

LEARNING OUTCOME BASED VOCATIONAL CURRICULUM

**JOB ROLE: Embroidery Machine Operator
(Zigzag Machine)**

(QUALIFICATION PACK: Ref. Id. AMH/Q0801)

**SECTOR: Apparel, Made-Ups and Home Furnishing
Classes 11 and 12**

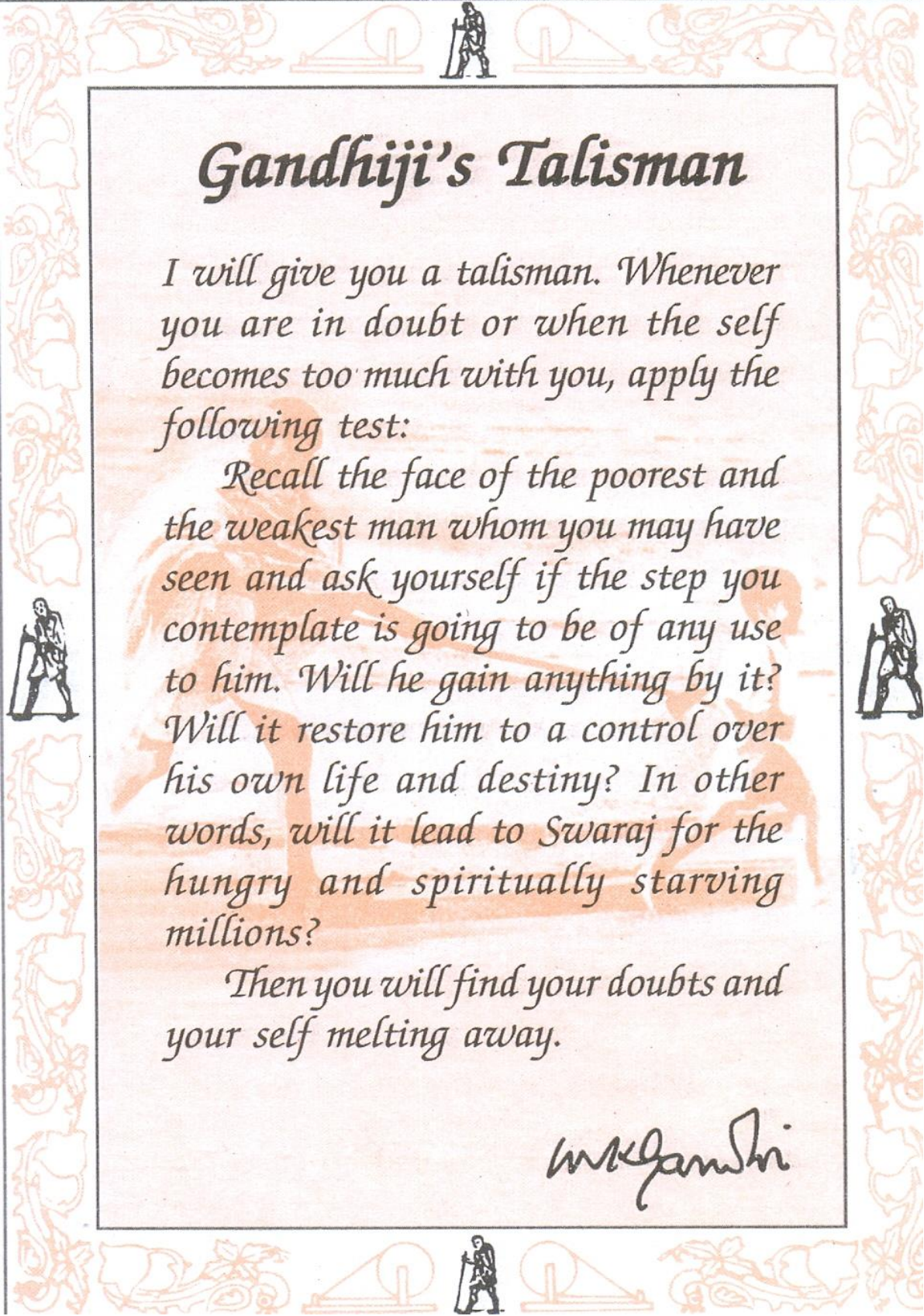


PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

(a constituent unit of NCERT, under MHRD, Government of India)

Shyamla Hills, Bhopal- 462 002, M.P., India

<http://www.psscive.ac.in>



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. Gandhi

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**Apparel, Made-Ups and Home
Furnishing– Embroidery Machine
Operator (Zigzag Machine)**

JUNE, 2019

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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 curriculum as part of the vocational training packages for the job role of **Embroidery Machine Operator (Zigzag Machine)**. 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.

