

**WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATIONSYLLABUS FOR CLASSES XI AND  
XII  
SECTOR: APPAREL, MADE-UPS AND HOME FURNISHING JOB ROLE: SPECIALIZED SEWING  
MACHINE OPERATOR**

**COURSE OVERVIEW**

Sewing machine operator's work in the clothing and textile industry using a single machine but the specialized sewing machine operator should have the knowledge of different types of machines, stitches, seams and specialized techniques used. A specialized sewing machine operator is a textile worker who sews fabric with electronic machines, high speed motorized machines (umbrella), specific specialized machines used for specific stitches.

A Specialized Sewing Machine Operator is responsible for operating the specialized sewing machine to sew different kinds of stitches of fabric/garments in the apparel industry. They must understand the limits of their machines, faults, difficulties as all machines are not created equal. A specialized sewing machine operator should have a good eyesight, eye co-ordination, motor skills, distance vision and colour vision.

**COURSE OUTCOMES**

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

- Apply effective oral and written communication skills to interact with people and customers.
- Identify the principal components of a computer system.
- Demonstrate the basic skills of using computer.
- Demonstrate self-management skills.
- Demonstrate the ability to provide a self-analysis in context of entrepreneurial skills and abilities.
- Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection.
- Identify the types of specialized sewing machine.
- Demonstrate different types of thread, needle and their uses in specialized sewing machine.
- Identify types of embroidery machine, high speed motorized machine and their uses.
- Demonstrate chain stitch machine, its importance and operating system.
- Importance of lock stitch machine.
- Explain the button and buttonhole machine with its importance.
- Identify different parts of zigzag sewing machine and its importance.
- Narrate introduction and importance of preparing the specialized sewing machine.
- Demonstrate samples using button, buttonhole and zigzag machine.
- Identify Communicating and resolving the problem in workplace.
- Describe maintenance, cleaning and disposal of waste.

- Identify cleaning procedure and safe practices.
- Describe importance and operating system of lock stitch, feed of arm, blind, bar-tack, and interlock machines.
- Narrate the importance and role of high-speed machines in apparel industry.
- Identify maintenance of health, work area, tools and machines.

### COURSE STRUCTURE

<b>JOB ROLE: SPECIALIZED SEWING MACHINE OPERATOR SECTOR: APPAREL, MADE-UPS AND HOME FURNISHING</b>										
Class	Semester	Contact Hours						Marks		
		Employability Skills	Domain Theory	Domain Practical	Practical Exam/Written Test/ Viva	Project (Practical File/Student Portfolio/ Viva Voce)	Total	Theory		Practical
XI	I	70	30	55	-	-	155	30	Average of Sem I & Sem II = 30	NIL
	II	40	30	50	10	15	145	30		50 + 20 = 70
XII	III	70	20	40	-	-	130	30	Average of Sem III & Sem IV = 30	NIL
	IV	40	35	70	10	15	170	30		50 + 20 = 70

**Class XI [Total Theory Marks: 30]****Class XI SEMESTER 1 TOPICS: (MCQ) MARKS: 30 [1 MARK PER QUESTION]**

SL No.	Topic	Tuition Hours	Marks Allotted
	<b>Part A: Employability Skills</b>	<b>70</b>	
1	Unit 1: Communication Skills- III	25	2
2	Unit 2: Self-management Skills – III	25	2
3	Unit 3: Information and Communication Technology Skills – III	20	2
	<b>Part B: Vocational Skills</b>	<b>85</b>	
4	Unit 1: Production Technology	35	8
5	Unit 2: Introduction to Industrial Sewing Machines	25	8
6	Unit 3: Machines for seam finishes	25	8
	<b>Total</b>	<b>155</b>	<b>30</b>

**Class XI SEMESTER 2 TOPICS: [Short Answer Question, Descriptive Question] MARKS: 30**

SL No.	Topic & Sub-Topics	Tuition Hours	Short Answer Type Question (10 Marks)	Descriptive Type Question (20 Marks)	Total
	<b>Part A: Employability Skills</b>	<b>40</b>			
1	Unit 1: Entrepreneurial Skills – III	25	1	2	3
2	Unit 2: Green Skills – III	15	1	2	3
	<b>Part B: Vocational Skills</b>	<b>80</b>			
3	Unit 4: Machines for Ornamental stitches	25	3	5	8
4	Unit 5: Machines for Attachments	25	3	5	8
5	Unit 6: Personal hygiene, cleaning and maintenance at workplace	30	2	6	8
	<b>Part C: Practical Work</b>	<b>10</b>			
6	Practical Examination	06			
7	Written Test	01			
8	Viva Voce	03			
	<b>Part D: Project Work/ Field Visit</b>	<b>15</b>			
9	Practical File / Student Portfolio	10			
10	Viva Voce	05			
	<b>Total</b>	<b>145</b>	<b>10</b>	<b>20</b>	<b>30</b>

**JOB ROLE: SPECIALIZED SEWING MACHINE OPERATOR**

Class XII [Total Theory Marks: 30]

