition
- Goals of AI
- History of AI
- Applications of AI

Unit 2 – Agents and Environments

- Agent Terminology, Types of Agents – Simple Reflex Agents, Model Based Reflex Agents, Goal

Based Agents

- Nature of Environments, Properties of Environments

Unit 3 – Search Algorithms Terminology

- Brute Force Search Strategies – Breadth First Search, Depth First Search.
- Heuristic Search Strategies, Local Search Algorithms.

Unit 4 – Fuzzy Logic Systems

Introduction to Fuzzy Logic and Fuzzy systems,

- Membership functions,
- Fuzzification/Defuzzification

Unit 5 – Neural Networks

Basic structure of Neural Networks

- Perceptron
- Back-propagation

Suggested Learning Resources:

S. No.	Title of Book	Author	Publication
1	Artificial Intelligence By Example: Develop machine intelligence from scratch using real artificial intelligence use cases	Denis Rothman	Packt Publishing ISBN – 978-1788990547

3.5(B)	PRODUCT DESIGN	L	T	P
OPEN ELECTIVE		2	-	-

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:

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

Course Content:

UNIT-I: Definition of a product; Types of product; Levels of product; Product-market mix; New product development (NPD) process; Idea generation methods; Creativity; Creative attitude; Creative design process; Morphological analysis; Analysis of interconnected decision areas; Brain storming.

Unit-II: Product life cycle; The challenges of Product development; Product analysis; Product characteristics; Economic considerations; Production and Marketing aspects; Characteristics of successful Product development; Phases of a generic product development process; Customer need identification; Product development practices and industry-product strategies.

Unit-III: Product design; Design by evolution; Design by innovation; Design by imitation; Factors affecting product design; Standards of performance and environmental factors; Decision making and iteration; Morphology of design (different phases); Role of aesthetics in design.

Unit-IV: Introduction to optimization in design; Economic factors in design; Design for safety and reliability; Role of computers in design; Modeling and Simulation; The role of models in engineering design; Mathematical modeling; Similitude and scale models; Concurrent design; Six sigma and design for six sigma; Introduction to optimization in design; Economic factors and financial feasibility in design; Design for manufacturing; Rapid Prototyping (RP); Application of RP in product design; Product Development versus Design.

Unit-V: Design of simple products dealing with various aspects of product development; Design starting from need till the manufacture of the product,

Reference Books:

1. Product Design and Development, Karl T. Ulrich and Steven D. Eppinger, Tata McGraw–Hill edition.
2. Engineering Design –George E. Dieter.
3. An Introduction to Engineering Design methods Vijay Gupta.
4. MerieCrawford : 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, Pearson education.

3.5(C)	FUNDAMENTAL OF INNOVATION AND DESIGN THINKING	L	T	P
OPEN ELECTIVE		2	-	-

COURSE OVERVIEW

Design thinking is an iterative process that use to understand users & usage patterns, their assumptions, redefine problems and create innovative solutions. It is most useful to tackle problems that are ill defined or unknown.

This course is designed to give a strong understanding of basic concepts of Innovation & Design thinking, to develop many creative ideas through structured brainstorming sessions. The ideas are validated through 3D printing & confirmatory tests.

TABLE OF CONTENTS

Sr No	Course contents
1	Introduction to Industrial Safety Practices • Fire Extinguishers & its Types • Safely handling Tools & Equipment • Use of proper Tools & Equipment & its maintenance • OSH & practices to be observed as a precaution
2	Introduction to Innovation & Design Thinking • Introduction of Innovation, • Necessity of innovation, Case studies of innovation • Different Types of Innovation, Closed and Open Innovation, Innovation Linear and Non-Linear, Stages from innovation to industry • Introduction to Design thinking • Importance of design thinking, Principle & mindset of design thinking • Impact & value proposition of innovation • Risk vs Reward innovation concept study • Steps to convert Innovation to start-up • Scoping of design thinking • Key principle & mindset

3	Details of Design Thinking tools & Idea Generation • Introduction to brainstorming & its Importance • Brainstorming tools & techniques • Generation of ideas & its generation methods • Introduction of phases of design thinking-Explore, Empathies, Experiment, Engage, Evolve • Design Thinking foundation built-up • Understanding & Uncovering Deep user human needs (SPICE) • Use of SCOPES tool • Use of STEEP Trend analysis • Use of POEMS tool, Ideation using scamper, Analogous inspiration, Selection of idea, Concept development, Prototyping • Concept of Storytelling & co-creation methods, Strategic requirements • Concept of change Management, Importance of continual Improvement • Design thinking case studies
4	Introduction to 3D modeling & Additive Manufacturing • Introduction to Design Tools and CAD software, Concept Creation and 3D Modeling, Detail Design & Engineering, Product Drawing Creation, Industrial drawing reading, projection methods, GD&T, Bill of Material • Introduction to Prototyping, use of prototyping in Industry • Additive Manufacturing, Additive Manufacturing-Evolution through Time, Additive Vs. Traditional Manufacturing, Applications of Additive Manufacturing in Various Fields, • Steps involved in Additive Manufacturing, Precautions, Do and Don't, 3D Printer specification. • Key Parameters to be considered for 3D printing. • Various types of 3D Printers, 3D printer components, 3D printer parameter. • Working of Additive Manufacturing, Introduction to 3D printer software: • Slicing software to optimize the material consumption and lead time required for production.

5	Applications, Advantages, Limitation & Advancements of Additive Mfg. • Applications of Additive manufacturing in Automotive industry, Aerospace industry, Artistic Industry, Medical Industry, Architectural Industry, Functional Prototype, Tooling, Advantages of Additive Manufacturing, Limitations of Additive manufacturing. • Types of 3D printing materials & 3D printing Technologies, Additive manufacturing Materials: Thermoplastics: Acrylonitrile Butadiene Styrene (ABS); Polyvinyl Alcohol (PVA); Polylactide (PLA); Nylon, Polycarbonate (PC), Ceramics, Glass, Biochemicals; study of other 3D printing materials such as Titanium; Stainless Steel; Aluminum; High performance alloys; cobalt chrome alloys; nickel alloys • Study of various types of 3D printers such as SLS 3D printing, SLM 3D Printing, DLP 3D printing • Case Studies on Additive manufacturing, Advanced Methodologies & Technologies, Latest Trends in Additive Manufacturing • Reverse Engineering • Introducing to Laser cutting and engraving, various components of Laser cutting machine, various steps involved in laser cutting, materials used for laser cutting • Applications of laser cutting, benefits of laser cutting, limitations of laser cutting, case studies
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6	Start-up & Business plan • Introduction to management, Leadership Decision making & Communication, Introduction to cost, Human Resource Management, Industrial Legislation, Production Management, Marketing management, Entrepreneur and Entrepreneurship, Forms of Business, Forms of organisation, Micro and Small Enterprises, Support to Entrepreneurs • Concept of start-up & its necessity, Understanding Business Terminology • Opportunities for Start-up, Market Research, Types of industry & trending opportunity for new business, Business Plan, Benchmarking, Product Vision, Product Mission, Product Road Map, how to position your services • Business Model, Managing Start Ups, Start-up failure reasons, Start-up project plan, Start-up sales forecast, Start-up operations, Start-up Breakeven Analysis, Tips and Tricks. • Intellectual Property Rights • Continuous Improvement • Case studies • Project Work
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COURSE PRACTICALS

Please conduct practicals as per lesson plan.

1. Group activity on understanding Disruptive Technologies,
2. Group activity on problems solving and listing of innovative solutions
3. Group activity on Brainstorming, ideation.
4. Group activity for Idea selection based on impact related to commercial value, social, environmental, safety etc.
5. Prepare storyboard for visually describes series of activities of the solution idea.
6. Conversion of concept Idea into prototyping with the help of tools, Software & Machining equipments as per requirements.
7. Field visit and interaction with users to understand their pain areas.

8. Identify stakeholders pertaining given innovations.
9. Group activity on Social Innovation.
10. Group activity on innovations pertaining to your area of interest.
11. Group activity on innovative solutions related pertaining to your area of interest.
12. Group activity on innovative solutions for environment friendly product or service.
13. Finding the better meet of the user's needs using co-creation tool.
14. Group activity on prototyping of innovative solutions.
15. Defining the strategic requirement to utilize available capabilities, assets & resource.
16. Prepare Business Plan
17. List out the industrial safety standards for Additive manufacturing.
18. Selection of Additive manufacturing process with the help of case studies
19. Create the 3D model using computer aided design software.
20. Convert the design model into STL, OBJ, AMF, and 3MF for 3D Printer compatible input format
21. Preprocessing and slicing of model
22. Simulate the time & design for manufacturing, reduce the manufacturing time, calculate the consumption of material using slicing software.
23. Operate 3D printer to create prototype model of any cad model.
24. Post Processing of 3D printed part.
25. Use laser cutting machine to modify product according to design requirement.
26. Reverse Engineering of any given product.
27. Case studies
28. Mini Project

COURSE OUTCOME

1. Comply with Industry health and safety guidelines
2. Identify the market needs & customer demand analysis.
3. Ability to develop analogy to inspiration model
4. Ability to Generate ideas through brainstorming & Opportunity framing
5. Ability to convert Ideas into reality by developing prototype model with the help of 3D Printer & Different machining equipment as per requirements.
6. Sell their ideas for entrepreneurship and better career opportunities.
7. Able to create value by using problems solving approach and by applying innovation techniques.
8. Create innovative products, processes, services, business models etc.
9. Familiarise with 3D cad modelling software, common Engineering standards, symbols, GD & T to read the Industrial drawing etc.
10. Understand the product design processes, innovation design thinking, creative ideas, measuring instruments, industrial drawing reading etc.
11. Understand Additive manufacturing with its applications, advantages, and limitations.
12. Understand different 3D printing technologies, slicing software use for 3D printing.
13. Understand different types of materials used for additive manufacturing and its applications.
14. Able to make 3D model on CAD software by reading industrial drawing, understand various components of 3D printer and its functions, various features of slicing software,
15. Operation of slicing software and 3D printer.
16. Able to convert the model for 3D printer, understand post processing of 3D printed parts, inspection of 3D printed part, quality of 3D printed parts
17. Able to understand intellectual property rights.

18. Ability to perform reverse engineering of any given part.
19. Understand the importance of continual improvement & start-up opportunities.
20. Start their Own Business | Start up | Entrepreneurship

JOB ROLES & INDUSTRIES

After successfully completing the course and obtaining requisite certification, the students will become Entrepreneur, manage start up, innovation Assistant Engineer, Product Design Assistant, Assistant Engineer, Associate Engineer, Junior Engineer, 3D Printer Supervisor, and Product Development Assistant

Employment Opportunities	
Job Roles	Industries
• Product Development Assistant • Assistant Engineer • Associate Engineer • Junior Engineer • Production planning & control Assistant • Commercial & Marketing Assistant • Service support assistant • Product Development Assistant • 3D Printer Engineer • Production planning & control Assistant • Service support assistant • Business Development assistant • Engineer • Own Business Start up Entrepreneurship	• Aerospace • Agricultural equipment • Automotive • Defense • Consumer goods • Heavy Machinery • Packaging • Construction • Electrical & Electronics • Healthcare • Locomotive • Material handling • Manufacturing • Pharmaceutical

3.6	SUMMER INTERNSHIP-I	L	T	P
PRACTICAL		-	-	-

After the Examination students of II Semester shall have a 4-week hands on training in any concern engaged in Garment (Textile, leather & Knitwear) manufacturing/NGO/Industry/related Fields. The purpose of the visit is to enrich the students learning.