HRUSHIKESH SENAPATY

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 PSSCIVE 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 Madhyamik Shiksha 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

On behalf of the team at the PSS Central Institute of Vocational Education (PSSCIVE) we are grateful to the members of the Project Approval Board (PAB) of *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) and the officials of the Ministry of Human Resource Development (MHRD), Government of India for the financial support to the project for development of curricula.

We are grateful to the Director, NCERT for his support and guidance. We also acknowledge the contributions of our colleagues at the Technical Support Group of RMSA, MHRD, RMSA Cell at the National Council of Educational Research and Training (NCERT), National Skill Development Agency (NSDA) and National Skill Development Corporation (NSDC) and **Apparel, Made-ups and Home Furnishing Sector Skill Council (AMHSSC)** for their academic support and cooperation.

We are grateful to the expert contributors for their earnest effort and contributions in the development of this learning outcome based vocational curriculum. Their names are acknowledged in the list of contributors.

We are also grateful to Dr. Pinki Khanna, Course Coordinator, Dr. Anil Kumar, Professor, Department of Vocational Education and Entrepreneurship Development, National Institute of Technical Teachers Training and Research (NITTTR), Bhopal and Dr. Nishi Sharma, Consultant on contractual basis for their contributions.

The contributions made by Dr. Vinay Swarup Mehrotra, Professor and Head, Curriculum Development and Evaluation Centre (CDEC), Dr. Vipin Kumar Jain, Associate Professor and Head, Programme Planning and Monitoring Cell (PPMC) and Dr. Dipak D. Shudhalwar, Associate Professor (CSE) and Head Computer Center, PSSCIVE in development of the curriculum for the employability skills are duly acknowledged.

The assistance provided by Shri Vinod K. Soni, Computer Operator Grade-II and Smt. Sangeeta Sortey, Computer Operator Grade-III in layout, design and composing of the material is duly acknowledged.

PSSCIVE Team

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1. COURSE OVERVIEW

COURSE TITLE: Apparel, Made-Ups and Home Furnishing – Embroidery Machine Operator (Zigzag Machine)

An Embroidery Machine Operator is responsible for operating the embroidery machine to embroider decorative designs on fabric/garments in the apparel industry. He should be able to analyze & interpret the given design which needs to be embroidered & the type of embroidery that is required to be done. An Embroidery Machine Operator can Setup the embroidery machine to the suited setting for carrying out the embroidery to be done. The embroidery machine operator is able to perform different kinds of stitches and decorative work such as running shade work, cording & satin stitch, eyelet work, applique work, shade work and round, cut work and open work, pin stitch & pitch stitch, china embroidery & fancy embroidery. An embroidery machine operator should have good eyesight, eye-hand-leg coordination, motor skills and vision (including near vision, distance vision, colour vision, peripheral vision, depth perception and ability to change