Class XII SEMESTER 3 TOPICS: (MCQ) MARKS: 30 [1 MARK PER QUESTION]

SL No.	Topic	Hours Tuition	Marks Allotted
	<b>Part A: Employability Skills</b>	<b>70</b>	
1	Communication Skills – IV	25	2
2	Self-management Skills – IV	25	2
3	Information and Communication Technology Skills – IV	20	2
	<b>Part B: Vocational Skills</b>	<b>60</b>	
4	Unit 1: Introduction to Garment pre-production processes	30	12
5	Unit 2: Feed-off the arm and bar-tack machines	30	12
	<b>Total</b>	<b>130</b>	<b>30</b>

Class XII SEMESTER 4 TOPICS: [Short Answer Question, Descriptive Question] MARKS: 30

SL No.	Topic & Sub-Topics	Tuition Hours	Short Answer Type Question (10 Marks)	Descriptive Type Question (20 Marks)	Total
	<b>Part A: Employability Skills</b>	<b>40</b>			
1	Entrepreneurial Skills – IV	25	1	2	3
2	Green Skills – IV	15	1	2	3
	<b>Part B: Vocational Skills</b>	<b>105</b>			
3	Unit 3: Flat lock machine, blind stitch machine, finishing machines and other equipment	40	3	7	10
4	Unit 4: Maintain Organizational Health, Safety and Security at Workplace	30	2	5	7
5	Unit 5: Quality Control in Stitching Process	35	3	4	7
	<b>Part C: Practical Work</b>	<b>10</b>			
6	Practical Examination	06			
7	Written Test	01			
8	Viva Voce	03			
	<b>Part D: Project Work/ Field Visit</b>	<b>15</b>			
9	Practical File / Student Portfolio	10			
10	Viva Voce	05			
	<b>Total</b>	<b>170</b>	<b>10</b>	<b>20</b>	<b>30</b>

**DETAIL SYLLABUS**  
**CLASS - XI**  
**SEMESTER – I**

<b>Part A: Employability Skills</b>			
<b>Unit 1: Communication Skills – III</b>			
<b>Learning Outcome</b>	<b>Theory (10 hrs)</b>	<b>Practical (15 hrs)</b>	<b>Duration (25 hrs)</b>
1. Demonstrate knowledge of communication	1. Introduction to communication 2. Importance of communication 3. Elements of communication 4. Perspectives in communication 5. Effective communication	1. Role-play on the communication process 2. Group discussion on factors affecting perspectives in communication 3. Classroom discussion on the 7Cs (i.e. Clear, Concise, Concrete, Correct, Coherent, Courteous and Complete) of effective communication 4. Chart making on elements of communication	03
2. Demonstrate verbal communication	1. Verbal communication 2. Public Speaking	1. Role-play of a phone conversation. 2. Group exercise on delivering speech and practicing public speaking	02
3. Demonstrate non-verbal communication	1. Importance of non-verbal communication 2. Types of non- verbal communication 3. Visual communication	1. Role-play on non-verbal communication 2. Group exercise and discussion on Do's and 3. Don'ts to avoid body language mistakes 3. Group activity on methods of communication	02
4. Speak using correct pronunciation	1. Pronunciation basics 2. Speaking properly 3. Phonetics 4. Types of sounds	1. Group activities on practicing pronunciation	01
5. Apply an assertive communication style	1. Important communication styles 2. Assertive communication 3. Advantages of assertive communication 4. Practicing assertive communication	1. Group discussion on communication styles 2. Group discussion on observing and sharing communication styles	03
6. Demonstrate the knowledge of saying no	1. Steps for saying 'No' 2. Connecting words	1. Group discussion on how to respond 2. Group activity on saying 'No'	02

