

**CURRICULUM
FOR
SECOND SEMESTER
OF
THREE-YEAR
DIPLOMA COURSES
IN
POLYTECHNICS
OF
UNION TERRITORY
OF
JAMMU AND KASHMIR**

CURRICULUM

FOR

SECOND SEMESTER

DIPLOMA IN

GARMENT TECHNOLOGY

**2ND SEMESTER CURRICULUM OF THREE-YEAR DIPLOMA COURSES IN
POLYTECHNICS OF UT OF J&K**

SUBJECT STUDY SCHEME (2nd Sem: Garment Technology)

Course Code	Subjects	Time in Hours				CREDITS		
		Theory	Tutorial	Practical	Total	Theory	Practical	Total
HS203	Language and Communication Skills-II	3	-----	---	3	3	---	3
HS204	Language and Communication Skills-II Lab	----	-----	2	2	---	1	1
GTPC201	Textile Science-II	3	-----	---	3	3	---	3
GTPC202	Textile Science-II Lab	---	-----	2	2	----	1	1
ES202	Introduction to Computers and Information Technology	---	---	4	4	----	2	2
GTPC203	Basic Pattern Making and Style Interpretation-II	3	-----	---	3	3	---	3
GTPC204	Basic Pattern Making and Style Interpretation-II Lab	---	-----	4	4	---	2	2
GTPC205	Fashion Illustration-II	-----	1	2	3	-----	2	2
GTPC206	Garment Construction-II	-----	1	4	5	-----	3	3
BS204	Environmental Science	2	--	--	2	2	--	2
	Total	12	2	18	31*	11	11	22

Note: - The extra one hour should be managed by putting one extra working hour for during one day among the days in a week.

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENT TECHNOLOGY	
Course Code : HS203	Course Title: Language & Communication Skills – II
Semester: 2nd	Credits: 03
Periods per Week: 3 (L: 3 T: 0 P:0)	

COURSE OBJECTIVE:

The objective of this course is to develop effective communication skills and also to inculcate soft skills among the students in professional and inter-personal communications facilitating their all-round development of personality. At the end of the course, the student will be able to develop comprehension skills, Professional etiquettes; improve vocabulary; use proper grammar; acquire writing skills and explore various aspects of soft skills.

COURSE CONTENT

Unit 1: Short stories and Poetry (08hrs)

- 1.1 Section A: - Short Stories
 - Three Questions : Leo Tolstoy
 - The last leaf : O Henry
- 1.2. Section B:-Poems
 - The Psalm of life : H.W. Longfellow
 - Say Not Struggle Naught Avaleth : A.H. Clough

Unit 2: Essentials of Grammar (10hrs)

- 2.1. Basics of grammar (Parts of speech)
- 2.2. Subject -Verb Agreement
- 2.3. Tenses
- 2.4. Voice (Active and Passive)
- 2.5. One word substitution
- 2.6. Correct /Incorrect sentences

Unit 3. Techniques of Writing. (10hrs)

- 3.1. Comprehension of an Unseen Passage
- 3.2. Paragraph Writing
- 3.3. Circulars
- 3.4. Memos

Unit 4: Soft Skills (12hrs)

- 4.1. Intrapersonal and Interpersonal skills - Meaning and Importance.
- 4.2. Self-Management Skills

- Goal setting- Meaning, Importance, types and ways to achieve goals.
 - Time Management- Meaning, benefits and strategies to improve time management.
 - Self-motivation -Meaning and Importance.
 - Stress management -.Meaning, Causes and Techniques of stress management.
 - Positive Thinking
 - Problem-solving- Meaning, Steps and importance.
 - Decision Making - Meaning, process/stages and Importance of decision making
- 4.3. Team work and Leadership skills -Concept of Teams; Building effective teams; Concept of Leadership and honing Leadership skills.

