LEARNING OUTCOME BASED VOCATIONAL CURRICULUM

JOB ROLE: Specialized Sewing Machine Operator
(QUALIFICATION PACK: Ref.Id.AMH/Q2301)
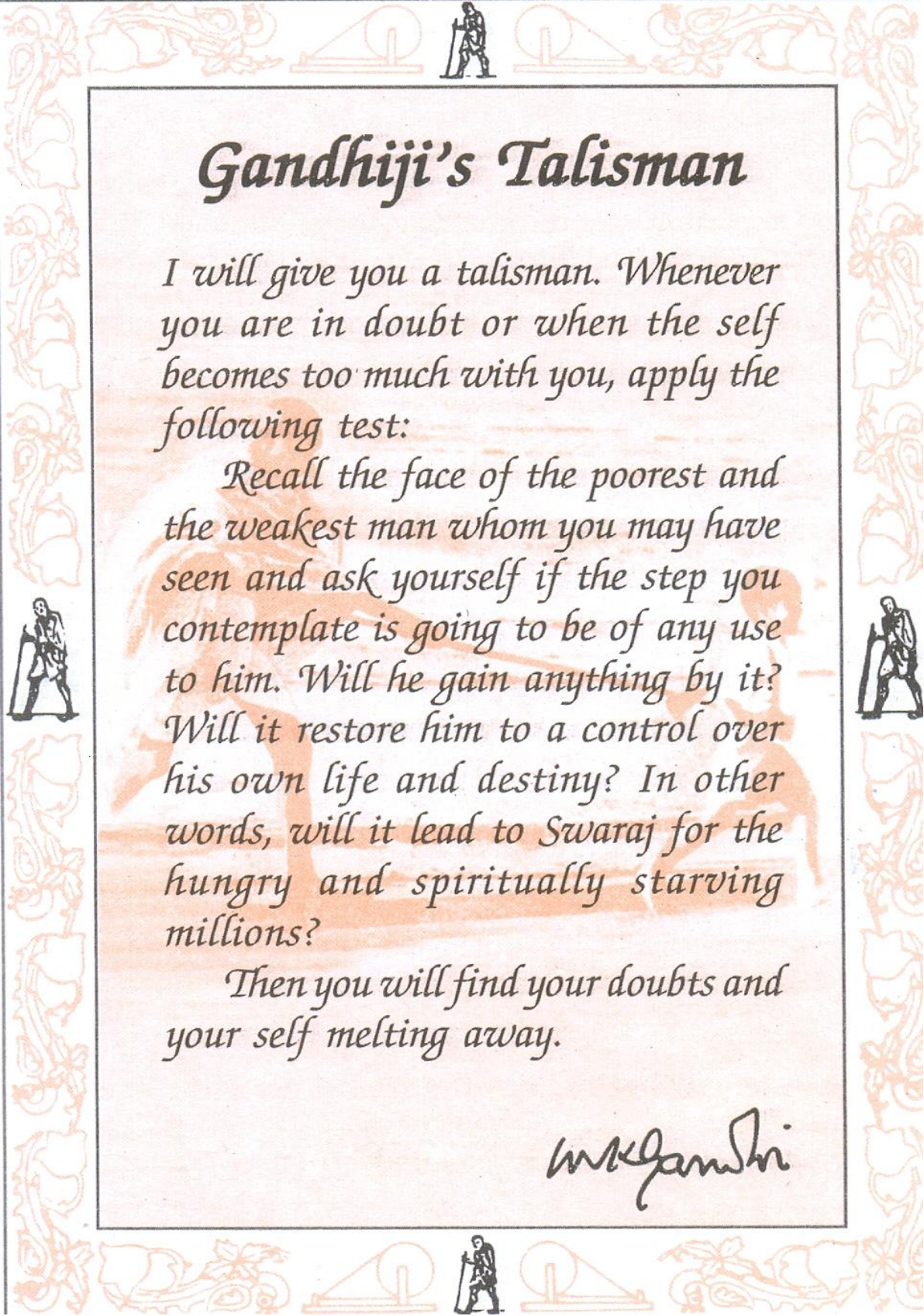**SECTOR: Apparel, Made-Ups and Home Furnishing**

Classes11and12

Gandhiji's Talisman

I will give you a talisman. Whenever you are in doubt or when the self becomes too much with you, apply the following test:

Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to a control over his own life and destiny? In other words, will it lead to Swaraj for the hungry and spiritually starving millions?

Then you will find your doubts and your self melting away.

M.K.Gandhi

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SECTOR: Apparel, Made-Ups and Home Furnishing

Classes 11 and 12

विद्यया ऽमृतमश्नुते
एन सी ई आर टी
NCERT

PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION
Shyamla Hills, Bhopal- 462 002, M.P., India

LEARNING OUTCOME BASED VOCATIONAL CURRICULUM
Apparel, Made-Ups and Home Furnishing–Specialised Sewing Machine Operator

June, 2017

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PATRONS

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FOREWORD

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) a constituent of the National Council of Educational Research and Training (NCERT) is spearheading the efforts of developing learning outcome based vocational curriculum and courseware aimed at integrating both vocational and general qualifications to open pathways of career progression for students. It is a part of Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education (CSSVSHSE) launched by the Ministry of Human Resource Development, Government of India in 2012. The PSS Central Institute of Vocational Education (PSSCIVE) is developing curricula under the project approved by the Project Approval Board (PAB) of *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA). The main purpose of the learning outcome based vocational curriculum is to bring about the improvement in teaching-learning process and working competencies through learning outcomes embedded in the vocational subject.