Every student will submit the institution a report of his/her training engagement. The report will invariably contain the description of his observations about

1. Products/Work/Design
2. Tools and equipment's Used
3. Packing, Dispatching of products.

Student will be evaluated by III Semester project examiner for 50 marks--40 for viva and 10 for the report presented.

4.1	ADVANCE PATTERN MAKING	L	T	P
PRACTICUM		2	-	6

COURSE OBJECTIVE

It is a higher-level study of creating garment patterns with precision, fit, and design complexity. It goes beyond basic blocks (bodice, skirt, sleeves) and focuses on transforming them into stylish, well-fitted garments used in the fashion industry and couture.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understanding of bodies development and block pattern.
- CO2- Understanding types of draping techniques.
- CO3- Understanding the manipulation of darts and pleats.
- CO4- Different types of pattern grading.
- CO5- Understanding of Fabric selection and fitting problems.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	3	3	2	3	1	1
CO2	3	3	3	2	3	1	1
CO3	3	3	3	2	3	1	1
CO4	3	3	3	2	3	1	1
CO5	3	3	3	2	3	2	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. Advanced Bodice Development (06 periods)
 - Converting a bodice block to different styling block
 - Empire line
 - Strapless and halter bodice

- Corset and bustier patterns
- 2. Draping Techniques (06 periods)
 - Introduction to draping
 - Bodice and skirt draping
 - Bias and creative draping
 - Converting drapes to paper patterns
- 3. Advanced Pattern Manipulation (05 periods)
 - Dart and dart manipulation (slash & spread, pivot)
 - Adding fullness (Pleats, gathers, flares, godets)
- 4. Industrial pattern grading (06 periods)
 - Part by part examination of body increment
 - Area increment chart, size range
 - Cardinal point, zero point
 - Three dimensional & two dimensional grading, track grade and draft grade
 - Grading of skirt, sleeve, trouser and shirt
 - Introduction to CAD software in pattern making and grading viz. Lectra, Tuckatech, Reach, Gerber etc.
- 5. Fabric and Fit (05 periods)
 - Fabric selection and pattern adaptation
 - Fit problems and corrections

LIST OF PRACTICALS

- Drafting and draping advanced garments
- Fit trials and pattern correction by advance pattern manipulation
- Portfolio development: Creating inspired garment design, its drafting and pattern making

INSTRUCTIONAL STRATEGY

The instructional strategy for Advance Pattern Making focuses on developing technical accuracy, creativity, and industry-oriented skills through a combination of theory, demonstration, and hands-on practice.

MEANS OF ASSESSMENT

- Regular classwork and practical exercises
- Fit correction assignments
- Creativity and design execution
- Viva voce

RECOMMENDED BOOKS

1. Patternmaking for Fashion Design – Helen Joseph-Armstrong
2. The Art of Fashion Draping – Connie Amaden-Crawford
3. Dress Pattern Designing: The Basic Principles of Cut and Fit – Natalie Bra

Websites for Reference:

- <https://patternworkshop.com/>
- <https://www.learnpatternmaking.com/>
- <https://www.patterncuttingschool.com/>
- <https://academy.tukatech.com/>

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	06	20
2	06	20
3	05	20
4	06	20
5	05	20
Total	28	100

4.2	VISUAL MERCHANDISING & DISPLAY	L	T	P
PRACTICUM		2	-	2

COURSE OBJECTIVE

The course intends to give the students the knowledge of visual merchandising & display, retail store operations with respect to the fashion industry in the country. This paper will make students understand how effective window displays and in-store presentations influence customer buying behavior.

LEARNING OUTCOMES

- CO1- Understand the role, importance, concepts, and terminologies of visual merchandising in the fashion retail industry and designer wear stores.
- CO2- Apply design elements and principles effectively in developing attractive visual merchandising displays and exhibition presentations.
- CO3- Develop creative visual displays for fashion and related merchandise using appropriate presentation skills, display techniques, materials, and display props.
- CO4- Analyze and create effective window presentations, store dressing, merchandise displays, shelving arrangements, and plano-grams for retail stores.
- CO5- Understand store layout planning, merchandise presentation techniques, fashion store operations, and promotional strategies for enhancing retail business performance.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	2	1
CO2	2	3	3	2	2	2	2
CO3	2	3	3	2	3	2	2
CO4	2	3	3	2	3	2	3
CO5	3	3	2	2	2	3	3

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. INTRODUCTION TO VISUAL MERCHANDISING (06 Periods)

Role & Importance of Visual Merchandising in Fashion Business Importance of VM for a retail store including designer wear retail Visual merchandising terminologies & concepts Creating effective visuals Related areas of Visual merchandising & display presentation

2. DESIGN ELEMENTS & PRINCIPLES

(05 Periods)

Design Elements relevance in visual merchandising. Design Principles Relevance in visual merchandising. Understanding their visual language for displays and exhibits

3. DEVELOPING A VISUAL DISPLAY

(05 Periods)

Types of Displays & Display Settings Creation and Presentation of Visual display for Fashion & related merchandise. Skills, techniques & strategies of Presentation Understanding The Materials for Creating Display Props And Display Designs

4. WINDOW PRESENTATION & STORE DISPLAY

(05 Periods)

Types of windows Window display themes Store Dressing & display Use of Shelves, merchandise floor & walls for product presentation Concept of Plano- grams

5. STORE LAYOUT AND PROMOTION

(07 Periods)

Store design and layout plan: store layout, merchandise presentation techniques, store management Store Operations: Various terms used in Fashion Store Operations like CKU, RFID, Footfall, Conversion, Average Ticket Value etc. & their importance Promotion strategies: Promotion mix, advertising, sales promotion, public relations and publicity, direct marketing.

INSTRUCTIONAL STRATEGY

The subject requires e-lecture using the four quadrant approach , Case studies and Power point presentations.

MEANS OF ASSESSMENT

- Market survey
- Case study

RECOMMENDED BOOKS

- Visual Merchandising and Display – by Martin M. Pegler & Anne Kong
- Visual Merchandising: Windows and In-Store Displays for Retail – by Tony Morgan
- Visual Merchandising and Display Best Practices for Window Displays and Store Designs – by Silvia Belli

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	06	22
2	05	18
3	05	18

4	05	18
5	07	24
Total	28	100

4.3	FABRIC SELECTION AND IDENTIFICATION	L	T	P
PRACTICUM		2	-	4

COURSE OBJECTIVE

The objective of this paper is to acquire knowledge of different types of fabrics, types of fabric for making different types of garments as per their use.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understanding of elementary treatment of fabric
- CO2- Manufacturing of different types of weaving.
- CO3- Selection of Fabrics base on fashion, climate age and sex.
- CO4- Understanding of fabric testing.
- CO5- Understanding the quality of different types of fabrics.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	1	1
CO2	3	3	2	1	2	1	1
CO3	3	3	3	2	2	2	2
CO4	3	3	2	3	2	1	1
CO5	3	2	2	3	2	2	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. General processing of fabrics (elementary treatment) (06 Periods)

- Need for fabric processing, nature of impurities in grey fabric, desizing, scouring, bleaching, mercerization
- Finishing
 - Objectives and classification
 - Sanforizing, calendaring, acid wash, crease resistance, raising, milling, flame retardant, water repellent

2. Study of different commercial fabrics on the basis of: (05 Periods)

- Methods of manufacturing: weaving, (woven) (simple, compound, looped, tufted, gauze, leno etc.) and knitting (knitted) (weft knitted, warp knitted etc.)
- Structure (weave): plain (Long cloth, Poplin, Rubbia, Casement, Cambric, Voile, Mulmul, Buckram etc.), Twill (Drill, Denim, Jean, Tweed, Serge, Gaberdine etc.).
- Quality and Construction: (Coarse, Medium, Fine, Superfine, Based on EPI, PPI, Count & ply of warp and weft yarn)
- Weight, Light, Medium, Heavy.
- Level of ornamentation: Dyed, Stripe, Check, Figured-Tapestry, Brocade, Damask and Printed.
- Use: Shirting, Suiting, Lining, Dress Material, Bed cover, Table cover, Curtain, Furnishing, Upholstery etc.)

3. Selection of fabrics (04 Periods)

- Suitability with respect to figure, fashion, climate, age, sex, profession
- Care of fabrics made of cotton, wool, silk, acrylic, polyester, viscose rayon

4. Fabric testing (08 Periods)

- Importance of fabric testing
- Fabric count (EPI, PPI), fabric weight (GSM), fabric thickness, tensile strength, tear strength, bursting strength, abrasion resistance, pilling resistance, crease recovery, shrinkage test, air permeability
- Burning test, microscopic view and solubility test of cotton, wool, silk, acrylic, polyester, viscose rayon

5. Quality assessment of different commercial fabrics. (05 Periods)

- Fabric Defects (Inspection Table)
- EPI/PPI variability
- Yarn regularity
- Shrinkage
- Fading of colour (if coloured)

- Pattern continuity (if figured)
- Design out
- Weight/Colour/Width/Variation

LIST OF PRACTICALS

1. Study of different types of commercial fabrics and their sample collection
2. Presentation of samples in a folder with technical details
3. Study of fabric count (weight of fabric) and comfort properties (drape, bending, crease recovery, air permeability, abrasion resistance, fabric thickness, elongation)
4. Proper selection of fabrics for any given garment or style

INSTRUCTIONAL STRATEGY

The subject requires both theory and practical emphasis simultaneously, so that the student can understand the practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students understand where and how the various instruments are used in the industry.

MEANS OF ASSESSMENT

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Actual practical work
- Viva-Voce

RECOMMENDED BOOKS

- Textile fibre to Fabric by Bernard P. Corbman, McGraw Hill Publication.
- Fabric Properties Testing By Vikrant Prasad Bioscientific Publisher.
- Fabric Science By Seema Sekhri, PHI Learning Pvt. Ltd.

Websites for Reference:

- -<https://sewing.com>
- - www.fibre2fashion.com

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	06	22
2	05	18
3	04	14
4	08	28
5	05	18
Total	28	100

4.4	LEATHER GARMENT CONSTRUCTION	L	T	P
PRACTICUM		2	-	2

RATIONALE

Leather Garments are now well accepted articles of fashion and utility. Knowledge of their construction techniques is essential for any modern fashion technologist.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

CO1- Understanding the classification of leather garment lining and fastener material.

CO2- Understanding of block pattern and development for garments.

CO3- Understanding the technique of leather cutting

CO4- Pattern cutting men's wear jacket, coat and trouser.

CO5- Garment assembly sequences and making specific garments.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	1	1
CO2	3	3	3	2	3	1	1
CO3	3	3	3	2	3	1	1
CO4	3	3	3	2	3	1	1
CO5	3	3	3	2	3	2	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. INTRODUCTION: (04 Periods)

- Classification of leather garment based on material design usage and fashion.
- Choice of leather kind for various types of garment and their parts.
- Types of lining and padding material
- Types of fasteners and gain dries.

2. PATTERN MAKING: (12 Periods)

- Block pattern development front size charts and specifications.
- Three Dimensional developments via darts and seam lines.
- Techniques of leather cutting.