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 embroidery stitches
- Demonstrate different types of thread, needle and their uses in embroidery machine.
- Identify types of embroidery machine, high speed motorized machine and their uses.
- Demonstrate zig zag stitch machine, its importance and operating system.
- Embroider any given pattern on fabric using the correct thread & materials, using the embroidery machine
- Demonstrate cut work through machine embroidery as per the given design
- Identify different parts of zigzag sewing machine and its importance.
- Narrate introduction and importance of preparing the embroidery machine.
- Demonstrate samples using appliqué work in machine embroidery & its variation on zigzag machine
- Operate embroidery machines safely and in accordance with guidelines
- Identify Communicating and resolving the problem in workplace.
- Describe maintenance, cleaning and disposal of waste.
- Identify cleaning procedure and safe practices.
- 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			
	Units	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	10
	Unit 2: Self-management Skills – III	25	
	Unit 3: Information and Communication Technology Skills – III	20	
	Unit 4: Entrepreneurial Skills – III	25	
	Unit 5: Green Skills – III	15	
	Total	110	
Part B	Vocational Skills		
	Unit 1: Introduction to Embroidery Machine	35	40
	Unit 2: Embroidery machine: Operation and Basic Stitches	35	
	Unit 3: Quality Standards for Machine Embroidery	35	
	Unit 4: Maintaining a Clean and Hazard Free Working Area	20	
	Unit 5: Health and Safety Related Practices Applicable at Workplace	20	
	Unit 6: Legal, Regulatory and Ethical Requirements	20	
	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
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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	10
	Unit 2: Self-management Skills - IV	25	
	Unit 3: Information and Communication Technology Skills - IV	20	
	Unit 4: Entrepreneurial Skills - IV	25	
	Unit 5: Green Skills - IV	15	
	Total	110	
Part B	Vocational Skills		
	Unit 1: Selection of Machine Attachments as per Embroidery Techniques/ Stitches	35	40
	Unit 2: Specification sheet and Handling of Different Fabrics While Embroidery	25	
	Unit 3: Detecting faults in Embroidery Machine and Inspection Process to Maintain Quality	45	
	Unit 4: Maintain a clean and hazard free working area	20	
	Unit 5: Maintain Health, Safety and Security at Workplace	20	
	Unit 6: Comply with Industry and Organizational Requirements	20	
		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 situation, to apply knowledge to new situations: Use given content to interpret a situation, provide an example, or solve a problem)	0	2	1	07
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 (20 questions)

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 voce should 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 (10 hrs)	Practical (15 hrs)	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	<ol style="list-style-type: none"> 1. Importance of non-verbal communication 2. Types of non-verbal communication 3. Visual communication 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Pronunciation basics 2. Speaking properly 3. Phonetics 4. Types of sounds 	<ol style="list-style-type: none"> 1. Group activities on practicing pronunciation 	01
5. Apply an assertive communication style	<ol style="list-style-type: none"> 1. Important communication styles 2. Assertive communication 3. Advantages of assertive communication 4. Practicing assertive communication 	<ol style="list-style-type: none"> 1. Group discussion on communication styles 2. Group discussion on observing and sharing communication styles 	03
6. Demonstrate the knowledge of saying no	<ol style="list-style-type: none"> 1. Steps for saying 'No' 2. Connecting words 	<ol style="list-style-type: none"> 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"> 1. Capitalisation 2. Punctuation 3. Basic parts of speech 4. Supporting parts of speech 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Parts of a sentence 2. Types of object 3. Types of sentences 4. Paragraph 	<ol style="list-style-type: none"> 1. Activity on writing sentences 2. Activity on active and passive voice 3. Assignment on writing different 	02

		types of sentences	
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 (10 hrs)	Practical (15 hrs)	Duration (25 hrs)
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
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 (12 hrs)	Duration (20 hrs)
1. Create a document on the word processor	<ol style="list-style-type: none">1. Introduction to ICT2. Advantages of using a word processor.3. Work with Libre Office Writer	<ol style="list-style-type: none">1. Group activity on demonstration and practice of the following:<ul style="list-style-type: none">• 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	<ol style="list-style-type: none">1. Status bar2. Menu bar3. Icons on the Menu bar4. Multiple ways to perform a function	<ol style="list-style-type: none">1. Group activity on using basic user interface of LibreOffice writer2. Group activity on working with Microsoft Word	02
3. Save, close, open and print document	<ol style="list-style-type: none">1. Save a word document2. Close3. Open an existing document4. Print	<ol style="list-style-type: none">1. Group activity on performing the functions for saving, closing and printing documents in LibreOffice Writer2. Group activity on performing the functions for saving, closing and printing documents in Microsoft Word	02
4. Format text in a word document	<ol style="list-style-type: none">1. Change style and size of text2. Align text3. Cut, Copy, Paste4. Find and replace	<ol style="list-style-type: none">1. Group activity on formatting text in LibreOffice Writer2. Group activity on formatting text in Microsoft Word	02
5. Check spelling and grammar in a word document	<ol style="list-style-type: none">1. Use of spell checker2. Autocorrect	<ol style="list-style-type: none">1. Group activity on checking spellings and grammar using LibreOffice Writer2. Group activity on checking spellings and grammar 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 (10 hrs)	Practical (15 hrs)	Duration (25 hrs)
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