7. Identify and use parts of speech in writing	<ol style="list-style-type: none"> <li>1. Capitalization</li> <li>2. Punctuation</li> <li>3. Basic parts of speech</li> <li>4. Supporting parts of speech</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on identifying parts of speech</li> <li>2. Writing a paragraph with punctuation marks</li> <li>3. Group activity on constructing sentences</li> <li>4. Group activity on identifying parts of speech</li> </ol>	03
8. Write correct sentences and paragraphs	<ol style="list-style-type: none"> <li>1. Parts of a sentence</li> <li>2. Types of object</li> <li>3. Types of sentences</li> <li>4. Paragraph</li> </ol>	<ol style="list-style-type: none"> <li>1. Activity on writing sentences</li> <li>2. Activity on active and passive voice</li> <li>3. Assignment on writing different types of sentences</li> </ol>	02
9. Communicate with people	<ol style="list-style-type: none"> <li>1. Greetings</li> <li>2. Introducing self and others</li> </ol>	<ol style="list-style-type: none"> <li>1. Role-play on formal and informal greetings</li> <li>2. Role-play on introducing someone</li> <li>3. Practice and group discussion on how to greet different people?</li> </ol>	02
10. Introduce yourself to others and write about oneself	<ol style="list-style-type: none"> <li>1. Talking about self</li> <li>2. Filling a form</li> </ol>	<ol style="list-style-type: none"> <li>1. Practicing self-introduction and filling up forms</li> <li>2. Practicing self-introduction to others</li> </ol>	01
11. Develop questioning skill	<ol style="list-style-type: none"> <li>1. Main types of questions</li> <li>2. Forming closed and open-ended questions</li> </ol>	<ol style="list-style-type: none"> <li>1. Practice exercise on forming questions</li> <li>2. Group activity on framing questions</li> </ol>	01
12. Communicate information about family to others	<ol style="list-style-type: none"> <li>1. Names of relatives</li> <li>2. Relations</li> </ol>	<ol style="list-style-type: none"> <li>1. Practice talking about family</li> <li>2. Role-play on talking about family members in a relations</li> </ol>	01
13. Describe habits and routines	<ol style="list-style-type: none"> <li>1. Concept of habits and routines</li> </ol>	<ol style="list-style-type: none"> <li>1. Group discussion on habits and routines</li> <li>2. Group activity on describing routines</li> </ol>	01
14. Ask or give directions to others	<ol style="list-style-type: none"> <li>1. Asking for directions</li> <li>2. Using landmarks</li> </ol>	<ol style="list-style-type: none"> <li>1. Role-play on asking and giving directions</li> <li>2. Identifying symbols used for giving directions</li> </ol>	01

<b>Unit 2: Self - Management–III</b>			
<b>Learning Outcome</b>	<b>Theory (10 hrs)</b>	<b>Practical (15 hrs)</b>	<b>Duration (25 hrs)</b>
1. Identify and analyze own strengths and weaknesses	<ol style="list-style-type: none"> <li>1. Understanding self</li> <li>2. Techniques for identifying strengths and weaknesses</li> <li>3. Difference between interests and abilities</li> </ol>	<ol style="list-style-type: none"> <li>1. Activity on writing aims in life</li> <li>2. Preparing a worksheet on interests and abilities</li> </ol>	03
2. Demonstrate personal grooming skills	<ol style="list-style-type: none"> <li>1. Guidelines for dressing and grooming</li> <li>2. Preparing a personal grooming checklist</li> </ol>	<ol style="list-style-type: none"> <li>1. Role-play on dressing and grooming standards</li> <li>2. Self-reflection activity on various aspects of personal grooming</li> </ol>	04
3. Maintain personal hygiene	<ol style="list-style-type: none"> <li>1. Importance of personal hygiene</li> <li>2. Three steps to personal hygiene</li> <li>3. Essential steps of hand washing</li> </ol>	<ol style="list-style-type: none"> <li>1. Role-play on personal hygiene</li> <li>2. Assignment on personal hygiene</li> </ol>	03
4. Demonstrate the knowledge of working in a team and participating in group activities	<ol style="list-style-type: none"> <li>1. Describe the benefits of teamwork</li> <li>2. Working in a team</li> </ol>	<ol style="list-style-type: none"> <li>1. Assignment on working in a team</li> <li>2. Self-reflection on teamwork</li> </ol>	03
5. Develop networking skills	<ol style="list-style-type: none"> <li>1. Benefits of networking skills</li> <li>2. Steps to build networking skills</li> </ol>	<ol style="list-style-type: none"> <li>1. Group exercise on networking in action</li> <li>2. Assignment on networking skills</li> </ol>	03
6. Describe the meaning and importance of self-motivation	<ol style="list-style-type: none"> <li>1. Meaning of self- motivation</li> <li>2. Types of motivation</li> <li>3. Steps to building self-motivation</li> </ol>	<ol style="list-style-type: none"> <li>1. Activity on staying motivated</li> <li>2. Assignment on reasons hindering motivation</li> </ol>	03
7. Set goals	<ol style="list-style-type: none"> <li>1. Meaning of goals and purpose of goal-setting</li> <li>2. Setting SMART goals</li> </ol>	<ol style="list-style-type: none"> <li>1. Assignment on setting SMART goals</li> <li>2. Activity on developing long- term and short-term goals using SMART method</li> </ol>	03
8. Apply time management strategies and techniques	<ol style="list-style-type: none"> <li>1. Meaning and importance of time management</li> <li>2. Steps for effective time management</li> </ol>	<ol style="list-style-type: none"> <li>1. Checklist for making preparation for daily activities</li> <li>2. Preparing To-do-list</li> </ol>	03