- Effective placement of pattern to minimize of leather waste
- Cutting room practice - i.e. sorting, selecting and cutting.
- Development of leather cutting skills.
- Silhouette development and hole setting.
- Complex style readings and proportion judgment.
- Men's wear pattern cutting for tailored jackets and coats i.e. SB., DB. etc. and trousers.
- Children wear pattern cutting for a variety of smart and casual styles.
- Leather fitted garments for evening wear.

3. GARMENT FABRICATION:

(12 Periods)

- Machinery: Control, Threading, Adjustments.
- Garment Assembly Sequences.
- Fusible and non-fusible inter linings.
- Adhesives.
- Techniques of sleeves and collar and hood setting.
- Making specific garment.
- Garment Specification.
- Recovery waste and its utilization in fabrication various small items of fashion and utility such as Hand Gloves, Head Wears, Covers for Key bunch, spectacles and Purses, etc. to name a few.

LIST OF PRACTICALS

Designing, drafting, pattern cutting

- Menswear garment.
- Ladieswear garment.
- Children wear garments.

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas.

MEANS OF ASSESSMENT

- Assignment, Quiz and Class test.
- Mid term and end term Written test.
- Actual Practical Work
- viva-voce

RECOMMENDED BOOKS

- Apparel Pattern Designing By Aswath N Hiraskar, Notion Press publication.
- Advanced Garment Construction Guide By dr M sumitha Advanced Garment Construction Guide.

Websites for Reference:

- www.behance.com
- <https://apparelresources.com>
- www.fibre2fashion.com

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted(Periods)	Marks Allotted(%)
1	04	20
2	12	40
3	12	40
Total	28	100

4.5	CAD FOR COSTUME-I	L	T	P
PRACTICUM		1	-	6

RATIONALE

The student of diploma in Fashion Designing & Garment Technology must understand the use of Computer Aided Design in the fashion & Apparel Industry. Students are required to develop graphic design work, create layouts and concepts based on professional creative approaches and techniques and begin to develop quality pieces for portfolio.

LEARNING OUTCOMES

- CO1- Understand and use the basic tools, screen elements, menu bars, and commands of MS Paint for creating simple drawings and freehand sketches.
- CO2- Apply drawing, editing, colouring, transformation, and selection techniques in MS Paint and CorelDRAW for digital design development.
- CO3- Develop fashion illustrations, block figures, draping designs, drafting layouts, and freehand sketches using CorelDRAW tools and commands.
- CO4- Understand and apply image handling, drawing, painting, pattern creation, layer management, text manipulation, and transformation tools in Adobe Photoshop.
- CO5- Produce creative and professional-quality digital fashion and graphic design outputs using MS Paint, CorelDRAW, and Adobe Photoshop while maintaining practical files and print collections.

Note: Suitable Alternative open-source software can be utilized for performing the exercises.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	1	2	1	3	1	1
CO2	3	2	2	1	3	1	2
CO3	2	2	3	2	3	2	2
CO4	2	3	2	2	3	1	2
CO5	2	3	3	2	3	2	3

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. MS PAINT:

THEORY:

Tools variations, Menu bar, Screen Elements, Tools Line, Curve Line, Rectangular, Ellipse, Free hand, Select Tool, eraser Tool, Pick Colour Tool, Magnifier Tool, Paint Bucket, Text, Polygon, Air Brush, Preference Tool.

Commands:

Page setup, Undo, Cut, Copy, Paste, Clear Selection, Select All, Color Box, Status Bar, Zoom, Flip/Rotate, Stretch/Skew.

Practicals:

Tools variations, Menu bar, Freehand Sketching.

2. COREL DRAW:

THEORY:

-Introduction, Content of Menu Bar, Tools Variation.

-Screen Elements/Tools Pick Tools, Shape Tools, Pencil Tools, Rectangle, Ellipse, Fill, Outline, Text.

Commands:

Cut, Copy, Paste, convert to curve, Trim, Weld, Group, Ungroup, Combine, Break a Part, Texture, Grid, Guide Line, Transform, Roll Up, Extrude, Rollup, Lens Rollup perspective Roll Up. Practical: Block Figure, Flashing, Drafting, Tools Variations, Draping, Freehand Sketching.

3. ADOBE PHOTOSHOP:

1. Opening Documents: Understanding image resolution, Importing images.
2. Drawing and Painting Tools: Choosing colours, Drawing Tools, Gradient Tools, Shape Tools, Transform Tools
3. Creation of Pattern.
4. Creation of Layer.
5. Creation and manipulation of text.
6. Image editing using Photoshop

PRACTICALS:

Using the above technique, Draping of bodice block and editing scanned images.

1. 2D pattern making, Pattern alteration, Grading, Block fusing, Marker making, NC cut path optimizations, Plaid matching, Digital print block for sample cutting, Material spreading, Colour separation, repeats, Colour ways, Weaves, Knits, Jaquards, story boards, Types of notches, Darts, Pleats, Seams, Drill holes, Internal Colour.

LIST OF PRACTICALS:

Note: Suitable Alternative open-source software can be utilized for performing the exercises.

1. Create New Colours.
2. Create Colour Ways.
3. Create Story Boards.
4. Create various types of notches, darts, plates, seams, drill holes and internal contours.
5. Design knits, Weaves and Jacquards.
6. Design New Print.
7. Change Existing Design.
8. Drafting and Pattern making- Marker making(layout) using Tukatech, Gerber, Magnum, Lectra or any other latest similar software

INSTRUCTIONAL STRATEGY

This is a practical based subject; hence the demonstration & application approaches should be adopted by the faculty to teach this subject.

MEANS OF ASSESSMENT

- Assignment, Quiz and Class test
- Mid term and End Term test
- Actual practical work
- viva-voce

RECOMMENDED BOOKS

- Auto CAD 3D modeling by Steve Heath Industrial Press, Inc. Publication.
- 3D CAD with Autodesk 123D ByJesseHarringtonAuO'Reilly Publication.

Websites for Reference:

- <https://en.m.wikipedia.org>
- <https://www.autodesk.in>

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	03	25
2	04	25
3	03	25

4	04	25
Total	14	100

4.6	ESSENCE OF INDIAN KNOWLEDGE AND TRADITION	L	T	P
AUDIT COURSE		2	-	-

COURSE OBJECTIVE:

Understand the fundamental aspects of the Indian Knowledge System, its integration with modern science, principles of Yoga and holistic healthcare, and practical applications in contemporary contexts.

COURSE OUTCOMES:

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

- Overview, importance, and relevance of the Indian Knowledge System, including Vedas, Upavedas, Vedangas, and Upangas.
- Relevance of science and spirituality, and contributions of ancient Indian science and technology.
- Basic principles of Yoga, benefits of holistic healthcare, and integration with modern healthcare.
- Practical applications and case studies of the Indian Knowledge System's relevance today.

COURSE CONTENTS**Unit 1: Introduction to Indian Knowledge System****(16 Periods)**

Overview of Indian Knowledge System

- Importance and relevance
- Introduction to the Vedas
- Upavedas
- Vedangas
- Upangas

Unit 2: Modern Science and Indian Knowledge System**(06 Periods)**

- Relevance of Science and Spirituality,
- Science and Technology in Ancient India,

Unit 3: Yoga and Holistic Healthcare**(04 Periods)**

- Basic principles of Yoga
- Benefits of holistic healthcare practices
- Integration with modern healthcare

Unit 4: Case Studies / Assignment**(02 Periods)**

- Practical Applications / Case studies demonstrating the relevance of Indian Knowledge System in modern times

Assessment

Viva -Voce Exam

5.1	INDUSTRIAL TRAINING-II	L	T	P
PRACTICAL		-	-	-

It is needless to emphasize further the importance of Industrial Training of students during their 3 years of studies at Polytechnics. It is industrial training, which provides an opportunity to students to experience the environment and culture of industrial production units and commercial activities undertaken in field organizations. It prepares student for their future role as diploma engineers in the world of work and enables them to integrate theory with practice. Polytechnics have been arranging industrial training of students of various durations to meet the above objectives.

This document includes guided and supervised industrial training of 4 weeks duration to be organised during the semester break starting after second year i.e. after 4th semester examinations. The concerned HODs along with other teachers will guide and help students in arranging appropriate training places relevant to their specific branch. It is suggested that a training schedule may be drawn for each student before starting of the training in consultation with the training providers. Students should also be briefed in advance about the organizational setup, product range, manufacturing process, important machines and materials used in the training organization.

Equally important with the guidance is supervision of students training in the industry/organization by the teachers. Students should be encouraged to write daily report in their diary to enable them to write final report and its presentation later on.

An external assessment of 40 marks and 10 marks for internal assessment has been provided in the study and evaluation scheme of 5th Semester. Evaluation of professional industrial training report through viva-voce/presentation aims at assessing students understanding of materials, industrial process, practices in industry/field organization and their ability to engage in activities related to problem solving in industrial setup as well as understanding of application of knowledge and skills learnt in real life situations.

Teachers and students are requested to see the footnote below the study and evaluation scheme of 4th semester for further details.

The teacher along with field supervisors will conduct performance assessment of students. The components of evaluation will include the following:

- 1.a) Punctuality and regularity 15%
- 1.b) Initiative in learning new things 15%
- 1.c) Presentation and Viva 15%
- 1.d) Industrial training report 55%

5.2	CAD FOR COSTUME-II	L	T	P
PRACTICUM		1	-	8

COURSE OBJECTIVE:

Students will be introduced to the usage of computer software's in different areas of Fashion Designing & Technology. Students are made skilled by learning software for Fabric surface designing.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understand and apply the basic drawing tools in AutoCAD for creating two-dimensional engineering and fashion-related drawings.
- CO2- Demonstrate the use of layers, line types, dimensioning, hatching, blocks, page setup, printing, and plotting techniques in CAD drawings.
- CO3- Develop fashion illustrations including stick figures, bodice blocks, flesh figures, collars, cuffs, sleeves, and basic garment designs using computer-aided fashion software.
- CO4- Apply colour rendering, texture simulation, and fabric visualization techniques under different lighting conditions using fashion design software.
- CO5- Produce professional-quality digital fashion design outputs and maintain a portfolio/file collection of practical exercises and printed work.

Note: Suitable Alternative open-source software can be utilized for performing the exercises.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	2	1	3	1	1
CO2	3	2	2	1	3	1	1
CO3	2	2	3	2	3	1	2
CO4	2	3	3	2	3	2	2
CO5	2	2	3	2	3	2	3

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS**1.AUTOCAD:****(06 Periods)**

Theory:

- a. Drawing Tools: Line, Arc, Circle, Polygon, Multiline, Solid, Rectangle, Polyline Point.
- b. Editing Tools: Erase, Copy, Move, Mirror, Stretch, Scale, Fillet, Chamfer Extend, Trim.
- c. Hatch Block, Page setup, Printing and Plotting
- d. Dimensioning, Line type, Layer.

2. REACHCAD/LATEST FASHION SOFTWARE:**(08 Periods)**

1. Practicals based on above software- Creating three dimensional Human figures and its fit a design onto the form and make Necessary changes in style of cuffs, collars and sleeves (which are stored in data bank for future reference) and finalize a design. Draw basic designs, stick figures, Bodice Block and flesh figures on computer and producing their prints for file collection. Reproducing colours in patterns(From strips or plaids to figurative designs) in fabrics (such as wool, tweed or cotton twill) under different light conditions(Natural, Incandescent or fluorescent) with different days with different textures (adding three dimensional depth to colour) and on different types of clothing (showing how finished product will look without needing to assemble). Taking out prints of above exercises for file.
2. Smart sketch
3. Corel draw
4. MS Paint
5. AutoCAD

List of practical

Using above commands to create

- Bodice block,
- Geometrical figures,
- Drafting of various stitched items.