Unit 5: Etiquettes

(08hrs)

- 5.1. Etiquettes - Meaning, Types and Importance
- 5.2. Professional etiquettes- ABC (Appearance, Behavior, Communication) of Professional Etiquettes, Importance of Professional etiquettes.
- Office Etiquette - Meaning, Importance and Tips.
 - Meeting etiquettes - Meaning, Importance and Tips.
 - Telephone etiquettes.

COURSE OUTCOME

After the completion of the course the student will be able to:

Unit 1:

- Read, analyze, and interpret works of literature.
- Make themselves proficient in literary contexts.
- Learn different words in the text which in turn will enhance their language (Vocabulary).

Unit 2:

- Identify the different parts of speech and their usage in the sentence.
- Know about the application of various grammatical items like Subject-Verb Agreement, Tenses, and Voice etc.
- Enrich his/her vocabulary and enhance grammar accuracy.

Unit 3:

- Comprehend the passage and able to answer the linked questions.
- Plan, organize and present ideas coherently on a given topic.
- Compose circulars and memos which in turn will enhance their writing skill.

Unit 4:

- Set goals, manage time and stress, solve problems and organize oneself effectively.
- Know about self-motivation and its importance.
- be a team player and know how to develop leadership skills.

Unit 5:

- Demonstrate personal and professional etiquettes.

RECOMMENDED BOOKS:

1. Kulbhushan Kumar," Effective Communication Skills", Khanna Publishing House, New Delhi (Revised Edition 2018)
2. M. Ashraf Rizvi,"Effective Technical Communication". Mc-Graw Hill: Delhi, 2002.
3. Sanjay Kumar and PushpLata, "Communication Skills "Oxford University Press, 2011
4. Meenakshi Raman &Sangeeta Sharma, "Technical Communication: Principle and Practice". New Delhi:OUP, 2011.
5. Francis Peter S.J.,"Soft Skills and Professional Communication"
6. K.R. Lakshminarayana & T. Murugavel, "Managing Soft Skills", Scitech Publications. 2009
7. NK Aggarwal and FT Wood, "English Grammar, Composition and Usage".Macmillan Publishers India Ltd; New Delhi.
8. Dr. Alex, "Soft skills"
9. Gopaldaswamy Ramesh and Mahadevan Ramesh,"The Ace of Soft Skills: Attitude, Communication and Etiquette for Success". Pearson

UNIT WISE TIME AND MARKS DISTRIBUTION

UNIT	TIME (Hrs)	MARKS (%age)
1	08	20
2	10	20
3	10	20
4	12	25
5	08	15
TOTAL	48	100

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENT TECHNOLOGY			
Course Code : HS204	Course Title:	Language	&
	Communication Skills – II Lab		
Semester: 2nd	Credits: 01		
Periods per Week: 2 (L: 0 T: 0 P:2)			

COURSE OBJECTIVE:

Language is the most commonly used medium of self-expression in all spheres of human life personal, social and professional. A student must have a fair knowledge of English language and skills to communicate effectively to handle the future jobs in industry. The objective of this course is to develop effective communication skills and also to inculcate soft skills among the students in professional and inter-personal communications facilitating their all-round development of personality. At the end of the course, the student will be able to develop comprehension skills, Professional etiquettes; improve vocabulary; use proper grammar; acquire writing skills and explore various aspects of soft skills. It is expected that each polytechnic will establish a communication skill laboratory for conducting practical's mentioned in the curriculum.

LIST OF PRACTICALS:

1. Ice breaking Activity and JAM session
2. Developing conversational ability - Describing yourself, Describing objects around you, Describing People.
3. Situational Dialogues- Role Play- Expressions in various situations- Self introduction and introducing others- Greetings- Taking Leave - Apologies- Requests etc.
4. Listening with Comprehension-Listening to recorded lectures, poems, interviews, speeches, documentaries etc. - Taking notes while listening
5. Professional etiquettes- Netiquette, Telephone Etiquette, Introduction and first impression, Business meeting etiquette, Dressing and Dining Etiquette.
6. Reading articles from newspaper, magazines, journals etc.
7. Public speaking - Extempore and Impromptu Speech
8. Grammar - Words often misspelt - confused/ misused; Common errors in pronunciation; Idiomatic expressions.
9. Professional Skills- Drafting Job Application Letter, CV/ Resume; Interview skills.
10. Demonstrating the do's and don'ts of facing the interview.