<b>Unit 3: Information and Communication Technology-III</b>			
<b>Learning Outcome</b>	<b>Theory (08 hrs)</b>	<b>Practical (12 hrs)</b>	<b>Duration (20 hrs)</b>
1. Create a document on the word processor	<ol style="list-style-type: none"> <li>1. Introduction to ICT</li> <li>2. Advantages of using a word processor.</li> <li>3. Work with Libre Office Writer</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on demonstration and practice of the following: <ul style="list-style-type: none"> <li>• Creating a new document</li> <li>• Typing text</li> <li>• Saving the text</li> <li>• Opening and saving file on Microsoft word/Libre Office Writer.</li> </ul> </li> </ol>	02
2. Identify icons on the toolbar	<ol style="list-style-type: none"> <li>1. Status bar</li> <li>2. Menu bar</li> <li>3. Icons on the Menu bar</li> <li>4. Multiple ways to perform a function</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on using basic user interface of Libre Office writer</li> <li>2. Group activity on working with Microsoft Word</li> </ol>	02
3. Save, close, open and print document	<ol style="list-style-type: none"> <li>1. Save a word document</li> <li>2. Close</li> <li>3. Open an existing document</li> <li>4. Print</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on performing the functions for saving, closing and printing documents in Libre Office Writer</li> <li>2. Group activity on performing the functions for saving, closing and printing documents in Microsoft Word</li> </ol>	02
4. Format text in a word document	<ol style="list-style-type: none"> <li>1. Change style and size of text</li> <li>2. Align text</li> <li>3. Cut, Copy, Paste</li> <li>4. Find and replace</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on formatting text in Libre Office Writer</li> <li>2. Group activity on formatting text in Microsoft Word</li> </ol>	02
5. Check spelling and grammar in a word document	<ol style="list-style-type: none"> <li>1. Use of spell checker</li> <li>2. Autocorrect</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on checking spellings and grammar using Libre Office Writer</li> <li>2. Group activity on checking spellings and grammar using Microsoft Word</li> </ol>	02
6. Insert lists, tables, pictures, and shapes in a word document	<ol style="list-style-type: none"> <li>1. Insert bullet list</li> <li>2. Number list</li> <li>3. Tables</li> <li>4. Pictures</li> <li>5. Shapes</li> </ol>	<ol style="list-style-type: none"> <li>1. Practical exercise of inserting lists and tables using Libre Office Writer</li> </ol>	03



7. Insert header, footer and page number in a word document	<ol style="list-style-type: none"> <li>1. Insert header</li> <li>2. Insert footer</li> <li>3. Insert page number</li> <li>4. Page count</li> </ol>	<ol style="list-style-type: none"> <li>1. Practical exercise of inserting header, footer and page numbers in Libre Office Writer</li> <li>2. Practical exercise of inserting header, footer and page numbers in Microsoft Word</li> </ol>	03
8. Make changes by using the track change option in a word document	<ol style="list-style-type: none"> <li>1. Tracking option</li> <li>2. Manage option</li> <li>3. Compare documents</li> </ol>	<ol style="list-style-type: none"> <li>1. Group activity on performing track changes in LibreOffice Writer</li> <li>2. Group activity on performing track changes in Microsoft Word</li> </ol>	04

<b>Part B: Vocational Skills</b>			
<b>Unit 1: Production Technology</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (25 Hrs)</b>	<b>Duration (35 Hrs)</b>
1. Explain different garment production systems	1. Various garment production systems	1. Prepare a comparison chart of production systems	15
2. Identify garment operating procedure	<ol style="list-style-type: none"> <li>1. Need of process flow chart in preparation of a garment</li> <li>2. Sequence of operations in garment production for: <ul style="list-style-type: none"> <li>• Shirt</li> <li>• Trouser</li> </ul> </li> </ol>	1. Prepare process flow chart of a garment	20
<b>Unit 2: Introduction to Industrial Sewing Machines</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (15 Hrs)</b>	<b>Duration (25 Hrs)</b>
1. Identify types of thread, their classification and suitability as per machine and fabric	<ol style="list-style-type: none"> <li>1. Introduction to types of sewing threads</li> <li>2. Classification of sewing threads</li> <li>3. Numbering of thread</li> <li>4. Suitable threads for fabric and machine</li> </ol>	1. Identify different sewing threads	10
2. Identify needles for specialized machines	<ol style="list-style-type: none"> <li>1. Sewing machine needles and its parts</li> <li>2. Needle system</li> <li>3. Types of needles and their uses</li> <li>4. Selection of appropriate needle for fabric and machine</li> </ol>	1. Identify different sewing needles	15

	5. Selection of thread type and needle size for industrial sewing machine		
<b>Unit 3: Machines for seam finishes</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (15Hrs)</b>	<b>Duration (25 Hrs.)</b>
1. Identify lock stitch machine used in apparel industry	<ol style="list-style-type: none"> <li>1. Various specialized sewing machines used in industry</li> <li>2. Importance of lock stitch machine</li> <li>3. Parts of single needle lock stitch machine with under bed trimmer</li> <li>4. Operating steps of lock stitch machine</li> <li>5. Checking machine before operation</li> </ol>	<ol style="list-style-type: none"> <li>1. Practice the preparatory process of specialized sewing machine before stitching</li> <li>2. Practice stitching with lock stitch machine</li> </ol>	13
2. Demonstrate the use of overlock machine	<ol style="list-style-type: none"> <li>1. Importance of overlock machine</li> <li>2. Types of overlock stitches</li> <li>3. Parts of overlock stitch machine</li> <li>4. Operating steps of overlock stitch Machine</li> </ol>	<ol style="list-style-type: none"> <li>1. Prepare samples using overlock machine</li> </ol>	12