It is a matter of great pleasure to introduce this learning outcome based vocational curriculumas part of the vocational training packages for the job role of **Specialized Sewing Machine Operator.** The curriculum has been developed for the higher secondary students of vocational education and is aligned to the National Occupation Standards (NOSs) of a job role identified and approved under the National Skill Qualification Framework (NSQF).

The curriculum aims to provide children with employability and vocational skills to support occupational mobility and lifelong learning. It will help them to acquire specific occupational skills that meet employers' immediate needs. The teaching process is to be performed through the interactive sessions in classrooms, practical activities in laboratories and workshops, projects, field visits, and professional experiences.

The curriculum has been developed and reviewed by a group of experts and their contributions are greatly acknowledged. The utility of the curriculum will be adjudged by the qualitative improvement that it brings about in teaching-learning. The feedback and suggestions on the content by the teachers and other stakeholders will be of immense value to us in bringing about further improvement in this document.

HRUSHIKESHSENAPATY
Director
National Council of Education Research and Training

PREFACE

India today stands poised at a very exciting juncture in its saga. The potential for achieving inclusive growth are immense and the possibilities are equally exciting. The world is looking at us to deliver sustainable growth and progress. To meet the growing expectations, India will largely depend upon its young workforce. The much-discussed demographic dividend will bring sustaining benefits only if this young workforce is skilled and its potential is channelized in the right direction.

In order to fulfil the growing aspirations of our youth and the demand of skilled human resource, the Ministry of Human Resource Development (MHRD), Government of India introduced the revised Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education that aims to provide for the diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provide an alternative for those pursuing higher education. For spearheading the scheme, the PSS Central Institute of Vocational Education (PSSCIVE) was entrusted the responsibility to develop learning outcome based vocational curriculum, student workbooks, teacher handbooks and e-learning materials for the job roles in various sectors, with growth potential for employment.

The PSSCIVE firmly believes that the vocationalisation of education in the nation needs to be established on a strong footing of philosophical, cultural and sociological traditions and it should aptly address the needs and aspirations of the students besides meeting the skill demands of the industry. The curriculum, therefore, aims at developing the desired professional, managerial and communication skills to fulfil the needs of the society and the world of work. In order to honour its commitment to the nation, the PSSSCIVE has initiated the work on developing learning outcome based vocational curriculum with the involvement of faculty members and leading experts in respective fields. It is being done through the concerted efforts of leading academicians, professionals, policy makers, partner institutions, Vocational Education and Training experts, industry representatives, and teachers. The expert group through a series of consultations, working group meetings and use of reference materials develops a National Curriculum. Currently, the Institute is working on developing curricula and courseware for over 100 job roles in various sectors.

We extend our gratitude to all the contributors for selflessly sharing their precious knowledge, acclaimed expertise, valuable time and positively responding to our request for development of curriculum. We are grateful to MHRD and NCERT for the financial support and cooperation in realising the objective of providing learning outcome based vocational curriculum and courseware to the States and other stakeholders under the PAB (Project Approval Board) approved project of *Rashtriya Madhyami kShiskha Abhiyan* (RMSA) of MHRD.

Finally, for transforming the proposed curriculum design into a vibrant reality of implementation, all the institutions involved in the delivery system shall have to come together with a firm commitment and they should secure optimal community support. The success of this curriculum depends upon its effective implementation and it is expected that the managers of vocational education and training system, including subject teachers will make efforts to create better facilities, develop linkages with the world of work and foster a conducive environment as per the content of the curriculum document.

The PSSCIVE, Bhopal remains committed in bringing about reforms in the vocational education and training system through the learner-centric curricula and courseware. We hope that this document will prove useful in turning out more competent Indian workforce for the 21st Century.

RAJESH P. KHAMBAYAT

Joint Director

PSS Central Institute of Vocational Education

ACKNOWLEDGEMENTS

CONTENTS

1. COURSE OVERVIEW

COURSE TITLE: Apparel, Made-Ups and Home Furnishing - Specialized Sewing Machine Operator

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 REQUIREMENTS: The learner should have the basic knowledge of Sewing Machines and Textile and Clothing.

COURSE LEVEL: This is a course for class XI and XII. On completion of this course, a student can take up a higher level course in the area of Apparel, Made-ups and Home Furnishing.