INSTRUCTIONAL STRATEGY

This subject should be taught with demonstrating the exercise on software application.

MEANS OF ASSESSMENT

- Model and Pattern Making
- Actual Practical work
- Assignment and Class test.

RECOMMENDED BOOKS

- computer aided drawing by Aprajita Banerjee, Neelkanth Publishers Pvt. Ltd.
- Fundamentals of Computer Aided Design by Kushdeep Goyal.S.K. Kataria& Sons publication.

-Computer Aided Design and Manufacturing By Dr. Sadhu Singh, KHANNA PUBLISHERS.

Websites for Reference:

- <https://en.m.wikipedia.org>
- <https://mrcet.com>
- <https://www.browzwear.com>

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	06	45
2	08	55
Total	14	100

5.3	DRESS DESIGNING AND ILLUSTRATION	L	T	P
PRACTICAL		-	-	6

COURSE OBJECTIVE:

Designing is the first activity in the process of manufacturing a product. For garment making too designing is equally important. This paper deals specially with means wears. Due use of computers in these exercises be emphasized.

Note:

Lecturer/Demonstration will go along with practice in tutorial classes. All exercises relevant to topics in paper shall be done. Due use of computer in these exercise be emphasis.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1-Design Garment and Outfits for Men, women and kids for every occasion.
- 2-Understand the types and print of Fabric suitable for a Particular design.
 - 1- Able to design Garment made of leather and Knitted Fabric.
 - 4-Interpretate Design illustration for fabrication purpose.

DETAILED CONTENTS

- Introduction of dress design, fashion & style and different dress materials.
- Preparation of a file (1/4 imperial size): -
 1. Line sketches of human figures (Gents, ladies and children) with pencil or ink, Introduction of dress design, fashion style and different dress materials. Sketch different types of neck lines, collars, sleeves, yokes, tie, bow with ink.
 2. Sketch following garment designs (Boys & Men) indifferent mediums (ink, pencil, water colour, poster colour) and write special features of the dress and suitable fabric material & clothing accessories.

(2.i) CASUAL WEAR:

Design different types of casual dresses according to different age groups, seasons and climate with the use of different types of fabric prints, checks, textures etc.

(2.ii) PARTYWEAR:

Design different types of dresses for parties, Festival- party, Cocktail-party, Marriage-party) for different age groups.

(2.iii) SPORTSWEAR:

Design different types of sports dresses (Tennis, Jogging, Swimming, Horse riding, Sailing Cricket).
For different age groups.

(2.iv) UNIFORM WEAR:

Sketch various design related to office, school and industrial wears.

3. Sketch different types of pockets, plackets, belts with ink.

4. Story board development

i.Colour presentation

ii.Verbal presentation

1. MARKET RESEARCH -Design identification, development of strong Leather garment theme.

2. Design projects for various garment categories.

- (i) Leather
- (ii) Textile
- (iii) Knit
- (iv) Embroidery

3. Interpretation of drawings into garments by various pattern techniques.

4. Visual and verbal analysis and assessment of finished garments.

List of practical

- Using different medium sketch the design for boys and men
- Make line sketches of human figures
- Use sketching to design office, school and industrial wears

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students can understand where and how the various instruments are used in the industry

MEANS OF ASSESSMENT

- Model /Pattern Making
- Actual Practical work
- viva-voce

RECOMMENDED BOOKS

- innovative Fashion Sketching By Rita Gersten, Innovative Enterprises publication.
- Rendering Fashion, Fabric, and Prints by Steve Greenberg, by Pearson India publication.

Websites for Reference:

- www.wikihow.com
- www.wikipedia.org

5.4	ADVANCE DESIGN & DIGITAL THINKING	L	T	P
PRACTICUM		2	-	2

COURSE OBJECTIVE

Introduce fundamental UI/UX design principles and their application in digital platforms, fashion and product contexts. Develop practical understanding of digital design tools and interface creation. Build user-centered design thinking through research and consumer analysis. Enable students to create cohesive digital brand identity systems. Develop prototyping, design systems and storytelling skills for digital experiences. Prepare students for industry roles in UI/UX design and digital branding.

LEARNING OUTCOMES

At the end of the course the students will develop ability to:

- CO1- Define and differentiate UI and UX and explain their relevance in digital platforms.
- CO2- Use color theory, typography and grid systems effectively in interface design.
- CO3- Demonstrate proficiency in Figma, Canva and Photoshop for digital design and prototyping
- CO4- Develop digital brand identity systems including logos and style guides.
- CO5- Build interactive prototypes and understand design systems and component libraries.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	2	1
CO2	2	3	3	2	2	2	2
CO3	2	3	3	2	3	2	2
CO4	2	3	3	2	3	2	3
CO5	3	3	3	2	3	2	3

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS

1. UI/UX Basics & User Interaction

(04 Periods)

Introduction to UI and UX concepts, Analysis of good and bad design through case studies, Understanding user interaction with digital applications and websites

2. Design Fundamentals

(04 Periods)

Application of color theory in digital interfaces, Typography for readability and usability, Layout and spacing for mobile interfaces, Basic grid systems, Principles and guidelines of effective UI design

3. Figma for Interface Design & Prototyping (05 Periods)

Introduction to Figma interface and workflow, Designing mobile application screens (login and home screens), Creation of UI components (buttons, cards), Development of reusable design elements, Basic interactive prototyping, Design of a simple application interface project

4. User Research & Experience Mapping (05 Periods)

Understanding target users through real-world examples, Development of user personas, Creation of basic user journey maps (login to transaction flow), Identification of user needs and problems

5. Branding in Digital Interfaces (05 Periods)

Fundamentals of branding (color, typography, visual identity), Logo design for digital platforms, Integration of branding with user interface design, Development of basic style guides

6. Content Design & Portfolio Development (05 Periods)

Introduction to UX writing for digital interfaces (buttons, messages), Enhancement of UI through effective content, Development of a design portfolio using digital tools, Presentation of design work in a professional format

LIST OF PRACTICALS

- Wireframe to Prototype Simulation
- Brand Identity Design Project
- Design System Documentation Exercise
- Portfolio Website Development

INSTRUCTIONAL STRATEGY

Interactive Visual Lectures

Demonstration-Based Digital Labs

Research-Integrated Learning

Project-Based Learning

MEANS OF ASSESSMENT

- Wireframe to Prototype Simulation
- Brand Identity Design Project
- Design System Documentation Exercise
- Portfolio Website Development

RECOMMENDED BOOKS

- Don't Make Me Think – Steve Krug
- Hooked: How to Build Habit-Forming Products – NirEyal
- Designing Brand Identity – Alina Wheeler

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	04	15
2	04	15
3	05	17
4	05	18
5	05	17
6	05	18
Total	28	100

5.5	MEN'S FASHION	L	T	P
PRACTICUM		2	-	4

COURSE OBJECTIVE:

This course is designed to introduce students to the world of men's fashion. The study of men's fashion helps in understanding body structure, fit, and proportion, which are essential for creating well-designed garments.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understanding men's wear fashion.
- CO2- Understanding of body preparations and structure.
- CO3- Understanding of measurement technic and pattern drafting.
- CO4- Understanding of fashion styling of men's garments.
- CO5- Understanding the types of Men's design collection.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	1	1
CO2	3	2	2	2	2	1	1
CO3	3	3	3	2	3	1	1
CO4	2	3	3	2	3	2	2
CO5	2	2	2	1	2	2	2

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS**1. Introduction to men's fashion****(6 Periods)**

- Overview and importance of men's fashion
- History and evolution of men's clothing
- Key areas in men's fashion and iconic designers

- Influence of culture, politics and media

2. Male body proportions and anatomy

(5 Periods)

- Male body structure and muscle from
- Dynamic poses and movement in illustration
- Draw front, side and back poses of male croquis (fashion figures)

3. Men's tailoring

(6 Periods)

- Measurement techniques for pattern drafting
- Drafting basic blocks for shirt, trouser, waistcoat and suit jacket
- Cutting and sewing shirt and trouser from drafted pattern

4. Fashion styling for men

(5 Periods)

- Principles of styling and visual composition
- Wardrobe planning and capsule wardrobe creation
- Styling for different body types, seasons and occasions

5. Men's design collection

(6 Periods)

Mood board, fabric board, color story for menswear mini collection

LIST OF PRACTICALS

1. Pattern making and garment fabrication of different types of gents' casual wear
2. Pattern making and garment fabrication of different types of gents' formal wear
3. Pattern making and garment fabrication of different types of gents' party wear garments

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas.

MEANS OF ASSESSMENT

- Assignment, Quiz and Class test.
- Mid term and end term Written test.
- Actual Practical Work
- viva-voce

RECOMMENDED BOOKS

- History of Men's Fashion by FaridChenoune
- Vintage Menswear by Douglas Gunn, Josh Sims, Roy Lockett
- ABC of Men's Fashion by Hardy Amies
- Menswear Illustration by Richard Kilroy
- Fundamentals Menswear by M. Müller & Sohn
- Pattern Cutting for Menswear by Gareth Kershaw
- Dressing the Man: Mastering the Art of Permanent Fashion by Alan Flusser

Websites for Reference:

-www.behance.com
 -<https://apparelresources.com>
 -www.fibre2fashion.com

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	6	20
2	5	20
3	6	20
4	5	20
5	6	20
Total	28	100

5.6	JEWELLERY AND FASHION ACCESSORIES (Common With One Year P.G.Diploma In Fashion Technology)	L	T	P
PRACTICAL		1	-	4

RATIONALE

Changes in designs of apparel, jewelry and fashion accessories keep the fashion vibrant and dynamic. Their demand in society is always in unison with the pace of changes. Jewelry and fashion accessories and their designing are well established professions. Due use of computer in development of designs be emphasized.

Note:

Lecturer/Demonstration will go along. Importance to practical during the session is to be appreciated. Due use of computer in development of designs be emphasized. There will not be any theory examination.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- Design costume jewelry
- Have an understanding of precious and semiprecious stones
- Will be able to make wearable artificial jewelry using different materials which can be sold in the market.
- Design and fabricate accessories for outfits.

DETAILED CONTENTS

1.BASICS: (03 Periods)

Jewels- their shapes.Forms and types.Techniques.Creations.Inspiration. Elements - Studded gold, plain gold, and other metals.

2.GEMS IDENTIFICATION: (02Periods)

Cuts, Sizes, shapes, using different identification techniques.

3.JWELLERY: Accessories, styles and their creative uses. Preparation and collection of design Andtheir analysis.

(02 Periods)

4.FASHION ACCESSORIES: (02Periods)

Fashion leather and their creative uses Hats, Bags Shoes, Key Chain Umbrellas, Bags, Purses, Wallets, Prepare two articles of different Types of accessories.

5.STYLES OF FASHION ACCESSORIES: (03Periods)

Styles and variation in Fashion accessories.Designing and orientation/various aspects of different fashion accessories. Materials used for Fashion Accessories, Suitability of fashion

accessories according to figure type

Market surveys and Research for proper selection of accessories.