**CLASS - XI**  
**SEMESTER – II**

<b>Part A: Employability Skills</b>			
<b>Unit 4: Entrepreneurial Skills – III</b>			
<b>Learning Outcome</b>	<b>Theory (10hrs)</b>	<b>Practical (15hrs)</b>	<b>Duration (25hrs)</b>
1. Differentiate between different kinds of businesses	1. Introduction to entrepreneurship 2. Types of business activities	1. Role-play on different kinds of businesses around us	03
2. Describe the significance of entrepreneurial values	1. Meaning of value 2. Values of an Entrepreneur 3. Case study on qualities of an entrepreneur	1. Role-play on qualities of an entrepreneur	03
3. Demonstrate the attitudinal changes required to become an entrepreneur	1. Difference between the attitude of entrepreneur and employee	1. Interviewing employees and entrepreneurs	03
4. Develop thinking skills like an entrepreneur	1. Problems of entrepreneurs 2. Problem-solving 3. Ways to think like an entrepreneur	1. Group activity on identifying and solving problems	04
5. Generate business ideas	1. The business cycle 2. Principles of idea creation 3. Generating a business idea 4. Case studies	1. Group activity to create business ideas	04
6. Describe customer needs and the importance of conducting a customer survey	1. Understanding customer needs 2. Conducting a customer survey	1. Group activity to conduct a customer survey	04
7. Create a business plan	1. Importance of business planning 2. Preparing a business plan 3. Principles to follow for growing a business 4. Case studies	1. Group activity on developing a business plan	04
<b>Unit 5: Green Skills – III</b>			
<b>Learning Outcome</b>	<b>Theory (07 hrs.)</b>	<b>Practical (08 hrs.)</b>	<b>Duration (15 hrs.)</b>
1. Describe the importance of the main sector of the green economy	1. Meaning of ecosystem, food chain and sustainable development 2. Main sectors of the green economy- E- waste management, green transportation, renewal	1. Group discussion on sectors of green economy 2. Preparing posters on various sectors for promoting green economy	06

	energy, green construction, and water management		
2. Describe the main recommendations of policies for the green economy	1. Policies for a green economy	1. Group discussion on initiatives for promoting the green economy 2. Writing an essay or a short note on the important initiatives for promoting green economy.	03
3. Describe the major green sectors/ areas and the role of various stakeholders in the green economy	1. Stakeholders in the green economy	1. Group discussion on the role of stakeholders in the green economy 2. Making solar bulbs.	03
4. Identify the role of government and private agencies in the green economy	1. Role of the government in promoting a green economy 2. Role of private agencies in promoting green economy	1. Group discussion on the role of Government and Private Agencies in promoting a green economy. 2. Preparing posters on green sectors.	03

**Part B: Vocational Skills**

**Unit 4: Machines for Ornamental stitches**

Learning Outcome	Theory (10 Hrs)	Practical (15 Hrs)	Duration (25 Hrs)
1. Identify and use embroidery machines	1. Types of embroidery machines 2. Types of computerized embroidery machines	1. Identify different embroidery machines	10
2. Demonstrate the use of zigzag machines	1. Parts of Zigzag sewing machine 2. Operating steps of a zigzag sewing machine	1. Practice stitching with zigzag sewing machine	15

**Unit 5: Machines for Attachments**

Learning Outcome	Theory (10 Hrs)	Practical (15 Hrs)	Duration (25 Hrs)
1. Demonstrate belt & loop attachment and button sewing machine	1. Belt-loop setter for trousers and jeans 2. Button attachment machine and its parts 3. Importance of button sewing machine 4. Operating steps of button sewing machine	1. Prepare samples using button attachment machine	13

2. Demonstrate button hole machine	<ol style="list-style-type: none"> <li>1. Parts of button hole machine</li> <li>2. Importance and use of button hole machine</li> <li>3. Operating steps of a button hole machine</li> </ol>	1. Practice stitching with button hole machine	12
<b>Unit 6: Personal hygiene, cleaning and maintenance at workplace</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (20 Hrs)</b>	<b>Duration (30 Hrs)</b>
1. Understand personal health and hygiene	<ol style="list-style-type: none"> <li>1. Introduction to health and hygiene</li> <li>2. Factors that affect the maintenance of good health</li> <li>3. Importance of good personal hygiene</li> <li>4. Health and safety precautions for operators if using hand needle</li> </ol>	1. Practice health and hygiene	10
2. Demonstrate cleaning and maintenance at workplace	<ol style="list-style-type: none"> <li>1. Introduction to cleaning and maintenance</li> <li>2. Types of maintenance work</li> <li>3. Benefits of maintenance and clean environment</li> </ol>	1. Practice cleaning and maintenance	10
3. Cleaning and maintenance of specialized machines	1. Cleaning, oiling and maintenance of a specialized sewing machine	1. Practice cleaning and maintenance of specialized machines	10