COURSE DURATION: **600 Hrs**
Class 11: 300 Hrs
Class 12: 300 Hrs
_____

Total: 600 Hrs
_____

2. SCHEME OF UNITS

This course is a planned sequence of instructions consisting of Units meant for developing employability and vocational competencies of students of Class 11 and 12 opting for vocational subject along with general education subjects. The unit-wise distribution of hours and marks for Class 11 is as follows:

CLASS 11		No. of Hours for Theory and Practical 300	Max. Marks for Theory and Practical 100
Part A	**Employability Skills**		
	Unit 1: Communication Skills- III	25	
	Unit 2: Self-management Skills – III	25	
	Unit 3: Information and Communication Technology Skills – III	20	10
	Unit 4: Entrepreneurial Skills – III	25	
	Unit 5: Green Skills – III	15	
	Total	**110**	**10**
Part B	**Vocational Skills**		
	Unit 1: Production Technology	35	
	Unit 2: Introduction to Industrial Sewing Machines	25	
	Unit 3: Machines for Seam Finishes	25	
	Unit 4: Machines for Ornamental Stitches	25	40
	Unit 5: Machines for Attachments	25	
	Unit 6: Personal Hygiene, Cleaning and Maintenance at Workplace	30	
	Total	**165**	**40**
Part C	**Practical Work**		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
	Total	**10**	**35**

Part D	**Project Work/Field Visit**		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	**15**	**15**
	Grand Total	**300**	**100**

The unit-wise distribution of hours and marks for Class 12 is as follows:

CLASS 12			
	Units	**No. of Hours for Theory and Practical 300**	**Max. Marks for Theory and Practical 100**
Part A	**Employability Skills**		
	Unit 1: Communication Skills- IV	25	
	Unit 2: Self-management Skills – IV	25	
	Unit 3: Information and Communication Technology Skills – IV	20	10
	Unit 4: Entrepreneurial Skills – IV	25	
	Unit 5: Green Skills - IV	15	
	Total	**110**	**10**
Part B	**Vocational Skills**		
	Unit 1: Introduction to Garment Pre-production processes	30	
	Unit 2: Feed off the arm and bartack machines	30	
	Unit 3: Flat lock machine, blind stitch machine, finishing machine and other equipment	40	40
	Unit 4: Organizational Health safety and security at workplace	30	
	Unit 5: Quality Control in Stitching Process	35	
		165	**40**
Part C	**Practical Work**		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
	Total	**10**	**35**
Part D	**Project Work/Field Visit**		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	**15**	**15**
	Grand Total	**300**	**100**

3. TEACHING/TRAINING ACTIVITIES

The teaching and training activities have to be conducted in classroom, laboratory/ workshops and field visits. Students should be taken to field visits for interaction with experts and to expose them to the various tools, equipment, materials, procedures and operations in the workplace. Special emphasis should be laid on the occupational safety, health and hygiene during the training and field visits.

CLASSROOM ACTIVITIES

Classroom activities are an integral part of this course and interactive lecture sessions, followed by discussions should be conducted by trained vocational teachers. Vocational teachers should make effective use of a variety of instructional or teaching aids, such as audio-video materials, colour slides, charts, diagrams, models, exhibits, hand-outs, online teaching materials, etc. to transmit knowledge and impart training to the students.

PRACTICAL WORK IN LABORATORY/WORKSHOP

Practical work may include but not limited to hands-on-training, simulated training, role play, case based studies, exercises, etc. Equipment and supplies should be provided to enhance hands-on learning experience of students. Only trained personnel should teach specialized techniques. A training plan that reflects tools, equipment, materials, skills and activities to be performed by the students should be submitted by the vocational teacher to the Head of the Institution.

FIELD VISITS/ EDUCATIONAL TOUR

In field visits, children will go outside the classroom to obtain specific information from experts or to make observations of the activities. A checklist of observations to be made by the students during the field visits should be developed by the Vocational Teachers for systematic collection of information by the students on the various aspects. Principals and Teachers should identify the different opportunities for field visits within a short distance from the school and make necessary arrangements for the visits. At least three field visits should be conducted in a year.

4. ASSESSMENT AND CERTIFICATION

Upon successful completion of the course by the candidate, the Central/ State Examination Board for Secondary Education and the respective Sector Skill Council will certify the competencies.

The National Skills Qualifications Framework (NSQF) is based on outcomes referenced to the National Occupation Standards (NOSs), rather than inputs. The NSQF level descriptors, which are the learning outcomes for each level, include the process, professional knowledge, professional skills, core skills and responsibility. The assessment is to be undertaken to verify that individuals have the knowledge and skills needed to perform a particular job and that the

learning programme undertaken has delivered education at a given standard. It should be closely linked to certification so that the individual and the employer could come to know the competencies acquired through the vocational subject or course. The assessment should be reliable, valid, flexible, convenient, cost effective and above all it should be fair and transparent. Standardized assessment tools should be used for assessment of knowledge of students. Necessary arrangements should be made for using technology in assessment of students.

KNOWLEDGE ASSESSMENT (THEORY)

Knowledge Assessment should include two components: one comprising of internal assessment and second an external examination, including theory examination to be conducted by the Board. The assessment tools shall contain components for testing the knowledge and application of knowledge. The knowledge test can be objective paper based test or short structured questions based on the content of the curriculum.

WRITTEN TEST

It allows candidates to demonstrate that they have the knowledge and understanding of a given topic. Theory question paper for the vocational subject should be prepared by the subject experts comprising group of experts of academicians, experts from existing vocational subject experts/teachers, and subject experts from university/colleges or industry. The respective Sector Skill Council should be consulted by the Central/State Board for preparing the panel of experts for question paper setting and conducting the examinations.