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENTTECHNOLOGY	
Course Code : GTPC201	Course Title : Textile science II
Semester: 2nd	Credits : 03
Periods per week: 3(L: 3, T: 0, P: 0)	

COURSE OBJECTIVE:-.

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

COURSE CONTENT

Unit 1: Fabric Structure

- Fabric Structure and properties of Knits:
- Classification: warp and weft knits
- Weft knits: Plain, Purl, Rib and interlock
- Warp knits: Tricot and raschel

Unit 2: Finishes

- Classification of finishes

Unit 3: Application of colour

- Dyeing – Definition, stages of dyeing (fibre, yarn, piece dyeing, garment dyeing)
- Printing – definition, methods and type of printing techniques
- Direct: block, Screen
- Tie and dye

Unit 5: Common faults in fabrics

- Weaving defects
- Colour defects
- Printing defects
- Knitting defects

Unit 6: Fabric Shrinkage

- Causes
- Prevention
- Measurement

COURSE OUTCOMES

After the completion of the course the student will be able to

- identify and analyze different types of knits

- recognize the various finishing processes
- acknowledge the various stages of dyeing
- understand the different printing techniques
- recognize Fabric shrinkage
- recognize the various fabric defects

Note: The teacher may develop master samples to demonstrate various processes. The students may be asked to prepare swatch files. The students should be taken for a visit to textile testing laboratory, dyeing and printing industries to familiarize with the various processes.

RECOMMENDED BOOKS:

- 1 Understanding Textiles by Phyllis Tortora, Macmillan Publishing Co. New York
- 2 Modern Textiles by RothySiegert Lyle, Wiley John & Sons, Inc. New York
- 3 Encyclopaedia of Textiles, Fibres and Non-woven Fabrics
- 4 Textiles Fiber to Fabric – P Corbman, McGraw Hill Book Co, Inc. New York
- 5 Fabric Science by Joseph Pizzuto, A&C Black Publishers Ltd. New York
- 6 Fabric Defects (Causes and Remedies) by SS Satsangi , Usha Publishers, New Delhi
- 7 Managing Quality in the Apparel Industry – PV Mehta and SK Bhardwaj
- 8 Clothing, Textiles and Their Care by Dr.RajwinderK.Randhawa, Happer& Row Publishers, New York
- 9 Clothing, Textiles and Laundry by SushmaGupta,NeeruGarg and Renu Saini, Kalyani Publishers, New Delhi
- 10 A Text Book of Home Science by Dr. Neelam Grewal, Wiley Publishers, New York

UNIT WISE TIME AND MARKS DISTRIBUTION

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	12	25
2	12	25
3	07	15
4	05	10
5	05	10
6	07	15
Total	48	100

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENTTECHNOLOGY	
Course Code : GTPC202	Course Title : Textile science II Lab
Semester: 2nd	Credits : 01
Periods per week: 2(L:0,T:0, P:2)	

COURSE OBJECTIVE:-.

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

LIST OF PRACTICALS:

1. Identify and analyze different type of knits samples and enlist their characteristics (design) Visits to a knitting unit to understand different knitting machines and processes
2. Visit of a finishing mill to observe various finishing processes
3. Different techniques of Dyeing (Make a sample file)
4. Identify the fabric samples on basis of the printing techniques
 - Block printing
 - Vegetable printing
 - Screen printing
 - Tie and dye method (Make a sample file of all printing methods)
5. Exercises related to locating and recognition of fabric defects with different methods
6. Measurement of fabric shrinkage of knit