**DETAIL SYLLABUS**  
**CLASS - XII**  
**SEMESTER – III**

<b>Part A: Employability Skills</b>			
<b>Unit 1: Communication Skills - IV</b>			
<b>Learning Outcome</b>	<b>Theory (10 hrs)</b>	<b>Practical (15 hrs)</b>	<b>Duration (25 hrs)</b>
1. Demonstrate active listening skills	1. Active listening -listening skill, stages of active listening 2. Overcoming barriers to active listening	1. Group discussion on factors affecting active listening 2. Preparing posters of steps for active listening 3. Role-play on negative effects of not listening actively	10
2. Identify the parts of speech	1. Parts of speech – using capitals, punctuation, basic parts of speech, Supporting parts of speech	1. Group practice on identifying parts of speech 2. Group practice on constructing sentences	10
3. Write sentences	1. Writing skills to the following: <ul style="list-style-type: none"> <li>• Simple sentence</li> <li>• Complex sentence</li> <li>• Types of object</li> </ul> 2. Types of sentences <ul style="list-style-type: none"> <li>• Active and Passive sentences</li> <li>• Statement/</li> <li>• Declarative sentence</li> <li>• Question/</li> <li>• Interrogative sentence</li> <li>• Emotion/</li> <li>• Reaction or Exclamatory sentence</li> <li>• Order or Imperative sentence</li> </ul> 3. Paragraph writing	1. Group work on writing sentences and paragraphs 2. Group work on practicing writing sentences in active or passive voice 3. Group work on writing different types of sentences (i.e., declarative, exclamatory, interrogative and imperative)	05
<b>Unit 2: Self-Management Skills – IV</b>			
<b>Learning Outcome</b>	<b>Theory (10 hrs)</b>	<b>Practical (15 hrs)</b>	<b>Duration (25 hrs)</b>
1. Describe the various factors influencing motivation and positive attitude	1. Motivation and positive attitude 2. Intrinsic and extrinsic motivation 3. Positive attitude – ways to maintain positive attitude 4. Stress and stress management - ways to manage stress	1. Role-play on avoiding stressful situations 2. Activity on listing negative situations and ways to turn it positive	10

2. Describe how to become result oriented	<ol style="list-style-type: none"> <li>How to become result oriented?</li> <li>Goal setting – examples of result-oriented goals</li> </ol>	1. Group activity on listing aim in life	05
3. Describe the importance of self-awareness and the basic personality traits, types and disorders	<ol style="list-style-type: none"> <li>Steps towards self-awareness</li> <li>Personality and basic personality traits</li> <li>Common personality disorders-                             <ul style="list-style-type: none"> <li>Suspicious</li> <li>Emotional and impulsive</li> <li>Anxious</li> </ul> </li> <li>Steps to overcome personality disorders</li> </ol>	1. Group discussion on self-awareness	10
<b>Unit 3: Information and Communication Technology Skills-IV</b>			
<b>Learning Outcome</b>	<b>Theory (06 hrs.)</b>	<b>Practical (14 hrs.)</b>	<b>Duration (20 hrs.)</b>
1. Identify the components of a spreadsheet application	1. Getting started with spreadsheet - types of a spreadsheet, steps to start LibreOffice Calc., components of a worksheet.	1. Group activity on identifying components of spreadsheet in Libre Office Calc.	02
2. Perform basic operations in a spreadsheet	<ol style="list-style-type: none"> <li>Opening workbook and entering data – types of data, steps to enter data, editing and deleting data in a cell</li> <li>Selecting multiple cells</li> <li>Saving the spreadsheet in various formats</li> <li>Closing the spreadsheet</li> <li>Opening the spreadsheet.</li> <li>Printing the spreadsheet.</li> </ol>	1. Group activity on working with data on Libre Office Calc.	03
3. Demonstrate the knowledge of working with data and formatting text	<ol style="list-style-type: none"> <li>Using a spreadsheet for addition – adding value directly, adding by using cell address, using a mouse to select values in a formula, using sum function, copying and moving formula</li> <li>Need to format cell and content</li> <li>Changing text style and font size</li> <li>Align text in a cell</li> <li>Highlight text</li> </ol>	<ol style="list-style-type: none"> <li>Group activity on formatting a spreadsheet in Libre Office Calc</li> <li>Group activity on performing basic calculations in Libre Office Calc.</li> </ol>	02
4. Demonstrate the knowledge of using advanced features in spreadsheet	<ol style="list-style-type: none"> <li>Sorting data</li> <li>Filtering data</li> <li>Protecting spreadsheet with password</li> </ol>	1. Group activity on sorting data in Libre Office Calc	03