The blue print for the question paper may be as follows:

Duration: 3 Hrs   **Max. Mark: 40**

S. No.	Typology of Question	No. of Questions			Marks
		Very Short Answer (1 mark)	Short Answer (2 Marks)	Long Answer (3 Marks)	
1.	Remembering – (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; identify, define or recite, information)	3	2	2	13
2.	Understanding – (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	2	3	2	14
3.	Application – (Use abstract information in concrete	0	2	1	07

#	Description				
	situation, to apply knowledge to new situations: Use given content to interpret a situation, private an example, or solve a problem)				
4.	High Order Thinking Skills – (Analysis & Synthesis – Classify, compare, contrast, or differentiate between different pieces of information; Organize and/ or integrate unique pieces of information from a variety of sources)	0	2	0	04
5.	Evaluation – (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	0	1	0	02
	Total	**5x1=5**	**10x2=20**	**5x3=15**	**40 (20questions)**

SKILL ASSESSMENT (PRACTICAL)

Assessment of skills by the students should be done by the assessors/examiners on the basis of practical demonstration of skills by the candidate, using a competency checklist. The competency checklist should be developed as per the National Occupation Standards (NOSs) given in the Qualification Pack for the Job Role to bring about necessary consistency in the quality of assessment across different sectors and Institutions. The student has to demonstrate competency against the performance criteria defined in the National Occupation Standards and the assessment will indicate that they are 'competent', or are 'not yet competent'. The assessors assessing the skills of the students should possess a current experience in the industry and should have undergone an effective training in assessment principles and practices. The Sector Skill Councils should ensure that the assessors are provided with the training on the assessment of competencies.

Practical examination allows candidates to demonstrate that they have the knowledge and understanding of performing a task. This will include hands-on practical exam and viva voce. For practical, there should be a team of two evaluators – the subject teacher and the expert from the relevant industry certified by the Board or concerned Sector Skill Council. The same team of examiners will conduct the viva voce.

Project Work (individual or group project) is a great way to assess the practical skills on a certain time period or timeline. Project work should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation. Field visits should be organised as part of the project work. Field visits can be followed by a small-group work/project work. When the class

returns from the field visit, each group might be asked to use the information that they have gathered to prepare presentations or reports of their observations. Project work should be assessed on the basis of practical file or student portfolio.

Student Portfolio is a compilation of documents that supports the candidate's claim of competence. Documents may include reports, articles, photos of products prepared by students in relation to the unit of competency.

Viva voce allows candidates to demonstrate communication skills and content knowledge. Audio or video recording can be done at the time of viva voce. The number of external examiners would be decided as per the existing norms of the Board and these norms should be suitably adopted/adapted as per the specific requirements of the vocational subject. Viva voceshould also be conducted to obtain feedback on the student's experiences and learning during the project work/field visits.

5. UNIT CONTENTS

CLASS 11

Part A: Employability Skills

S .No.	Units	Duration (hrs)
1.	Communication Skills- III	25
2.	Self-management Skills – III	25
3.	Information and Communication Technology Skills - III	20
4.	Entrepreneurial Skills – III	25
5.	Green Skills – III	15
	Total	**110**

UNIT 1: COMMUNICATION SKILLS – III			
Learning Outcome	**Theory (10hrs)**	**Practical (15hrs)**	**Duration (25 hrs)**
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 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	1. Capitalisation 2. Punctuation 3. Basic parts of speech 4. Supporting parts of speech	1. Group activity on identifying parts of speech 2. Writing a paragraph with punctuation marks 3. Group activity on constructing sentences 4. Group activity on identifying parts of speech	03
8. Write correct sentences and paragraphs	1. Parts of a sentence 2. Types of object 3. Types of sentences 4. Paragraph	1. Activity on writing sentences 2. Activity on active and passive voice 3. Assignment on writing different types of sentences	02

9. Communicate with people	1. Greetings 2. Introducing self and others	1. Role-play on formal and informal greetings 2. Role-play on introducing someone 3. Practice and group discussion on how to greet different people?	02
10. Introduce yourself to others and write about oneself	1. Talking about self 2. Filling a form	1. Practicing self-introduction and filling up forms 2. Practicing self-introduction to others	01
11. Develop questioning skill	1. Main types of questions 2. Forming closed and open-ended questions	1. Practice exercise on forming questions 2. Group activity on framing questions	01
12. Communicate information about family to others	1. Names of relatives 2. Relations	1. Practice talking about family 2. Role-play on talking about family members in a relations	01
13. Describe habits and routines	1. Concept of habits and routines	1. Group discussion on habits and routines 2. Group activity on describing routines	01
14. Ask or give directions to others	1. Asking for directions 2. Using landmarks	1. Role-play on asking and giving directions 2. Identifying symbols used for giving directions	01
Total			**25**