6. Prepare 5 sets of jewellery with 5 items using different materials (02Periods)

List of practical

- By using leather material prepare cap, gloves, tie, ladies' bag, mobile case, coin purse
- Prepare paper, metal, jute and artificial jewellery

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas. Visits to Fashion industries must be carried out, so as to make the students can understand where and how the various instruments are used in the industry.

MEANS OF ASSESSMENT

- Model/ Pattern making
- Actual practical work
- Viva-Voce

RECOMMENDED BOOKS

- A Golden Treasure Jewelry from the Indian Subcontinent by Susan Stronge, Nima Smith & J. C. Harle, Publication: Victoria & Albert Museum
- Masterpieces of Indian Jewelry by JamilaBrijbhushan, Publication: Tara P. Ravata.
- Indian Costume Coiffure and Ornament by Sachinan and Sahay Publication: MunshiramManoharlal
- Jewelry Making Manual by Sylvia, Publication: Mac Donald

Websites for Reference:

1. https://en.wikipedia.org/wiki/Fashion_accessory
2. www.jewelryinfoplace.com

5.7	INDIAN CONSTITUTION	L	T	P
PRACTICAL		2	-	-

1. COURSE LEARNING OBJECTIVES:

1. Understand the history, principles, and key interpretations of the Indian Constitution.
2. Understand the structure and key roles of the Indian Union Government, including the President, Prime Minister, and Council of Ministers.
3. Understand the composition, powers, and functions of the Lok Sabha, Rajya Sabha, and the Supreme Court.
4. Understand the roles and powers of the Governor, Chief Minister, Council of Ministers, and the State Secretariat.
5. Understand the structure and functions of local administration, including District, Municipal, and Zila Panchayat levels.
6. Understand the structure, role, and functions of the Election Commission of India.

2. LEARNING OUTCOMES:

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

1. The historical process of the Indian Constitution's creation.
2. The structure and roles of the President, Prime Minister, and Council of Ministers.
3. The composition, powers, and functions of the Lok Sabha, Rajya Sabha, and Supreme Court.
4. The roles and powers of the Governor, Chief Minister, Council of Ministers, and State Secretariat.
5. The structure and functions of local administration, including District Administration, Municipal Corporations, and Zila Panchayats.
6. The structure, role, and functions of the Election Commission of India.

3. COURSE CONTENT

Unit 1 – The Constitution – Introduction

(06 Periods)

- The History of the Making of the Indian Constitution
- Preamble and the Basic Structure, and its interpretation

- Fundamental Rights and Duties and their interpretation

Unit 2 – Union Government

(06 Periods)

- Structure of the Indian Union Government
- President – Election, Role and Power
- Prime Minister and Council of Ministers

Unit 3- Indian Legislature & Judiciary

(06 Periods)

- Composition of Lok Sabha and Rajya Sabha
- Powers & Functions of Lok Sabha and Rajya Sabha
- Structure of Supreme Court including Appointment of Judges
- Powers & Functions of Supreme Court

Unit 4 – State Government

(03 Periods)

- Governor – Role and Power
- Chief Minister and Council of Ministers
- State Secretariat

Unit 5 – Local Administration

(04 Periods)

- District Administration
- Municipal Corporation
- Zila Panchayat

Unit 6 – Election Commission

(03 Periods)

- Structure of Election Commission of India
- Role and Function of Election Commission

4. SUGGESTED BOOKS

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 DD Basu Lexis Nexis; Twenty-Third 2018 edition
4. Our Constitution Subhash Chand Kashyap NBT New Delhi.

SUGGESTED SOFTWARE/LEARNING WEBSITES:

- a. <https://www.constitution.org/cons/india/const.html>
- b. <http://www.legislative.gov.in/constitution-of-india>
- c. <https://www.sci.gov.in/constitution>
- d. <https://www.toppr.com/guides/civics/the-indian-constitution/the-constitution-of-india/>
- e. <https://ncert.nic.in/textbook.php>

SUGGESTED DISTRIBUTION OF MARKS

SR No	Topic Time Allotted (periods)	Marks Allotted %
1	6	20
2	6	20
3	6	20
4	3	12
5	4	16
6	3	12
TOTAL	28	100

6.1	ENTREPRENEURSHIP AND STARTUPS	L	T	P
THEORY		3	-	-

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.

COURSE OUTCOME:

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

CO1- Understanding the dynamic role of entrepreneurship and small businesses

CO2- Understanding of Business idea and planning.

CO3- Understanding the idea to start Business.

CO4- Understanding the function of management.

CO5- Understanding the financing ideas and way of succession.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

COURSE CONTENT:

Unit 1 - Introduction to Entrepreneurship and Start – Ups

(07 Periods)

- Definitions, Classification of Entrepreneur
- Traits of an Entrepreneur, Intrapreneurship, Motivation
- Types of Business Structures- On the Basis of size and On the basis of ownership
- Similarities/differences between entrepreneurs and managers

Unit 2 – Business Ideas and their implementation

(06 Periods)

- Discovering ideas and visualizing the business
- Activity map
- Business Plan (Case Study)

Unit 3 – Ideas to Start-up

(09Periods)

- Marketing and Accounting- Definition and Importance.
- Market Analysis – STP (Segmentation, Targeting, Positioning)
- Competition evaluation and Strategy Development – Vision, Mission, Goal, Objectives.
- Risk analysis- SWOT Analysis.

Unit 4 – Management

(07 Periods)

- Definition Concept and Functions of Management
- Company's Organization Structure- Concept and Classification
- Recruitment and Selection- Definition,
- Training and Development- Importance.

Unit 5 - Financing and Protection of Ideas

(09 Periods)

- Financing methods available for Entrepreneurship/ Startups in India (Government Scheme, Banking, NBFCs, SHG and Micro Financing).
- Intellectual Property Rights- Overview of - Copyrights, Trademark, Geographical Indicators, Patenting and Licenses
- Communication of Ideas to potential investors – Investor Pitch.

Unit 6: Succession, Dissolution and Harvesting strategy

(04 Periods)

- Ways of succession
- Types of Dissolution

SUGGESTED LEARNING RESOURCES:

S. No.	itle 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.	Entrepreneurship Development (A new Venture creation)	Vasant Desai	Simalya Publication
3.	Entrepreneurship Development	Shankar S.S.	S Chand & Company Limited New Delhi
4.	Entrepreneurship Development	Gupta and Srinivsan	Chand & Company Limited New Delhi
5	Demand: Creating What People Love Before They Know They Want It	Adrian J. Slywotzky with Karl Weber	Headline Book Publishing ISBN – 978-0755388974
6	The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses	Eric Ries	Penguin UK ISBN – 978-0670921607
7	The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business	Clayton M. Christensen	Harvard Business ISBN: 978-142219602

SUGGESTED SOFTWARE /LEARNING WEBSITES:

- <https://www.fundable.com/learn/resources/guides/startup>
- [https://corporatefinanceinstitute.com/resources/knowledge/finance/corporate structure/](https://corporatefinanceinstitute.com/resources/knowledge/finance/corporate-structure/)
- <https://www.finder.com/small-business-finance-tips>
- <https://www.profitbooks.net/funding-options-to-raise-startup-capital-for-your-business/>
- NPTTEL Course on Entrepreneurship https://onlinecourses.nptel.ac.in/noc23_mg74/preview
- National Geographic Channel you tube Video on “GI Tag Crafts of Bharat”

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	07	17
2	06	14
3	09	20
4	07	17
5	09	21
6	04	11
Total	42	100

6.2	APPAREL INDUSTRY & PRODUCTION MANAGEMENT (Common With One Year P.G. Diploma In Fashion Technology)	L	T	P
THEORY		4	-	-

COURSE OBJECTIVES:

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. The paper aim to fulfill this objective.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- CO1- Understand the different ways in which the fashion industry operates
- CO2- Understanding the cutting room operation and planning
- CO3- Understanding the production management of sewing department.
- CO4- Understanding the finishing department operation.
- CO5- Understanding the costing and quality control.

SUGGESTED COURSE ARTICULATION MATRIX (CAM):

CO No.	PO1 Basic and Discipline Specific Knowledge	PO2 Problem Analysis	PO3 Design/ Development of Solutions	PO4 Engineering Tools	PO5 Practices for Society, Sustainability and Environment	PO6 Project Management	PO7 Life Long Learning
CO1	3	2	1	1	2	2	2
CO2	3	3	3	2	2	3	1
CO3	3	3	3	2	3	2	1
CO4	3	2	3	2	3	1	1
CO5	3	3	2	3	2	2	1

Legend: High (3), Medium (2), Low (1) and No mapping (-)

* PSOs will be developed by respective programme coordinator at institute level. As per latest NBA guidelines, formulating PSOs is optional.

DETAILED CONTENTS**1) ORIGIN OF APPAREL INDUSTRY****(10 Periods)**

- Strength, weakness, threats and opportunities with respect to fashion industry.
- Present status of industry.
- Types of manufacturing system -
 - *Subcontract
 - *Whole garment
 - *Assembly

2) CUTTING ROOM PLANNING: (10 Periods)

Planning, cutting, sorting, conditions for cutting room layout, drawing based on cutting room analysis, cutting room layout, cut plans, manpower, machines, tools and equipment. 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.

3) SEWING PRODUCTION MANAGEMENT: (10 Periods)

*Stitch classifications, quality inspection of stitches on different fabrics, 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.
- For quality and quantity analysis
- Documentation, control forms
- Flow charts.
- Production control systems.
- Definition, types, criteria, planning and layout.

4) FINISHING (4 Periods)

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

5) COST AND COST CONTROL (4 Periods)

- Definition, types and expenses.
- Production cost control and cost reduction.
- Break even & charts.

6) QUALITY CONTROL (6 Periods)

- Definition, scope.
- Establishing Raw material quality control and their procedure.
- Establishing processing quality control and their procedure.
- Quality control for finished garments.
- Quality control for packaging.
- Industry wide quality standards.
- Standards and specifications, ISO inspection methods, different types of quality control.

7) COMPETITION AND AUTOMATION FOR APPAREL MANUFACTURING (4 Periods)

Introduction, side by side we will see use of automation in the industry and its various aspects like cutting, sewing, finishing etc.

8. Introduction of ODOP Scheme (8 Periods)

1. India Craft Integration
 - 1.1. Understanding of traditional crafts of different states
 - 1.2. Crafts Related to fashion industry under odop with allied districts
 - 1.3. India & Western World Craft Integration
2. Entrepreneurship & Branding
 - 2.1. • Craft-based branding
 - 2.2. • ODOP scheme benefits
 - 2.3. • Government support systems
 - 2.4. • E-commerce & digital marketing
3. Practical Approach of ODOP
 - 3.1. Ready- made garments, Silk products, Gulabiminakari, Chikankari, Zardozi,

9- FACTORY VISIT: Visit to an Export house or manufacturing unit.

INSTRUCTIONAL STRATEGY

- Demonstration
- Interactive Lecture
- Case Study
- Project Work

MEANS OF ASSESSMENT

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Model making
- Actual practical work
- Viva

RECOMMENDED BOOKS

1. Fashion Marketing by Mike Easey, Publication Blackwell
2. Fashion Marketing & Merchandising by ManmeetSodhia&PoojaChatley, Publication: Kalyani Publications.
3. Clothing Technology by Verlag Europa Lehrmittel, Publications: Nourney, Vollmer GmbH& Co.