5. Make use of the software used for making slide presentations	1. Presentation software available 2. Stapes to start LibreOffice Impress 3. Adding text to a presentation	1. Group practice on working with LibreOffice Impress tools	02
6. Demonstrate the knowledge to open, close and save slide presentations	1. Open, Close, Save and Print a slide presentation	1. Group activity on saving, closing and opening a presentation in LibreOffice Impress	01
7. Demonstrate the operations related to slides and texts in the presentation	1. Working with slides and text in a presentation- adding slides to a presentation, deleting slides, adding and formatting text, highlighting text, aligning text, changing text colour	1. Group practice on working with font styles in Libre Office Impress	04
8. Demonstrate the use of advanced features in a presentation	1. Advanced features used in a presentation 2. Inserting shapes in the presentation 3. Inserting clipart and images in a presentation 4. Changing slide layout	1. Group activity on changing slide layout on Libre Office Impress	03

**Part B: Vocational Skills**

**Unit 1: Introduction to Garment pre-production processes**

<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (20 Hrs)</b>	<b>Duration (30 Hrs)</b>
1. Specification sheet	1. Introduction and contents of a specification sheet: fabric type, seams and stitches, colour, accessory details (zippers, pockets, etc.), and ornamentation (embroidery, cutwork, patchwork 2. Importance of specification sheet	1. Search a specification sheet from internet and interpret the details given in it 2. Prepare different types of specification sheet like fabric type, seams and stitches, colour, accessory details (zippers, pockets, etc.), and ornamentation (embroidery, cutwork, patchwork etc. and prepare a sample file	12
2. Explain the pre-production operations in an apparel industry	1. Meaning and importance of pre- production operations 2. Pre-production planning	1. Make a chart of pre-production operations in the apparel industry and list out their utilities	05



3. New attachments of sewing machine	1. Sewing machine attachments such as gathering foot, 1/4th inch foot, darning foot, binder foot, 3-way cording foot, beading foot, pin tucking foot, ribbon foot, piping foot, ruffle foot.	1. Prepare samples using different attachments	13
<b>Unit 2: Feed-off the arm and bar-tack machines</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (20 Hrs)</b>	<b>Duration (30Hrs)</b>
1. Demonstrate operationalization of Feed off the arm machine	1. Importance of feed off the arm machine 2. Parts of feed off the arm machine 3. Threading of feed off the arm machine 4. Operating steps of feed off the arm machine	1. Sewing practice on feed arm machine 2. Collect pictures of garments in which feed of arm machine is used and paste in practical file	15
2. Demonstrate operationalization of bar-tack machine	1. Importance of bar-tack sewing machine 2. Different parts of bar-tack sewing machine 3. Operating steps of bar-tack sewing machine	1. Sewing practice on bar-tack machine 2. Thread a bar-tack machine	15

**DETAIL SYLLABUS****CLASS - XII****SEMESTER – IV**

<b>Part A: Employability Skills</b>			
<b>Unit 4: Entrepreneurial Skills-IV</b>			
<b>Learning Outcome</b>	<b>Theory (10 hrs.)</b>	<b>Practical (15 hrs)</b>	<b>Duration (25 hrs.)</b>
1. Describe the concept of entrepreneurship and the types and roles and functions entrepreneur	1. Entrepreneurship and entrepreneur 2. Characteristics of entrepreneurship 3. Entrepreneurship-art and science 4. Qualities of a successful entrepreneur 5. Types of entrepreneurs 6. Roles and functions of an entrepreneur 7. What motivates an entrepreneur 8. Identifying opportunities and risk-taking 9. Startups	1. Group discussion on the topic “An entrepreneur is not born but created”. 2. Conducting a classroom quiz on various aspects of entrepreneurship.	10
2. Identify the barriers to entrepreneurship	1. Barriers to entrepreneurship 2. Environmental barriers 3. No or faulty business plan 4. Personal barriers	1. Group discussion about “What we fear about entrepreneurship” 2. Activity on taking an interview of an entrepreneur.	05
3. Identify the attitude that make an entrepreneur successful	1. Entrepreneurial attitude	1. Group activity on identifying entrepreneurial attitude.	05
4. Demonstrate the knowledge of entrepreneurial attitude and competencies	1. Entrepreneurial competencies 2. Decisiveness 3. Initiative 4. Interpersonal skills- positive attitude, stress management 5. Perseverance 6. Organizational skills- time management, goal setting, efficiency, managing quality.	1. Playing games, such as “Who am I”. 2. Group discussion on business ideas 3. Group practice on “Best out of Waste” 4. Group discussion on the topic of “Let’s grow together” 5. Group activity on listing stress and methods to deal with it like Yoga, deep breathing exercises, etc. 6. Group activity on time management	05
<b>Unit 5: Green Skills-IV</b>			