UNIT 2: SELF-MANAGEMENT–III			
Learning Outcome	**Theory (10hrs)**	**Practical (15hrs)**	**Duration (25hrs)**
1. Identify and analyze own strengths and weaknesses	1. Understanding self 2. Techniques for identifying strengths and weaknesses 3. Difference between interests and abilities	1. Activity on writing aims in life 2. Preparing a worksheet on interests and abilities	03
2. Demonstrate personal grooming skills	1. Guidelines for dressing and grooming 2. Preparing a personal grooming checklist	1. Role-play on dressing and grooming standards 2. Self-reflection activity on various aspects of personal grooming	04

Learning Outcome	Theory	Practical	Duration
3. Maintain personal hygiene	1. Importance of personal hygiene 2. Three steps to personal hygiene 3. Essential steps of hand washing	1. Role-play on personal hygiene 2. Assignment on personal hygiene	03
4. Demonstrate the knowledge of working in a team and participating in group activities	1. Describe the benefits of teamwork 2. Working in a team	1. Assignment on working in a team 2. Self-reflection on teamwork	03
5. Develop networking skills	1. Benefits of networking skills 2. Steps to build networking skills	1. Group exercise on networking in action 2. Assignment on networking skills	03
6. Describe the meaning and importance of self-motivation	1. Meaning of self-motivation 2. Types of motivation 3. Steps to building self-motivation	1. Activity on staying motivated 2. Assignment on reasons hindering motivation	03
7. Set goals	1. Meaning of goals and purpose of goal-setting 2. Setting SMART goals	1. Assignment on setting SMART goals 2. Activity on developing long-term and short-term goals using SMART method	03
8. Apply time management strategies and techniques	1. Meaning and importance of time management 2. Steps for effective time management	1. Checklist for making preparation for daily activities 2. Preparing To-do-list	03
Total			**25**

UNIT 3: INFORMATION AND COMMUNICATION TECHNOLOGY-III			
Learning Outcome	**Theory (08 hrs)**	**Practical (12hrs)**	**Duration (20hrs)**
1. Create a document on the word processor	1. Introduction to ICT 2. Advantages of using a word processor. 3. Work with Libre Office Writer	1. Group activity on demonstration and practice of the following: • Creating a new document • Typing text • Saving the text • Opening and saving file on Microsoft word/Libre Office Writer.	02

2. Identify icons on the toolbar	1. Status bar 2. Menu bar 3. Icons on the Menu bar 4. Multiple ways to perform a function	1. Group activity on using basic user interface of LibreOffice writer 2. Group activity on working with Microsoft Word	02
3. Save, close, open and print document	1. Save a word document 2. Close 3. Open an existing document 4. Print	1. Group activity on performing the functions for saving, closing and printing documents in LibreOffice Writer 2. Group activity on performing the functions for saving, closing and printing documents in Microsoft Word	02
4. Format text in a word document	1. Change style and size of text 2. Align text 3. Cut, Copy, Paste 4. Find and replace	1. Group activity on formatting text in LibreOffice Writer 2. Group activity on formatting text in Microsoft Word	02
5. Check spelling and grammar in a word document	1. Use of spell checker 2. Autocorrect	1. Group activity on checking spellings and grammer using LibreOffice Writer 2. Group activity on checking spellings and grammer using Microsoft Word	02
6. Insert lists, tables, pictures, and shapes in a word document	1. Insert bullet list 2. Number list 3. Tables 4. Pictures 5. Shapes	1. Practical exercise of inserting lists and tables using LibreOffice Writer	03
7. Insert header, footer and page number in a word document	1. Insert header 2. Insert footer 3. Insert page number 4. Page count	1. Practical exercise of inserting header, footer and page numbers in LibreOffice Writer 2. Practical exercise of inserting header, footer and page numbers in Microsoft Word	03
8. Make changes by using the track change option in a word document	1. Tracking option 2. Manage option 3. Compare documents	1. Group activity on performing track changes in LibreOffice Writer 2. Group activity on performing track changes in Microsoft Word	04
Total			**20**

UNIT 4: ENTREPRENEURIAL SKILLS – III			
Learning Outcome	Theory (10hrs)	Practical (15hrs)	Duration (25hrs)
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
Total			**25**

UNIT 5: GREEN SKILLS – III			
Learning Outcome	Theory (07 hrs)	Practical (08 hrs)	Duration (15 hrs)
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 energy, green construction, and water management	1. Group discussion on sectors of green economy 2. Preparing posters on various sectors for promoting green economy	06
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
Total			15

UNIT 5: GREEN SKILLS – III			
Learning Outcome	**Theory (07 hrs)**	**Practical (08 hrs)**	**Duration (15 hrs)**
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 energy, green construction, and water management	1. Group discussion on sectors of green economy 2. Preparing posters on various sectors for promoting green economy	06
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
Total			**15**

Part B: Vocational Skills

S.No.	Units	Duration (Hrs)
1.	Unit 1: Production Technology	35
2.	Unit 2: Introduction to Industrial Sewing Machines	25
3.	Unit 3: Machines for Seam Finishes	25
4.	Unit 4: Machines for Ornamental Stitches	25
5.	Unit 5: Machines for Attachments	25
6.	Unit 6: Personal Hygiene, Cleaning and Maintenance at Workplace	30
Total		**165**