Websites for Reference:

1. <https://textilestudycenter.com/>
2. <https://www.onlineclothingstudy.com/>

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	10	15
2	10	15
3	10	16
4	4	14
5	4	10
6	6	10
7	4	10
8	8	10
Total	56	100

6.3	FASHION ILLUSTRATION AND MODEL DRAWING	L	T	P
PRACTICAL		1	-	8

COURSE OBJECTIVES

Without an understanding practice and experience in "Fashion illustration and Model Drawing" a fashion designer/technologist can never achieve success. The course has been graded in four successive parts to achieve the desired objectives.

Note:

Lecturer/Demonstration will go along with practice in tutorials. A file of exercises is to be maintained. At least 20 exercise relevant to the topics in the paper to be done. Computer use in these exercises-where applicable be demonstrated and exercised.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

1. Sketch different kind of Body and silhouette of a garment
2. Illustrate fashion ideas in a visual form.
3. Focus on figure wearing the clothes and less on particular clothing.
4. Achieve basic knowledge and skill in drawing the fashion figure and how it is used for fashion design.
5. Be aware of major design details and have skill in representing them graphically.
6. Understand the theory of various colour treatments, colour co-ordination in sketching.
7. Understand the concept of flats, spec sheets, placing of swatches etc.
8. Use the appropriate terminologies of different styles, design cuts etc.

DETAILED CONTENTS

PART I

1. Tounderst and the difference between normal figure and fashion figure.
2. Eight head and ten head theory with appropriate terminologies.
3. Front view, back view, 3/4 view.
4. Project work for above study.(Home Assignment or class work).

PART II

1. Working from photos and fashion drawings converting photos into stylized figure.
2. Shaping of the different parts of human figures-hands, feet, shoes etc.

3. Studying the face and different types.
4. To draw different fashion accessories - hats, gloves, handbags, shoes, earring, neck-less etc.
5. Project work from above studies. (Home Assignments)

PART III

1. Design details- various types of collars, sleeve parts, gathers, flares, drapes etc. .
2. Project work by using inspiration and story line.
3. Collecting pictures of inspiration and filing them.

PART IV

1. Creation of original designs, interpretation of fashion sketches.
2. Final projects for fashion shows.

INSTRUCTIONAL STRATEGY

Since this subject is practice oriented, the teacher should demonstrate practical significance of the various areas. Visits to Fashion industries must be carried out

MEANS OF ASSESSMENT

- Model /Pattern Making
- Actual Practical work
- viva-voce

RECOMMENDED BOOKS

- Liberty Fashion Sketch Book, By JayashreeBhosale Liberty Publication.
- Fashion Rendering by RanjanaSinghal, Om Books Publication.

Websites for Reference:

- www.pinterest.com
- www.masterclass.com

6.4	PROJECT WORK	L	T	P
PRACTICAL		-	-	6

COURSE OBJECTIVES:

Major Project Work aims at developing innovative skills in the students whereby they apply in totality the knowledge and skills gained through the course work in the solution of particular problem or by undertaking a project. In addition, the project work is intended to place students for project oriented practical training in actual work situation for the stipulated period.

• LEARNING OUTCOMES

After undergoing the project work, students will be able to:

Apply in totality the knowledge and skills gained through the course work in the solution of particular problem or by undertaking a project. In addition, the project work is intended to place the learner for project oriented practical training in actual work situation for the stipulated period with a view to:

- Develop understanding regarding the size and scale of operations and nature of field-work in which students are going to play their role after completing the courses of study
- Develop understanding of subject based knowledge given in the classroom in the context of its application at work places.
- Develop firsthand experience and confidence amongst the students to enable them to use and apply polytechnic/institute based knowledge and skills to solve practical problems related to the world of work.
- Develop abilities like interpersonal skills, communication skills, positive attitudes and values etc.

General Guidelines

The individual students have different aptitudes and strengths. Project work, therefore, should match the strengths of students. For this purpose, students should be asked to identify the type of project work, they would like to execute. The activity of problem identification should begin well in advance (say at the end of second year). Students should be allotted a problem of interest to him/her as a major project work. It is also essential that the faculty of the respective department may have a brainstorming session to identify suitable project assignments for their students. The project assignment can be individual assignment or a group assignment. There should not be more than 3 students if the project work is given to a group. The project work identified in collaboration with industry should be preferred.

This practical training cum project work **should not be considered** as merely conventional industrial training in which students are sent at work places with either minimal or no supervision. This experience is required to be planned in advance and supervised on regular basis by the polytechnic faculty. For the fulfillment of above objectives, polytechnics may establish close linkage with 8-10 relevant organization for providing such an experience to students. It is necessary that each organization is visited well in advance and activities to be performed by students are well defined. The chosen activities should be such that it matches with the curricular interest to students and of

professional value to industrial/ field organizations. Each teacher is expected to supervise and guide 5- 6 students.

The projects given to students should be such for which someone is waiting for solution. Some of the suggested project activities are given below:

- (a) FASHION DESIGNING and Garment Technology
- (b) Demonstration of new techniques for the Fashion Design, Garment Technology, operation of new machinery used in Garment.
- (c) Problem concerning to any one of the following: To run his own setup Garment, jewelry.

At the end of the project student will submit a written report of his/ their accomplishment and face a viva voce examination individually.

NOTE: Each student has to take one project individually and one to be shared with a group of four-five students depending upon cost and time involved. There is no binding to take up the above projects as it is only a suggestive list of projects.

A suggestive criterion for assessing student performance by the external (person from industry) and internal (teacher) examiner is given in table below:

Sr. No.	Performance Criteria	Max.** Marks	Rating Scale				
			Excellent	Very Good	Good	Fair	Poor
1.	Selection of project assignment	10%	10	8	6	4	2
2.	Planning and execution of considerations	10%	10	8	6	4	2
3.	Quality of performance	20%	20	16	12	8	4
4.	Providing solution of the problems or production of final product	20%	20	16	12	8	4
5.	Sense of responsibility	10%	10	8	6	4	2
6.	Self expression/ communication skills	5%	5	4	3	2	1
7.	Interpersonal skills/human relations	5%	5	4	3	2	1
8.	Report writing skills	10%	10	8	6	4	2
9	Viva voce	10%	10	8	6	4	2
Total marks		100	100	80	60	40	20

The overall grading of the practical training shall be made as per following table.

In order to qualify for the diploma, students must get “Overall Good grade” failing which the students may be given one more chance to improve and re-evaluate before being disqualified and declared “not eligible to receive diploma”. It is also important to note that the students must get more than six “goods” or above “good” grade in different performance criteria items in order to get “Overall Good” grade.

Important Notes

1. **This criteria must be followed by the internal and external examiner and they should see the daily, weekly and monthly reports while awarding marks as per the above criteria.**
2. **The criteria for evaluation of the students have been worked out for 100 maximum marks. The internal and external examiners will evaluate students separately and give marks as per the study and evaluation scheme of examination.**
3. **The external examiner, preferably, a person from industry/organization, who has been associated with the project-oriented professional training of the students, should evaluate the students performance as per the above criteria.**
4. **It is also proposed that two students or two projects which are rated best be given merit certificate at the time of annual day of the institute. It would be better if specific nearby industries are approached for instituting such awards.**

Project paper should be given to students well in advance. The basic theme of the course is design and fabrication of Fashion articles and also to learn processes affecting fashion indirectly viz Printing, Dyeing, Embroidery Embossing and Knitting. The paper should contain two problems from every section of the course Viz Costume design and Fabrication, Dyeing and Printing, Knitting, Embroidery and Jewellery design. The student shall select any three problems at least one from each section. The problems should have renovating use of design, fabrication and machines system and process. The total marks allotted to paper is 100. Break up marks is as given below –

Sessional Exam

1. Apparel Design & Fabrication 10+25(10+10+5)
2. Dyeing and Painting 10+25(10+10+5)
3. Knitting, Embroidery & Jewellery 10+20(8+8+4)

The teachers are free to evolve other criteria of assessment, depending upon the type of project work. It is proposed that the institute may organize an annual exhibition of the project work

RESOURCE REQUIREMENT

1.1 PHYSICAL RESOURCES

(A) Space requirement

Norms and standards laid down by All India Council for Technical Education(AICTE) are to be followed to work out space requirement in respect of class rooms, tutorial rooms, drawing halls, laboratories, space required for faculty, student amenities and residential area for staff and students.

(B) Equipment requirement:

Following Laboratories are required for Diploma Programme in Fashion Designing and Garment Technology

- Communication Laboratory
- Textile science lab
- Drafting and Pattern Making Shop
- Fabrication, Embroidery and Knitwear Technology Shop
- Computer &CAD Centre
- Environmental Engineering Lab

EQUIPMENT REQUIREMENT**COMMUNICATION LABORATORY**

Sr.No.	Description	Qty	Total Price (Rs)
1	Stools	40	10,000
2	Display Board/Screen	2	6,000
3	Sound recording and playing system	1	6,000
4	Audio cassettes	60	2,000
5	Overhead Projector	1	5,000
6	Transparencies slides	100	500
7	TV, VCR and camera for video recording	1 each	20,000
8	English spoken course	1	2,000
9	A Quiz room equipped with two-way audio system, back projection system and slide projector	1	30,000
10	Miscellaneous	LS	1,500

TEXTILE SCIENCE LAB

Sr.No.	Description	Qty	Total Price (Rs)
1	Dye Bath For Experimental Work	10	5,000
2	Spray, Block and Screen Systems of Printing	10 Set	10,000
3	Microscope to visualize various type of fibers	2	70,000
4	GSM Cutter/ Crock Meter	2	14,000
5	Digital Thickness gauge	2	8,000
6	Stainless Steel Bhagona 15 Litre	4	8,000
7	Stainless Steel Balti 10 Litre	4	5,000
8	2000 Watt Induction	2	5,000
9	Counting Glass to count EPI, PPI	4	4,000
10	Plastic Molded Stool with Good Strength	80	70,000

DRAFTING AND PATTERN MAKING SHOP

Sr.No.	Description	Qty	Total Price (Rs)
1	Drafting Tables 1 X 1.5 Meters	30	3,00,000
2	Plastic Molded Stool with Good Strength (26")	80	70,000
3	Thimble	60	6,000
4	Pressing Board	15	15,000
5	Dressing Mirror 4.5' X 1.5' (with frame & stand)	10	10,000
6	Squares Art, Plastic	30	5,000
7	Hangers General	12 Doz	5,000
8	Hangers Wooden	30	4,000
9	Long Scale of 1 m IN etc Cr DC MEETING HELD O	11.083.20023	3,000
10	Seam Openers 99	30	3,000
11	Shapers for upper and lower garments	60	10,000
12	Spray Gun (For removal of stains)	10	10,000
13	Electric Cutter	4	32,000
14	Dummies (Ladies, Gents & Children) Upper and Lower Sizes	30	3,00,000
15	Scissors 9", 10", 11" (20+20+20)	60	10,000
16	Button hole scissors 8	4	600
17	Trimming Scissors 8"	4	500
18	Picking Scissors 10"	4	500
19	Electric Scissors	4	4000
20	Display Board 6' x 4'	10	15,000
21	Straight Knife Machine	4	1.20,000