Part B: Vocational Skills

S. No.	Units	Duration (Hrs)
1.	Unit 1: Introduction to Embroidery Machine	35
2.	Unit 2: Supporting materials, embroidery designs and tracing methods used for machine embroidery	35
3.	Unit 3: Operating embroidery machine for basic stitches	35
4.	Unit 4: Maintaining a Clean and Hazard Free Working Area	20
5.	Unit 5: Health and Safety Related Practices Applicable at Workplace	20
6.	Unit 6: Legal, Regulatory and Ethical Requirements	20
Total		165

Unit 1: Introduction to Embroidery Machine			
Learning Outcome	Theory (10 Hrs)	Practical (25 Hrs)	Duration (35 Hrs)
1. Explain scope and types of embroidery machines	1. Brief introduction to Scope and types of embroidery machines 2. Types of embroidery machines 3. Terminology related to embroidery machine parts and equipments	1. Identify different embroidery machines 2. Visit an industry and make a report on different types of embroidery machines 3. Make a chart on embroidery terminology	05

<p>1. Identify and explain Different types of threads, needles and fabrics used for machine embroidery</p>	<ol style="list-style-type: none"> 1. Different types of tools and equipment used in machine embroidery 2. Different type of threads and needle 3. The relation between thread and machine needle and fabric 4. Different types of fabrics used for embroidery work. 5. Other decorative elements used in machine embroidery 	<ol style="list-style-type: none"> 1. Make a report different types of threads, needles and other materials used in machine embroidery enlisting their names, sizes, types and uses 2. Make a swatch file of different types of fabrics on which machine embroidery can be done 3. Prepare at least 09 samples using different needles, threads and material for a single design. 4. Analysis of prepared samples for best needle type, thread and material. 5. Portfolio Preparation 	<p style="text-align: center;">10</p>
<p>2. Identify and explain Various parts and attachments of free- motion and semi-automatic embroidery machines</p>	<ol style="list-style-type: none"> 1. Free motion embroidery machine (zigzag embroidery machine) 2. Different parts of free-motion zig-zag machine 3. Different parts of semi-automatic embroidery machine and its application 4. Preparation of machine before starting the embroidery work 5. Special attachments of zig- zag embroidery machine 	<ol style="list-style-type: none"> 1. Preparation of machine before starting the embroidery work 2. Practice the working of zigzag machine on paper and fabric in straight, curved and circular lines. 3. Check the equipment prior to embroidery, including appropriate controls, attachments, needle & thread. 	<p style="text-align: center;">10</p>
<p>4. Explain Care, Maintenance and Safety rules while working on Embroidery machines</p>	<ol style="list-style-type: none"> 1. Points to keep in mind while taking care of embroidery machines 2. Maintenance of embroidery machines 3. Safety instructions to handle embroidery machine 4. Other important safety measures 	<ol style="list-style-type: none"> 1. Visit a Garment industry/ Embroidery unit and observe the maintenance and safety measures followed there. Prepare a report or a Power point presentation 	<p style="text-align: center;">10</p>
<p>Total</p>			<p style="text-align: center;">35</p>

Unit 2: SUPPORTING MATERIALS, EMBROIDERY DESIGNS AND TRACING METHODS USED FOR MACHINE EMBROIDERY			
Learning Outcome	Theory (15 Hrs)	Practical (20 Hrs)	Duration (35 Hrs)
1. Describe Supporting materials used for machine embroidery	<ol style="list-style-type: none"> 1. Different type of supporting materials and fabrics used in Machine embroidery and their selection 2. Handling of appropriate supporting material for machine embroidery 	<ol style="list-style-type: none"> 1. Market Survey of different types of Stabilizers, their uses and market price and preparing its scrap file 	05
2. Describe and develop designs for machine embroidery	<ol style="list-style-type: none"> 1. Elements of Design 2. Types of line, form, color, color wheel, texture. 3. Principles of Design, Balance, Rhythm, Emphasis and Harmony 4. Analysing and interpreting different embroidery designs as per specification sheet. 	<ol style="list-style-type: none"> 1. Prepare a portfolio on Colour wheel, value scale and colour schemes 	15
3. Explain Different types of tracing methods	<ol style="list-style-type: none"> 1. Tracing Introduction, Materials and their methods. 2. Developing designs on CAD 	<ol style="list-style-type: none"> 1. Tracing a design on fabric sample using carbon paper method 2. Prepare a sample of Prick and pounce tracing method on butter/tracing paper 	15