PROGRAM THREE YEAR DIPLOMA IN ENGINEERING AND TECHNOLOGY	
Course Code: ES202	Course Title: Introduction to Computers and Information Technology
Semester: 2nd	Credit: 2
Periods Per Week: 4 (L: 0 T: 0 P: 4)	

(* Common to Architecture Assistantship, Automobile, Civil, Civil(PHE), QSCM, Computer, Electrical, E&C, Medical Electronics, Food Technology, Garment Technology, I&C, Leather Technology, Mechanical, Textile Design, Textile Technology, Travel and Tourism, MLT, Wood Technology and IT)

COURSE OBJECTIVE

Information technology has great influence on all aspects of our 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 of MS Office/Open Office using internet etc. form the 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 CONTENT

1. Basics of Information Technology

- 1.1. Its concept and scope, applications of IT, ethics and future with information technology.
- 1.2. Impact of computer and IT in society.
- 1.3. Computer application in office, book publishing, data analysis, accounting, investment, inventory control, graphics, air and railway ticket reservation, robotics, military, banks, Insurance financial transactions and many more.

2. Basic Components of Computer System

- 2.1. Block diagram of a computer System and Processing of Data.
- 2.2. Demonstration of computer system viz., Hardware, Software
- 2.3. Concept of Memory and its various types, Primary and secondary memories (RAM, ROM, Storage Devices etc).

3. Internet and its Applications

- 3.1. Introduction to Internet, its basic working.
- 3.2. Concept of Email, Social Media, Cloud Computing.
- 3.3. Basic ideas about IP Address, DNS, URL, Server, Web Browser, LAN etc.

4. Use of Various Basic Data Processing Softwares

4.1. Word Processing (Microsoft Word & Google Docs.)

- 4.1.1. File Management:
 - 4.1.1.1. Opening, creating and saving a document, locating files, copying contents in some different file(s).
- 4.1.2. Editing a document:
 - 4.1.2.1. Entering text, Cut, copy, paste using tool- bars
- 4.1.3. Formatting a document:
 - 4.1.3.1. Using different fonts, changing font size and colour, changing the appearance through bold/ italic/ underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods
 - 4.1.3.2. Aligning of text in a document, justification of document, Inserting bullets and numbering
 - 4.1.3.3. Formatting paragraph, inserting page breaks and column breaks, line spacing
 - 4.1.3.4. Use of headers, footers: Inserting footnote, end note, use of comments
 - 4.1.3.5. Inserting date, time, special symbols, importing graphic images, drawing tools
- 4.1.4. Tables and Borders:
 - 4.1.4.1. Creating a table,
 - 4.1.4.2. Formatting cells,
 - 4.1.4.3. Use of different border styles, shading in tables,
 - 4.1.4.4. Merging of cells, partition of cells, inserting and deleting a row in a table
- 4.1.5. Print preview, zoom, page set up, printing options
- 4.1.6. Using Find, Replace options

4.2. Microsoft-Excel and Google Sheets

- 4.2.1. Introduction to Spreadsheet Application-Workbook and Worksheets
- 4.2.2. Working with data and formulas:
 - 4.2.2.1. Addition, subtraction, division, multiplication, percentage and autosum.
 - 4.2.2.2. Format data, create chart, printing chart, save worksheet, creating and formatting of charts and graphs

4.3. Presentation (Microsoft-PowerPoint and Google Slides)

- 4.3.1. Introduction to PowerPoint - How to start PowerPoint - Working environment: concept of toolbars, slide layout, templates etc. - Opening a new/existing presentation - Different views for viewing slides in a presentation: normal, slide sorter etc.
- 4.3.2. Addition, deletion and saving of slides.
- 4.3.3. Insertion of multimedia elements - Adding text boxes, importing pictures, movies and sound, tables and charts etc.
- 4.3.4. Formatting slides - Text formatting, changing slide layout, changing slide color scheme - Changing background, Applying design template.
- 4.3.5. Viewing the presentation using slide navigator

COURSE OUTCOME**After the completion of the course the student will be able to:**

- Identify the different hardware components and functional units of a Computer system.
- Explain basic concepts and working of internet.
- Create and format word documents by using different word processing software.
- Prepare the spread sheets and the presentation of data in different ways.
- Prepare power point presentations.