Unit 1: Production Technology

Learning Outcome	Theory (10 Hrs)	Practical (25 Hrs)	Duration (35 Hrs)
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	1. Need of process flow chart in preparation of a garment 2. Sequence of operations in garment production for: • Shirt • Trouser	1. Prepare process flow chart of a garment	20
Total			**35**

Unit 2: Introduction to Industrial Sewing Machines

Learning Outcome	Theory (10 Hrs)	Practical (15 Hrs)	Duration (25 Hrs)
1. Identify types of thread, their classification and suitability as per machine and fabric	1. Introduction to types of sewing threads 2. Classification of sewing threads 3. Numbering of thread 4. Suitable threads for fabric and machine	1. Identify different sewing threads	10
2. Identify needles for specialized machines	1. Sewing machine needles and its parts 2. Needle system 3. Types of needles and their uses 4. Selection of appropriate needle for fabric and machine 5. Selection of thread type and needle size for industrial sewing machine	1. identify different sewing needles	15
Total			**25**

Unit 3: Machines for seam finishes

Learning Outcome	Theory (10 Hrs)	Practical (15Hrs)	Duration (25 HRS)
1. Identify lock stitch machine used in apparel industry	1. Various specialized sewing machines used in industry 2. Importance of lock stitch machine 3. Parts of single needle lock stitch machine with under bed trimmer 4. Operating steps of lock stitch machine 5. Checking machine before operation	1. Practice the preparatory process of specialized sewing machine before stitching 2. Practice stitching with lock stitch machine	13
2. Demonstrate the use of overlock machine	1. Importance of overlock machine 2. Types of overlock stitches 3. Parts of overlock stitch machine 4. Operating steps of overlock stitch machine	1. Prepare samples using overlock machine	12
Total			**25**

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
Total			**25**

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	1. Prepare samples using button	13

Unit 5: Machines for Attachments

Learning Outcome	Theory (10 Hrs)	Practical (15 Hrs)	Duration (25 Hrs)
	3. Importance of button sewing machine 4. Operating steps of button sewing machine	attachment machine	
2. Demonstrate button hole machine	1. Parts of button hole machine 2. Importance and use of button hole machine 2. Operating steps of a button hole machine	1. Practice stitching with button hole machine	12
Total			**25**

Unit 6: Personal hygiene, cleaning and maintenance at workplace

Learning Outcome	Theory (10 Hrs)	Practical (20 Hrs)	Duration (30 Hrs)
1. Understand personal health and hygiene	1. Introduction to health and hygiene 2. Factors that affect the maintenance of good health 3. Importance of good personal hygiene 4. Health and safety precautions for operators if using hand needle	1. Practice health and hygiene	10
2. Demonstrate cleaning and maintenance at workplace	1. Introduction to cleaning and maintenance 2. Types of maintenance work 3. Benefits of maintenance and clean environment	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
Total			**30**

CLASS 12

Part A - Employability Skills

S. No.	Units	Duration (hrs)
1.	Communication Skills- IV	25
2.	Self-management Skills - IV	25
3.	Information and Communication Technology Skills - IV	20
4.	Entrepreneurial Skills - IV	25
5.	Green Skills - IV	15
Total		**110**

UNIT 1: COMMUNICATION SKILLS - IV			
Learning Outcome	**Theory (10hrs)**	**Practical (15hrs)**	**Duration (25hrs)**
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: • Simple sentence • Complex sentence • Types of object 2. Types of sentences • Active and Passive sentences • Statement/ • Declarative sentence • Question/ • Interrogative sentence • Emotion/ • Reaction or Exclamatory sentence • Order or Imperative sentence 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
Total			**25**

UNIT 2: SELF-MANAGEMENT SKILLS – IV

Learning Outcome	Theory (10hrs)	Practical (15hrs)	Duration (25hrs)
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	1. How to become result oriented? 2. Goal setting – examples of result-oriented goals	1. Group activity on listing aim in life	05
3. Describe the importance of self-awareness and the basic personality traits, types and disorders	1. Steps towards self-awareness 2. Personality and basic personality traits 3. Common personality disorders- • Suspicious • Emotional and impulsive • Anxious 4. Steps to overcome personality disorders	1. Group discussion on self-awareness	10
Total			25

UNIT3: INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS-IV

Learning Outcome	Theory (06 hrs)	Practical (14 hrs)	Duration (20 hrs)
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 LibreOffice Calc.	02
2. Perform basic operations in a spreadsheet	1. Opening workbook and entering data – types of data, steps to enter data, editing and deleting data in a cell 2. Selecting multiple cells 3. Saving the spreadsheet in various formats 4. Closing the spreadsheet 5. Opening the spreadsheet. 6. Printing the spreadsheet.	1. Group activity on working with data on LibreOffice Calc.	03

3. Demonstrate the knowledge of working with data and formatting text	1. 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 2. Need to format cell and content 3. Changing text style and font size 4. Align text in a cell 5. Highlight text	1. Group activity on formatting a spreadsheet in LibreOfficeCalc 2. Group activity on performing basic calculations in LibreOffice Calc.	02
4. Demonstrate the knowledge of using advanced features in spreadsheet	1. Sorting data 2. Filtering data 3. Protecting spreadsheet with password	1. Group activity on sorting data in LibreOfficeCalc	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 LibreOffice 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 onLibreOffice Impress	03
Total			**20**