<b>Learning Outcome</b>	<b>Theory (05 hrs)</b>	<b>Practical (10 hrs)</b>	<b>Duration (15 hrs)</b>
1. Identify the benefits of the green jobs	1. Green jobs 2. Benefits of green jobs 3. Green jobs in different sectors: <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Transportation</li> <li>• Water conservation</li> <li>• Solar and wind energy</li> <li>• Eco-tourism</li> <li>• Building and construction</li> <li>• Solid waste management</li> <li>• Appropriate technology</li> </ul>	1. Group discussion on the importance of green job.	08
2. State the importance of green jobs	1. Importance of green jobs in <ul style="list-style-type: none"> <li>• Limiting greenhouse gas emissions</li> <li>• Minimizing waste and pollution</li> <li>• Protecting and restoring ecosystems</li> <li>• Adapting to the effects of climate change</li> </ul>	1. Preparing posters on green jobs. 2. Group activity on tree plantation.	07

**Part B: Vocational Skills**

**Unit 3: Flat lock machine, blind stitch machine, finishing machines and other equipment**

<b>Learning Outcome</b>	<b>Theory (15 Hrs)</b>	<b>Practical (25 Hrs)</b>	<b>Duration (40 Hrs)</b>
1. Identify stitching process of flat lock machine	1. Introduction of flat lock machine 2. Parts of flat lock machine 3. Threading of flat lock machine 4. Operating steps of flat lock machine	1. Prepare samples using flat lock machine	10
2. Identify operating system of blind stitch sewing machine	1. Importance of blind stitch sewing machine 2. Different parts of blind stitch machine 3. Operating steps of blind stitch sewing machine	1. Sewing practice through blind stitch machine 2. Collect images of blind stitch sewing machine paste in practical file and write its uses in the practical file	10

3. Identify and operate finishing machines and other equipment	<ol style="list-style-type: none"> <li>1. Introduction, parts and operating steps of: <ul style="list-style-type: none"> <li>• Welt attachment machine</li> <li>• Fusing machine</li> </ul> </li> <li>2. Pressing equipment used in garment industry: <ul style="list-style-type: none"> <li>• Hand irons</li> <li>• Iron table</li> <li>• Buck press or steam press</li> <li>• Trouser pressing</li> <li>• Double-legger pressing</li> <li>• Carousel pressing</li> <li>• Steam finisher</li> <li>• Tunnel finisher</li> <li>• Creasing machine</li> </ul> </li> <li>3. Pleating machine</li> </ol>	1. Practice use of all the machines in the session and prepare samples	15
<b>Unit 4: Maintain Organizational Health, Safety and Security at Workplace</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs)</b>	<b>Practical (20 Hrs)</b>	<b>Duration (30 Hrs)</b>
1. Describe importance of health and safety at workplace	<ol style="list-style-type: none"> <li>1. Importance of health</li> <li>2. Types of hazards at workplace</li> <li>3. Steps of reporting to concerned person in an organization at the time of emergency</li> <li>4. Emergency action plan</li> </ol>	1. Prepare emergency action plan	10
2. Explain health and safety measures at workplace	<ol style="list-style-type: none"> <li>1. Introduction to safety</li> <li>2. Importance of ergonomics at workplace</li> <li>3. Recommendations to improve the safety and health conditions in garment manufacturing units</li> <li>4. Important safety instructions while working on specialized machines</li> <li>5. Safety Rules for safe working operations on specialized sewing machine</li> </ol>	1. Demonstrate proper actions taking in case of emergencies at workplace	10
3. Explain steps of Storing materials and equipment	<ol style="list-style-type: none"> <li>1. Social responsibility of companies</li> <li>2. Waste management in textile and apparel industry</li> </ol>	1. Practice waste management	05
4. Describe organizational policy, goals, rules & regulation and workmen security	<ol style="list-style-type: none"> <li>1. Purpose and benefits of organizational policies</li> <li>2. Importance of organizational goals</li> <li>3. Workmen security system</li> </ol>	1. Prepare organizational plan	05

<b>Unit 5: Quality Control in Stitching Process</b>			
<b>Learning Outcome</b>	<b>Theory (10 Hrs.)</b>	<b>Practical (25 Hrs.)</b>	<b>Duration (35Hrs.)</b>
1. Describe quality control process and its importance in garments	1. Importance of quality in stitching process 2. Types of problem and factors which affecting quality of stitching	1. Check garment according to AQL chart	15
2. Narrate types of faults & corrections required in stitching process	1. Classification, cause and rectification of defects	1. Identify garment defects	20

### **ORGANISATION OF FIELD VISITS**

In a year, at least 3 field visits/educational tours should be organized for the students to expose them to the activities in the workplace.

Visit Boutiques, Market, Workshops, relevant industries and small units to observe the following: Location, Site, Office building, Store, Fabric yard, Packing area, Fabric store, Cutting area and Industrial machines. During the visit, students should obtain the following information from the owner or the supervisor of the industry:

1. Area under industry and its layout
2. Departments in industry
3. Work culture and environment of various departments
4. Various cutting, sewing, pattern making and layout machines
5. Different Specialized sewing machines
6. Different buyers, the company deals with
7. Product range of the industry
8. Understand time and action calendar
9. Manufacture, export, import, sale procedure
10. Manpower engaged
11. Total expenditure of industry
12. Total annual income
13. Profit/Loss (Annual)
14. Any other information