22	Round Knife Machine	4	1.00,000
23	Misc Equipment. (viz Measuring Tapes, Lump Tracing Wheels etc.)	LS	25,000

GARMENT FABRICATION SHOP

1	Pico machine	4	20,000
2	Interlocking/ Overlock Machine	4	20,000
3	Flat Bed sewing machine	30	240000
4	Button hole sewing machine with all attachments (Juki/Singer/Brother/Jack)	2	140000
5	Automatic fusing machine	2	80000
6	Iron Press heavy	4	4,000
7	Steam press	4	10,000
8	Pressing Table different shapes & plain	30	10,000
9	Electric Iron Press (automatic)	10	15,000
10	Double needle lockstitch machine	2	80000
11	Beating hammer	10	1000
12	Punch (No. 0, 1, 2, 3)	10 each X 4 = 40	2000
13	Fiber Sheet (6" X 6")	4	800
14	Rampi with handle	10	1000
15	Button setter die	4	600

ENVIRONMENT ENGINEERING LABORATORY

1.	pH Meter	01	500
2.	Turbidity Meter	01	5000
3.	Oven with Temperature Controller and Forced Air Circulation Type	01	20000

4.	B.O.D. Incubator	01	25000
5.	Water Analysis Kit	01	5000
6.	High Volume Sampler	01	40000
7.	Electrical Balance for weighing upto 1/10 of milligram (capacity)	01	1000

BIBLIOGRAPHY OF FASHION DESIGNING & GARMENT TECHNOLOGY BOOKS

	NAME OF BOOK	AUTHOR	PUBLISHER
1.	DRAWING & DESIGNING	PATRIC JOHN	B.T. BOSTFORD LTD
	MENS WEAR	IRELAND	LONDON, FIZHARELING
			STREET.
2.	FASHION EXTRAS:	MARSHALL CAVENDISH	MARSHALL CAVENDISH BOOKS LTD. LONDON
			STREET.
3.	JASMINE ARTS	DESIGNER	98-GHADIOL GULLY
		SHARAD PD.	M.J.MARKET,BOMBAY
4.	THE BOOK OF LOOKS	LORRAINE	MICHOEL JOSEPH LTD.
		JOHNSON	44 BEDFORD SQUARE,
5.	LADY FASHION THIAMA	PRINTED IN JAPAN DISTRIBUTOR	E.D. GALGOHIA& SONS LONDON

DRAFTING & PATTERN MAKING

	NAME OF BOOK	AUTHOR	PUBLISHER
1.	ENCYCLOPEDIA OF DRESS	MARSHALL	MARSHALL CAVENDISH BOOKS LTD.
	MAKING.	CAVENDISH	58 OLD CAMBTON STREET.
2.	BASIC FASHION	WORDROBE PAMELALEE	SINGER Co, . (U.K.)
3.	DRESS MAKING	RONKELTY	HIMALAYAN PUBLISHING
		TERRY EVON	GROUP LTD. LONDON

COSTUME FABRICATION

	NAME OF BOOK	AUTHOR	PUBLISHER
1.	CROSS STITCH DESIGN	ONDORI ONDORI COLLECTION	JAPAN PUBLICATION
2.	A MANNUAL OF CHILDREN CLOTHING	SAVITA PANDIT	ORIENT LONGMANS, LTD., BOMBAY
3.	NEWLOOK	DARSHAN	JASMINE, 98-CHADIAL GULLTY, M.J. MARKET, BOMBAY
4.	EMBROIDERY	Meena Srivastava	Hind Pocket Books
5.	Hobby Craft Series	Collective Matter	E.D. Galgohtia & SMS 17-B Cannaught Place, New Delhi
6.	SOFT TOYS	Sheela Nair	Hind Pocket Books
7.	TINY	Mukesh Mistry (Photos) Vinay Chikedikar	BEAU & BELL Creation
8.	CHILDREN'S CLOTHES ROBBY LEE	DESIGNER DATED PRESS	AUSTRALIAN CONSOLI PHELAN

	NAME OF BOOK	AUTHOR	PUBLISHER
9.	PATCH WORK	PHELAN	BYTHE EDITOR RAY RANSAY BOOK DIVISION
10.	EMBROIDERY & CROSS STITCH	ONDERI	PRINTED IN JAPAN E.D. GALOGHTIA & SONS
11.	LOVERLY CROSS STITCH	YALMAKANUR A	NIHON
12.	NEEDLE POINT LETTERS	DONNA REDY	DUBLEDERY COMPANY PUBLICATION
13.	PETTES TOILETTES	HUNDIAL	APARTADE PUBLICATION
14.	HUNDRED DESIGNS PIN & THREAD	RAYMOND	ASSOCIATED TERRITORIES ACTOPUS BOOK
15.	EMBRIODERY OF ENGINEERS	ONDERI ONDERI	
16.	EMBRIODERY PATTERN	ONDERI ONDERI	
17.	WOMEN'S FASHION DORIWORK SPECIAL	FASHION LANDERIS	PRESS
18.	VEENA	VIJAY TRADING	DIKUSH JOSHI BOMBAY
19.	VEENA CREATIONS	VIJAY TRADING	DIKUSH JOSHI BOMBAY
20.	KID SPECIAL FASHION	VERITY BOOK	VERIERY BOOK, NEW DELHI
21.	WOMEN'S FASHION	VEENA & CREATION	PIONEER BOOK, BOMBAY

BUSINESS MANAGEMENT

S.NO.	BOOKS	PUBLICATION
1.	Marketing Management	Philip Kotler (Business Administration)
2.	Mass Communication and Journalism in India (D.S.Mehtab Business Administration)	Allied Publisher
3.	Advertising London Narris	James S.Meinemannl
4.	Theory and Practice of B. Singh Kapoor Business Correspondence (Communication Skill)	H.P.J.
5.	Foundation of Himalaya Publisher Advertising Theory (Business Administration)	Chuna Walla Sethia House
6.	Management Made Simple Frank Jefkins	Chuna Walla Sethia House
7.	Advertising Made Simple G.K. Puri	I.M.S. Publication
8.	Public relation for all G.K. Puri & Cen. (Business Administration)	Rupa
9.	Marketing research Wartfall Richerd Press (Business Administration)	Boyd
10.	Relation for all G.K.Puri K. Puri (Business Administration)	Public Gopal
11.	Hand Book of Public (Business Administration)	D.S. Mehta, Allied Publisher
12.	Advertising Management (Business Administration)	David A.A. Asker, Prentice hall of India.

COMMUNICATION TECHNIQUE

S.NO.	BOOKS	PUBLICATION
1.	A Practical English Oxford University Grammar ICs	A.J. Thomas Press
2.	A Practical English	A.J. Thomas Grammar II (CS)
3.	High School English and Dethichand and Co. and Composition	Wren Martine
4.	Effective Communication E.C. Eyre	Rupma and Co. (CS)
5.	30 Days better English Dr. Wilfered	Frenk , Pocket Book (CS)
6.	30 Days better English (More powerful)	Norman Lewis Junior Publication

MAGAZINES FOR REFERENCE

1. Elle
2. Vogue

3. Cosmopolitin
 4. Simplicity
 5. Cladrag
 6. Glamour
 7. Discover India
 8. Lady Fashion
 9. Flair
 10. Trends
 11. Teenager
 12. Book of Look
 13. Ancient Indian costomer (History of
Fahsion) Author RashonAlkaz. Pres
- Publisher :Rajinder Paul Press
New Delhi.
14. Visual Designs : (Basic Design)
 15. Classic India Textiles
 16. Classic India Handicrafts

EVALUATION STRATEGY

INTRODUCTION

Evaluation plays an important role in the teaching-learning process. The major objective of any teaching- learning endeavor is to ensure the quality of the product which can be assessed through learner's evaluation.

The purpose of student evaluation is to determine the extent to which the general and the specific objectives of curriculum have been achieved. Student evaluation is also important from the point of view of ascertaining the quality of instructional processes and to get feedback for curriculum improvement. It helps the teachers in determining the level of appropriateness of teaching experiences provided to learners to meet their individual and professional needs. Evaluation also helps in diagnosing learning difficulties of the students. Evaluation is of two types: Formative and Summative (Internal and External Evaluation)

Formative Evaluation

It is an on-going evaluation process. Its purpose is to provide continuous and comprehensive feedback to students and teachers concerning teaching-learning process. It provides corrective steps to be taken to account for curricular as well as co-curricular aspects.

Summative Evaluation

It is carried out at the end of a unit of instruction like topic, subject, semester or year. The main purpose of summative evaluation is to measure achievement for assigning course grades, certification of students and ascertaining accountability of instructional process. The student evaluation has to be done in a comprehensive and systematic manner since any mistake or lacuna is likely to affect the future of students. In the present educational scenario in India, where summative evaluation plays an important role in educational process, there is a need to improve the standard of summative evaluation with a view to bring validity and reliability in the end-term examination system for achieving objectivity and efficiency in evaluation.

STUDENTS' EVALUATION AREAS

The student evaluation is carried out for the following areas:

- Theory
- Practical Work (Laboratory, Workshop, Field Exercises)
- Project Work
- Professional Industrial Training

Theory

Evaluation in theory aims at assessing students' understanding of concepts, principles and procedures related to a course/subject, and their ability to apply learnt principles and solve problems. The formative evaluation for theory subjects may be caused through sessional /class-tests, home-assignments, tutorial-work, seminars, and group discussions etc. For end-term evaluation of theory, the question paper may comprise three sections.

Section-I

It should contain objective type items e.g. multiple choice, matching and completion type. Total weightage to Section-I should be of the order of 20 percent of the total marks and no choice should be given in this section. The objective type items should be used to evaluate students' performance in knowledge, comprehension and at the most application domains only.

Section-II

It should contain short answer/completion items. The weightage to this section should be of the order of 40 percent of the total marks. Again, no choice should be given in section-II

Section-III

It may contain two to three essay type questions. Total weightage to this section should be of the order of 40 percent of the total marks. Some built-in, internal choice of about 50 percent of the questions set, can be given in this section

Table II : Suggested Weightage to be given to different ability levels

Abilities	Weightage to be assigned
Knowledge	10-30 percent
Comprehension	40-60 percent
Application	20-30 percent
Higher than application i.e. Analysis, Synthesis and Evaluation	Up to 10 percent

Practical Work

Evaluation of students' performance in practical work (Laboratory experiments, Workshop practicals/field exercises) aims at assessing students ability to apply or practice learnt concepts, principles and procedures, manipulative skills, ability to observe and record, ability to interpret and draw conclusions and work related attitudes. Formative and summative evaluation may comprise of weightages to performance on task, quality of product, general behaviour and it should be followed by viva-voce.

Project Work

The purpose of evaluation of project work is to assess students ability to apply, in an integrated manner, learnt knowledge and skills in solving real life problems, manipulative skills, ability to observe, record, creativity and communication skills. The formative and summative evaluation may comprise of weightage to nature of project, quality of product, quality of report and quality of presentation followed by viva-voce.

Professional Industrial Training

Evaluation of professional industrial training report and viva-voce/ presentation aims at assessing students' understanding of materials, industrial processes, practices in the industry/field and their ability to engage in activities related to problem-solving in industrial setting as well as understanding of application of learnt knowledge and skills in real life situation. The formative and summative evaluation may comprise of weightages to performance in testing, general behaviour, quality of report and presentation during viva-voce.