UNIT 4: ENTREPRENEURIAL SKILLS-IV			
Learning Outcome	**Theory (10hrs)**	**Practical (15hrs)**	**Duration (25hrs)**
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. Organisational 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 listingstress and methods to deal with it like Yoga, deep breathing exercises, etc. 6. Group activity on time management	05
Total			**25**

UNIT 5: GREEN SKILLS-IV			
Learning Outcome	**Theory (05hrs)**	**Practical (10hrs)**	**Duration (15hrs)**
1. Identify the benefits of the green jobs	1. Green jobs 2. Benefits of green jobs 3. Green jobs in different sectors: • Agriculture • Transportation • Water conservation • Solar and wind energy • Eco-tourism • Building and construction • Solid waste management • Appropriate technology	1. Group discussion on the importance of green job.	08
2. State the importance of green jobs	1. Importance of green jobs in • Limiting greenhouse gas emissions • Minimizing waste and pollution • Protecting and restoring ecosystems • Adapting to the effects of climate change	1. Preparing posters on green jobs. 2. Group activity on tree plantation.	07
Total			**15**

Part B–Vocational Skills

S. No.	Units	Duration (Hrs)
1.	Unit 1: Introduction to Garment Pre-production processes	30
2.	Unit 2: Feed off the arm and bartack machines	30
3.	Unit 3: Flat lock machine, blind stitch machine, finishing machine and other equipment	40
4.	Unit 4: Organizational Health safety and security at workplace	30
5.	Unit 5: Quality Control in Stitching Process	35
Total		**165**

Unit 1: Introduction to Garment pre-production processes

Learning Outcome	Theory (10 Hrs)	Practical (20 Hrs)	Duration (30 Hrs)
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
Total			**30**

Unit 2: Feed-off the arm and bar-tack machines

Learning Outcome	Theory (10 Hrs)	Practical (20 Hrs)	Duration (30Hrs)
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

Unit 2: Feed-off the arm and bar-tack machines

Learning Outcome	Theory (10 Hrs)	Practical (20 Hrs)	Duration (30Hrs)
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
Total			**30**

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

Learning Outcome	Theory (15 Hrs)	Practical (25Hrs)	Duration (40Hrs)
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 equipments	1. Introduction, parts and operating steps of : • Welt attachment machine • Fusing machine 2. Pressing equipment used in garment industry: • Hand irons • Iron table • Buck press or steam press • Trouser pressing • Double-legger pressing • Carousel pressing • Steam finisher • Tunnel finisher • Creasing machine 3. Pleating machine	1. Practice use of all the machines in the session and prepare samples	15
Total			**40**

Unit 4: Maintain Organizational Health, Safety and Security at Workplace

Learning Outcome	Theory (10Hrs)	Practical (20Hrs)	Duration (30Hrs)
1. Describe importance of health and safety at workplace	1. Importance of health 2. Types of hazards at workplace 3. Steps of reporting to concerned person in an organization at the time of emergency 4. Emergency action plan	1. Prepare emergency action plan	10
2. Explain health and safety measures at workplace	1. Introduction to safety 2. Importance of ergonomics at workplace 3. Recommendations to improve the safety and health conditions in garment manufacturing units 4. Important safety instructions while working on specialized machines 5. Safety Rules for safe working operations on specialized sewing machine	1. Demonstrate proper actions taking in case of emergencies at workplace	10
3. Explain steps of Storing materials and equipment	1. Social responsibility of companies 2. Waste management in textile and apparel industry	1. Practice waste management	05
4. Describe organizational policy, goals, rules & regulation and workmen security	1. Purpose and benefits of organizational policies 2. Importance of organizational goals 3. Workmen security system	1. Prepare organizational plan	05
Total			30

Unit 5: Quality Control in Stitching Process			
Learning Outcome	Theory (10 Hrs)	Practical (20 Hrs)	Duration (35Hrs)
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
Total			**35**

6. ORGANISATION OF FIELD VISITS

In a year, at least 3 field visits/educational tours should be organised 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 obtainthefollowing 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

7. LIST OF EQUIPMENT AND MATERIALS

The list given below is suggestive and an exhaustive list should be prepared by the vocational teacher. Only basic tools, equipment and accessories should be procured by the Institution so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

1. Thread
2. Needle
3. Trims
4. Fabric
5. Button
6. Scissor
7. Measuring tape
8. Chalk
9. Pins
10. Sheets
11. Paper
12. Picture (Apparel magazines)
13. Zipper
14. Embroidery machine
15. Chain stitch machine
16. Over-lock machine
17. Button hole sewing machine
18. Button sewing machine
19. Zigzag sewing machine
20. Lock stitch machine
21. Feed of arm machine
22. Bar-tack machine
23. Blind stitch machine
24. High speed sewing machine
25. High speed interlock machine