RECOMMENDED BOOKS:

1. A First Course in Computer by Sanjay Saxena; Vikas Publishing House Pvt. Ltd- Jungpura, New Delhi
2. Computer Fundamentals by PK Sinha; BPB Publication, New Delhi
3. Fundamentals of Information Technology by Leon and Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
4. Basics of Information Technology, by Ishan Publications, Ambala
5. Information Technology for Management by Henery Lucas, 7th edition, Tata McGraw Hill Education Pvt Ltd, New Delhi

UNIT WISE TIME AND MARKSDISTRIBUTION

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	06	10
2	13	20
3	13	20
4	32	50
Total	64	100

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENT TECHNOLOGY	
Course Code : GTPC203	Course Title : BASIC PATTERN MAKING AND STYLE INTERPRETATION - II
Semester: 2ND	Credits : 03
Periods per week: 3(L:3 T: 0 P: 0)	

COURSE OBJECTIVE:

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

COURSE CONTENT**1. Principle of pattern Making**

- 1.1. Manipulation
- 1.2. Addition
- 1.3. Contouring

2. Pattern details – Terminology and classification of:

- 2.1. Collars
- 2.2. Sleeves
- 2.3. Yokes
- 2.4. Pockets

3. Pattern Styles

- 3.1. Skirts, types of Skirts & Terminology

4. Pattern Styles

- 4.1. Pants, types of pants & Terminology

5. Figures

- 5.1. Study of the basic figure types, figure defects and developing patterns for them

COURSE OUTCOMES

After the completion of the course the student will be able to

- acknowledge the Principles of Pattern Making
- know properly the pattern terminology
- understand the different types of skirts and pants.
- recognize the various figure problems

Note: The students may be taken to the nearby garment manufacturing organizations to demonstrate various pattern making and style interpretation processes.

RECOMMENDED BOOKS

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

UNIT WISE TIME AND MARKS DISTRIBUTION

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	07	15
2	14	25
3	09	20
4	09	20
5	09	20
Total	48	100

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENT TECHNOLOGY	
Course Code : GTPC204	Course Title : BASIC PATTERN MAKING AND STYLE INTERPRETATION – II LAB
Semester: 2ND	Credits : 02
Periods per week: 4(L:0 T: 0 P: 4)	

COURSE OBJECTIVE:

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

LIST OF PRACTICALS**Drafting of Basic Women Bodice Block and Sleeve Block – Bust 32,34,36 inches****1. Adaptation of Adults basic sleeve to:**

- 1.1. Puff sleeve
- 1.2. Cap sleeve
- 1.3. Flared sleeve
- 1.4. Leg-o-mutton sleeve
- 1.5. Paglan sleeve

(Presentation should be done in 12x12 inches envelop with sketch and all Pattern details)

2. Drafting and adaptation of various collars

- 2.1. Cape collar
- 2.2. Sailor's collar
- 2.3. Convertible collar
- 2.4. Shawl collar
- 2.5. Chinese collar

(Presentation should be done in 12x12 inches envelop with sketch and all pattern details)

3. Design, Draft and Adapt & Layout the Women bodice block into:

- 3.1. Simple A-Line Kameez (Layout of all exercises should be done on ¼ scale)
- 3.2. Maxi (Special feature: -Yoke, Flared sleeve)
- 3.3. Churidar Pyjama
- 3.4. Saree Blouse with darts.