RECOMMENDATIONS FOR EFFECTIVE CURRICULUM IMPLEMENTATION

This curriculum document is a Plan of Action and has been prepared based on exhaustive exercise of curriculum planning and design. The representative sample comprising selected senior personnel (lecturers and HODs) from various institutions and experts from industry/field have been involved in the curriculum design process.

The document so prepared is now ready for its implementation. It is the faculty of polytechnics who have to play a vital role in planning instructional experiences for the courses in four different environments viz. class-room, laboratory, library and field and execute them in the right perspective. It is emphasized that a proper mix of different teaching methods in all these places of instruction only can bring the changes in stipulated students behaviour as in the curriculum document. It is important for the teachers to understand curriculum documents holistically and further be aware of the intricacies of the teaching-learning process (T-L) for achieving curriculum objectives. Given below are certain suggestions which may help the teachers in planning and designing learning experiences effectively. These are indicative in nature and teachers using their creativity can further develop/refine them. The designers of the programme suggest every teacher to read them carefully, comprehend and start using them.

(A) Broad Suggestions:

- A.1. Curriculum implementation takes place at programme, course and class-room level respectively and synchronization among them is required for its success. The first step towards achieving synchronization is to read curriculum document holistically and understand its rationale and philosophy.
- A.2. An academic plan needs to be prepared and made available to all polytechnics well in advance. The Principals have a great role to play in its dissemination and percolation up to grass-root level. Polytechnics, in turn, are supposed to prepare institutional academic plans.
- A.3. HOD of every Programme Department along with HODs and incharges of other departments are required to prepare academic plans at department level referring to institutional academic plan.
- A.4. All lecturers/Senior lecturers are required to prepare course level and class level lesson plans referring to the departmental academic plan.

(B) Course Level Suggestions

Teachers are educational managers at class room level and their success in achieving course level objectives lies in using course plan and their judicious execution which is very important for the success of the programme by achieving its objectives.

Polytechnic teachers are required to plan various instructional experiences viz. theory lecture, expert lectures, lab/workshop practicals, guided library exercises, field visits, study tours, camps etc. In addition, they have to carry out progressive assessment of theory, assignments, library, practicals and field experiences. Teachers are also required to do all these activities within a stipulated period of time. It is essential for them to use the given time judiciously by planning all above activities properly and ensure execution of the plan effectively.

Following is the gist of suggestions for subject teachers to carry out T-L process effectively:

- B.1. Teachers are required to prepare a course plan, taking into account departmental academic plan, number of weeks available and courses to be taught.
- B.2. Teachers are required to prepare lesson plans for every theory class. This plan may consist of contents to be covered, learning material for execution of a lesson plan. They may follow steps for preparing lesson plans e.g. drawing attention, state instructional objectives, help in recalling pre-requisite knowledge, deliver planned subject content, check desired learning outcomes and reinforce learning etc.
- B.3. Teachers are required to plan for expert lectures from the field/industry. Necessary steps are to plan in advance, identify field experts, make correspondence to invite them, take necessary budgetary approval etc.
- B.4. Teachers are required to plan for guided library exercises by identification of course specific experience requirements, setting time, assessment, etc. The assignments and seminars can be thought of as the terminal outcome of library experiences.
- B.5. Concept and content based field visits may be planned and executed for such content of course which is abstract in nature and no other requisite resources are readily available in the institute to impart them effectively.
- B.6. There is a dire need for planning practical experiences in the right perspective. These slots in a course are the avenues to use problem based learning/activity learning/experiential learning approach effectively. The development of lab instruction sheets for the course is a good beginning to provide lab experiences effectively.
- B.7. Planning of progressive assessment encompasses periodical assessment in a semester, preparation of proper quality question paper, assessment of answer sheets immediately and giving constructive feedback to every student
- B.8. The student centred activities may be used to develop generic skills like task management, problem solving, managing self, collaborating with others etc.

- B.9. Where ever possible, it is essential to use activity- b a s e d learning rather than relying on delivery based conventional teaching all the time.
- B.10. Teachers may take initiative in establishing liaison with industries and field organizations for imparting field experiences to their students.
- B.11. Students be made aware about issues related to ecology and environment, safety, concern for wastage of energy and other resources etc.
- B.12. Students may be given relevant and well thought out project assignments, which are purposeful and develop practical skills. This will help students in developing creativity and confidence for their gainful employment.
- B.13. A Project bank may be developed by the concerned department of the polytechnics in consultation with related Industry, research institutes and other relevant field organizations in the state.

List of Participants

The following experts have participated in workshop for Developing the Curricula Structure and Contents of Three-year (Six Semester) Diploma Programme in **FASHION DESIGNING AND GARMENT TECHNOLOGY** for UP State through workshops held at IRDT Kanpur :

1. Smt. KshipraShukla, Chairman, UPIDR, Lucknow
2. Dr. Ruchi Mittal, Director Ruchi Institute of Design, Prayagraj.
3. Smt. Ranjana Mishra, Principal, SJM Polytechnic, Ghaziabad
4. Dr. NeetuLabh, Assistant Professor, Ambition Institute, Varanasi.
5. Dr. ShikhaChantia, Professor, UPIDR, Lucknow
6. Dr. Sanjay Saxena, Assistant Professor, UPIDR, Lucknow
7. ShriPankajYadav, HOD Textile Design, GP Jigarsand, Ballia
8. Shri Ashok Panday, HOD Fashion Technology, GGP, Lucknow.
9. ShriAsifZaidi, HOD Fashion Technology, GGP. Varanasi.
10. Shri Dinesh Gautam, Lecturer, Fashion Technology, GGP Varanasi.
11. Dr. Pratibha Singh, Lecturer, Fashion Technology, GGP Varanasi.
12. Shri Shiv Kumar, Lecturer, Fashion Technology, GGP Varanasi.
13. ShriVikasKulshreshtha, Assistant Professor/Coordinator, IRDT Kanpur

(ANNEXURE-I)

PROCEDURES / FORMATS FOR ORGANIZING INTERNSHIPS.

STUDENT INTERNSHIP PROGRAM APPLICATION

Complete and submit to the TPO/ Internship Program Coordinator.

1. Student Name:		Enroll. No.:	
2. Campus Address:		Phone:	
3. Home Address:		Phone:	
4. Student email address:			
5. Branch:		6. Internship Semester: _____	
7. Internship Preferences			
	Company/Industry	Core Area	Location
Preference-1			
Preference-2			
Preference-3			
Faculty mentor Signature: _____Date_____.			
Student Signature: _____Date_____.			
Signature confirms that the student agrees to the terms, conditions, and requirements of the Internship Program			

Signature with seal
HOD/Principa

(ANNEXURE-I)

REQUEST LETTER FROM INSTITUTE TO INTERNSHIP/INDUSTRIAL TRAINING PROVIDER

Ref. No.: _____

Date: _____

To,
The HR Manager/Training Coordinator
.....
.....

Subject: Request for Internship/Industrial Training for Diploma Students

Sir/Madam,

We are pleased to introduce....., a premier institution affiliated with Board of Technical Education, Uttar Pradesh, offering diploma programs in various diploma disciplines.

As a part of the curriculum, our students are required to undergo Internship/Industrial Training to gain practical exposure and enhance their technical competencies. Therefore, we kindly request your esteemed organization to provide Internship/Training opportunities to our students during the period from to

S. No.	Name	Enroll. No.	Semester/Year	Discipline

Yours sincerely,

(Head of Department/Principal)

PROFORMA FOR EVALUATION OF INTERNSHIP BY INDUSTRY

Student Name:Evaluation Date:

Industry

Supervisor Name:

Company/Organization:

.....

Title of the Project:

.....

Please evaluate your intern by indicating the frequency with which you observed the following behaviors:

Parameters	Max. Marks	Marks Given
Attendance and Punctuality	20	
Discipline and Professional Behavior	20	
Technical Knowledge and Understanding of Processes	30	
Practical Skills and Quality of Work	20	
Ability to Apply Theoretical Knowledge	20	
Problem Solving and Analytical Ability	10	
Communication and Interpersonal Skills	20	
Teamwork and Collaboration	10	
Internship Report/Documentation	20	
Presentation and Viva-Voce	30	
Total Marks	200	

Additional comments, if any:

Signature with seal of Industry supervisor

HR Manager

INTERNSHIP REPORT

STUDENT'S DIARY/ DAILY LOG

The main purpose of writing daily diary is to cultivate the habit of documenting and to encourage the students to search for details. It develops the students' thought process and reasoning abilities. The students should record in the daily training diary the day to day account of the observations, impressions, information gathered and suggestions given, if any. It should contain the sketches & drawings related to the observations made by the students.

The daily training diary should be signed after every day by the supervisor/ in charge of the section where the student has been working. The diary should also be shown to the Faculty Mentor visiting the industry from time to time and got ratified on the day of his visit.

Student's Diary and Internship Report should be submitted by the students along with attendance record and an evaluation sheet duly signed and stamped by the industry to the Institute immediately after the completion of the training. It will be evaluated on the basis of the following criteria:

- Regularity in maintenance of the diary.
- Adequacy & quality of information recorded.
- Drawings, sketches and data recorded.
- Thought process and recording techniques used.
- Organization of the information.

INTERNSHIP REPORT

After completion of Internship, the student should prepare a comprehensive report to indicate what he has observed and learnt in the training period. The student may contact Industrial Supervisor/ Faculty Mentor/TPO for assigning special topics and problems and should prepare the final report on the assigned topics. Daily diary will also help to a great extent in writing the industrial report since much of the information has already been incorporated by the student into the daily diary. The training report should be signed by the Internship Supervisor, TPO and Faculty Mentor. The Internship report will be evaluated on the basis of following criteria:

- i. Originality.
- ii. Adequacy and purposeful write-up.
- iii. Organization, format, drawings, sketches, style, language etc.
- iv. Variety and relevance of learning experience.
- v. Practical applications, relationships with basic theory and concepts taught in the course.

MONITORING & EVALUATION OF INTERNSHIP

The industrial training of the students will be evaluated in three stages:

1. Evaluation by Industry.
2. Evaluation by faculty supervisor of Industry.
3. Evaluation through seminar presentation/viva-voce at the Institute.

1. EVALUATION BY INDUSTRY

The industry will evaluate the students based on the Punctuality, eagerness to learn, Maintenance of Daily Diary and skill test in addition to any remarks.

2. MONITORING/ SURPRISE VISIT BY TPO/ STAFF/ FACULTY MENTOR

TPO/Staff/ Faculty Mentor of the institutes will make a surprise visit to the internship site, to check the student's presence physically, if the student is found absent without prior intimation to the T & P Cell, entire training will be cancelled. Students should inform the TPO, faculty mentor as well as the industry supervisor at least one day prior to availing leave by email. Students are eligible to avail 1-day leave in 4 weeks and 2 days leave in 6 weeks of the internship period apart from holidays and weekly offs.

3. EVALUATION THROUGH SEMINAR PRESENTATION/VIVA-VOCE AT THE INSTITUTE

The student will give a seminar based on his training report, before an expert committee constituted by the concerned department as per norms of the institute. The evaluation will be based on the following criteria:

- Quality of content presented.
- Proper planning for presentation.
- Effectiveness of presentation.
- Depth of knowledge and skills.
- Attendance record, daily diary, departmental reports shall also be analyzed along with the Internship Report.

Seminar presentation will enable sharing knowledge & experience amongst students & teachers and build communication skills and confidence in students.