8. VOCATIONAL TEACHER'S/ TRAINER'S QUALIFICATION AND GUIDELINES

Qualification and other requirements for appointment of vocational teachers/trainers on contractual basis should be decided by the State/UT. The suggestive qualifications and minimum competencies for the vocational teacher should be as follows:

S. No.	Qualification	Minimum Competencies	Age Limit
1.	Post-graduation in Textile and Clothing or Relevant area from a recognized Institute/University, with at least 1 year work/teaching experience in Textile and clothing	• Effective communication skills (oral and written) • Basic computing skills	18-37 years (as on Jan. 01 (year)) Age relaxation to be provided as per Govt. Rules

Vocational Teachers/Trainers form the backbone of Vocational Education being imparted as an integral part of Rashtriya Madhyamik Shiksha *Abhiyan* (RMSA). They are directly involved in teaching of vocational subjects and also serve as a link between the industry and the schools for arranging industry visits, On-the-Job Training (OJT) and placement.

These guidelines have been prepared with an aim to help and guide the States in engaging quality Vocational Teachers/Trainers in the schools. Various parameters that need to be looked into while engaging the Vocational Teachers/Trainers are mode and procedure of selection of Vocational Teachers/Trainers, Educational Qualifications, Industry Experience, and Certification/Accreditation.

The State may engage Vocational Teachers/Trainers in schools approved under the component of Vocationalisation of Secondary and Higher Secondary Education under RMSA in the following ways:

(i)   directly as per the prescribed qualifications and industry experience suggested by the PSS Central Institute of Vocational Education(PSSCIVE), NCERT or the respective Sector Skill Council(SSC)

        OR

(ii)   Through accredited Vocational Training Providers accredited under the National Quality Assurance Framework (NQAF*) approved by the National Skill Qualification Committee on 21.07.2016. If the State is engaging Vocational Teachers/Trainers through the Vocational Training Provider (VTP), it should ensure that VTP should have been accredited at NQAF Level 2 or higher.

> * *The National Quality Assurance Framework (NQAF) provides the benchmarks or quality criteria which the different organisations involved in education and training must meet in order to be accredited by competent bodies to provide government-funded education and training/skills activities. This is applicable to all organizations offering NSQF-compliant qualifications.*

The educational qualifications required for being a Vocational Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers/trainers deployed in the schools have relevant technical competencies for the NSQF qualification being delivered. The Vocational Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which he/she will be teaching. Copies of relevant certificates and/or record of experience of the teacher/trainer in the industry should be kept as record.

To ensure the quality of the Vocational Teachers/Trainers, the State should ensure that a standardized procedure for selection of Vocational Teachers/Trainers is followed. The selection procedure should consist of the following:

(i) Written test for the technical/domain specific knowledge related to the sector;

(ii) Interview for assessing the knowledge, interests and aptitude of trainer through a panel of experts from the field and state representatives; and

(iii) Practical test/mock test in classroom/workshop/laboratory.

In case of appointment through VTPs, the selection may be done based on the above procedure by a committee having representatives of both the State Government and the VTP.

The State should ensure that the Vocational Teachers/Trainers who are recruited should undergo induction training of 20 days for understanding the scheme, NSQF framework and Vocational Pedagogy before being deployed in the schools.

The State should ensure that the existing trainers undergo in-service training of 5 days every year to make them aware of the relevant and new techniques/approaches in their sector and understand the latest trends and policy reforms in vocational education.

The Head Master/Principal of the school where the scheme is being implemented should facilitate and ensure that the Vocational Teachers/Trainers:

(i) Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;

(ii) Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;

(iii) Make effective use of learning aids and ICT tools during the classroom sessions;

(iv) Engage students in learning activities, which include a mix of different methodologies, such as project based work, team work, practical and simulation based learning experiences;

(v)   Work with the institution's management to organise skill demonstrations, site visits, on-job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;

(vi)   Identify the weaknesses of students and assist them in up-gradation of competency;

(vii)   Cater to different learning styles and level of ability of students;

(viii)   Assess the learning needs and abilities, when working with students with different abilities

(ix)   Identify any additional support the student may need and help to make special arrangements for that support;

(x)   Provide placement assistance

Assessment and evaluation of Vocational Teachers/Trainers is very critical for making them aware of their performance and for suggesting corrective actions. The States/UTs should ensure that the performance of the Vocational Teachers/Trainers is appraised annually. Performance based appraisal in relation to certain pre-established criteria and objectives should be done periodically to ensure the quality of the Vocational Teachers/Trainers. Following parameters may be considered during the appraisal process:

1. Participation in guidance and counselling activities conducted at Institutional, District and State level;

2. Adoption of innovative teaching and training methods;

3. Improvement in result of vocational students of Class X or Class XII;

4. Continuous up-gradation of knowledge and skills related to the vocational pedagogy, communication skills and vocational subject;

5. Membership of professional society at District, State, Regional, National and International level;

6. Development of teaching-learning materials in the subject area;

7. Efforts made in developing linkages with the Industry/Establishments;

8. Efforts made towards involving the local community in Vocational Education

9. Publication of papers in National and International Journals;

10. Organisation of activities for promotion of vocational subjects;

11. Involvement in placement of students/student support services.

9. LIST OF CONTRIBUTORS

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