(Presentation should be done in 12x12 inches envelop with sketch and all pattern details)

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENT TECHNOLOGY	
Course Code : GTPC205	Course Title : FASHION ILLUSTRATION -II
Semester: 2ND	Credits : 02
Periods per week: 3(L: 0 T: 1 P: 2)	

COURSE OBJECTIVE:

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

COURSE CONTENT**Unit 1: Profile head step by step**

- 1.1. Turning Head
- 1.2. Three-dimensional head

Unit 2: Illustration of Kid Figures (Boys and Girls) playing pose, uniform and Winter Clothing**Unit 3 Flat sketching of the following- Skirts, Pants, Tops****Unit 4 Sketching of flesh Figure in different poses with Dresses****Unit 5 Rendering the dresses in various textures and colours.****Unit 6 To study the illustration of styles of different designers (Indian and western outfits)**

Note: The above exercises should be done with the following medium: -
Pencils (4B,6B),Pencil colours, water colours, Poster colours, Brush colours etc

All the Practical exercises should be done on Drawing Files of Large size (16x16 inches file)

Note: The students may be taken to the nearby garment manufacturing organizations to demonstrate various pattern making and style interpretation processes.

RECOMMENDED BOOKS

- 1 Fashion Drawing Designs; Magazine of Thailand, New Age Publishers, Delhi
- 2 Pattern Designs for Haute Couture, Volume 1, New Age Publishers, Delhi
- 3 Fashion Drawing – The Basic Principles by Anne Allen and Julion seaman, Haper& Row, New York
- 4 Latest Fashion Style by Winter Hiver, New Age Publishers, Delhi
- 5 Jasmine’s New Look, On Indian Fashion Scene, Haper and Row, New York
- 6 Lifestyles: Fashion Styles by Katheryn Samuel, McGraw Hill Book Co. New York
- 7 Spring and Summer Collection; Tokyo, New York

8 Singer Sewing Book

9 A Complete Guide to Sewing, Mager Publisher Pocket Books, Inc. New York

UNIT WISE TIME AND MARKS DISTRIBUTION

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	5	15
2	5	15
3	4	10
4	6	20
5	6	20
6	6	20
Total	32	100

PROGRAM: THREE YEARS DIPLOMA PROGRAM IN GARMENT TECHNOLOGY	
Course Code : GTPC206	Course Title : Garment Construction-II
Semester : 2nd	Credits: 3
Periods per week: 5 (L: 0 T: 1 P: 4)	

COURSE OBJECTIVE: - The diploma holders in garment technology are supposed to prepare various components of garments such as plackets, neckline variations, sleeves, pocket, so it is very essential that they should be able to fabricate various components of fashion.

COURSE CONTENT

UNIT 1: Preparation of various types of samples of Pockets

- 1.1 Patch, welt, bound, in-seam/side-seam)
(Make a file for presentation)

UNIT 2 Preparation of various types of sleeves

- 2.1 Puff sleeve
- 2.2 Cap sleeve
- 2.3 Flared sleeve
- 2.4 Leg-o-mutton sleeve to be fitted in a bodice
- 2.5 Reglan
(Make a file for Presentation)

UNIT 3 Preparation of various types of collars

- 3.1 Cape collar
- 3.2 Sailor's collar
- 3.3 Convertible collar
- 3.4 Shirt collar
- 3.5 Shawl collar
- 3.6 Chinese collar
(Make a file for Presentation)

UNIT 4 Construction of Children Garments

- 4.1 Apron (special Feature – Do fabric paint)
- 4.2 Bloomer
- 4.3 Romper (special Feature – Do patch work)
- 4.4 Baby Frock with yoke (special Feature – Do hand embroidery on yoke)
- 4.5 Saree Blouse with Front and Back dart manipulation.

RECOMMENDED BOOKS

- 1 Clothing Construction by Doongaji; RaajParkashan Ltd., Delhi
- 2 System of Cutting by Zarapkar
- 3 Clothing Construction by Evelyn A Mansfield, HougutanMiffin Co., Boston
- 4 Creative Sewing by Allynie Bane; McGraw Hill Book Co., Inc., New York
- 5 Complete Guide to Sewing by Readers Digest
- 6 Fashion Maker by Betty Foster, UBS Publishers Distributors Ltd, New Delhi
- 7 Fashion Clothes- She by Debbie Bliss, Sue Penerill, MK Kohli& AL KohliPublishers, Industrial Area, Chandigarh
- 8 Basic Processes and Clothing Construction by SherieDoongaji and RaushiniDespande, UBS Publishers and Distributors Ltd. New Delhi
- 9 Simplicity Revised ABC of Short-Cut Sewing, CBS Publishers and Distributors Ltd. New Delhi
- 10 The Brides Sewing Book by Anne Ladbury
- 11 Stitch by Stitch by Tarstar Books, MK Kohli Publisher, Industrial Area, Chandigarh
- 12 Pattern Cutting and Making up by Martin Shoben, Janet Ward Publishers, London
- 13 The art of Sewing by Aina Jacob Thomas; UBS Publishers Distributors Ltd., New Delhi

UNIT WISE TIME AND MARKS DISTRIBUTION

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	10	15
2	10	15
3	19	30
4	25	40
Total	64	100

PROGRAM: THREE YEARS DIPLOMA PROGRAMME IN GARMENT TECHNOLOGY	
Course Code: BS204	Course Title: ENVIRONMENTAL SCIENCE
Semester: 2 nd	Credits: 2
Periods Per Week: 2(L: 2, T: 0, P:0)	

COURSE OBJECTIVE

The three main goals of environmental science are: to learn how the natural world works, to understand how humans interact with the environment, and to find ways to deal with environmental problems and live more sustainably.

COURSE CONTENT

1. Ecosystem

- 1.1 Structure of ecosystem, Biotic & Abiotic components
- 1.2 Food chain and food web
- 1.3 Aquatic (Lentic and Lotic) and terrestrial ecosystem
- 1.4 Carbon, Nitrogen, Sulphur, Phosphorus cycle.
- 1.5 Global warming -Causes, effects, process, Green House Effect, Ozone depletion

2. Air and Noise Pollution

- 2.1 Definition of pollution and pollutant, Natural and manmade sources of air pollution
- 2.2 Air Pollutants: Types, Particulate Pollutants: Effects and control
- 2.3 Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler
- 2.4 Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules.

3. Water and Soil Pollution

- 3.1 Sources of water pollution, Types of water pollutants, Characteristics of water pollutants Turbidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation
- 3.2 Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor, Tertiary Method: Membrane separation technology, RO (reverse osmosis)
- 3.3 Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste.

4. Solid Waste Management, ISO 14000 and Environmental Management

- 4.1 Solid waste generation- Sources and characteristics of: Municipal solid waste, E-waste, biomedical waste.

- 4.2 Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries.
- 4.3 Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous waste
- 4.4 Air quality act 2004, air pollution control act 1981 and water pollution and control act 1996.
- 4.5 Structure and role of Central and state pollution control board.
- 4.6 Concept of Carbon Credit, Carbon Footprint.
- 4.7 ISO14000: Implementation in industries, Benefits.

COURSE OUTCOME

After completion of the course the student be able to:

- Appreciate concepts and methods from ecological and physical sciences and their application in environmental problem solving.
- Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.
- 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.
- Solve local solid and e-waste problems.

RECOMMENDED BOOKS

1. S.C. Sharma & M.P. Poonia, Environmental Studies, Khanna Publishing House, New Delhi
2. Arceivala, Soli Asolekar, Shyam, Waste Water Treatment for Pollution Control and Reuse, Mc-Graw Hill Education India Pvt. Ltd., New York, 2007, ISBN:978-07-062099-
3. Nazaroff, William, Cohen, Lisa, Environmental Engineering Science, Willy, New York, 2000
4. O.P. Gupta, Elements of Environmental Pollution Control, Khanna Publishing House, New Delhi

UNIT WISE TIME AND MARKS DISTRIBUTION

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	06	16
2	08	20
3	08	24
4	10	40
Total	32	100