Unit 3: OPERATING EMBROIDERY MACHINE FOR BASIC STITCHES			
Learning Outcome	Theory (15 Hrs)	Practical (20Hrs)	Duration (35 HRS)
1. Explain Basic Machine embroidery stitches	<ol style="list-style-type: none"> 1. Machine settings for different embroidery work 2. Use correct tools and equipment for machine embroidery as per the type of fabric. 3. Basic embroidery stitches 	<ol style="list-style-type: none"> 1. Preparation of swatch file of different supporting material for machine embroidery 2. Prepare samples using different materials and appropriate supporting materials 3. Demonstrate setting 	15

		of machine before starting embroidery and make a test sample to check the Stitch	
2. Detect and rectify different types of defects in embroidery machines	<ol style="list-style-type: none"> 1. Methods to identify different types of defects in embroidery work. 2. Different types of defects in embroidery machine and their rectification 3. Different types of defects in the material 4. Characteristics of the materials to be embroidered and probable faults 	1. Collect samples of various embroidery machine defects and briefly describe each of them.	05
3. Finishing and packing of final embroidered products	<ol style="list-style-type: none"> 1. Introduction and Embroidery Finishing process 2. Function of Packing 3. Common factors affecting the finish of embroidery 4. Relationship between thread weights and needle sizes 	<ol style="list-style-type: none"> 1. Making report of the faults in machine 2. Visit to Industry/entrepreneur and document the maintenance process followed by them 3. Check the equipment prior to embroidery, including appropriate controls, attachments, needle & thread 	15
Total			35

Unit 4 : Maintaining a Clean and Hazard Free Working Area			
Learning Outcome	Theory (10 Hrs)	Practical (10 Hrs)	Duration (20 Hrs)
1. Operate and handle tools, material	<ol style="list-style-type: none"> 1. To study how to Handle tools and materials safely and correctly 2. Care and Maintenance of tools 	1. Prepare a list of tools and write about its maintenance and cleaning method	03

2. Organize and store material safely and correctly	1. Storing the material safely and correctly	1. Demonstrate how will you keep vigilance for potential risks and threats associated with workplace and equipment like, hot iron, stain removers, stationery items 2. Make a report their methods and ways of waste disposal.	04
3. Identify Proper Storage and Disposal Of Waste Material	1. To study what is textile waste 2. Guidelines for storage and disposal of waste material 3. Responsibilities under health, safety, and environmental legislation	2. Discuss in a group of five students, the potential hazards that you anticipate and ways to mitigate while working in the laboratory 3. Prepare a roadmap to effectively manage the waste generated in the textile laboratory and explore ways to apply the 3Rs model	05
3. Identify and list different cleaning substances and equipment	1. To study different types of cleaning agents and their uses 2. Different type of cleaning equipment	1. Demonstrate cleaning tools and equipment with suitable cleaning agent 2. Prepare a chart on various storage equipment (any 10) used in the store department of an apparel company	03
5. Personal hygiene and health	1. Importance of personal hygiene, taking care of body, food habits 2. Ensuring personal hygiene and care of body 3. Safe working practices and organizational procedures 4. Good housekeeping practices and its benefits 5. Hazards of poor housekeeping practices	1. Prepare a chart on importance of personal hygiene 2. Prepare a skit on various hazards of poor housekeeping practices	05

Total	20
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Unit 5: Health and Safety Related Practices Applicable at Workplace			
Learning Outcome	Theory (05Hrs)	Practical (15Hrs)	Duration (20Hrs)
1. List and analyze Potential hazards at workplace	<ol style="list-style-type: none"> 1. Different type of potential hazards 2. How to Keep work area free from potential hazards 	<ol style="list-style-type: none"> 1. Collect the data and make a report on risk and hazards of industry 	04
2. Demonstrate safe handling of equipment	<ol style="list-style-type: none"> 1. Safe and correct procedure of handling equipment and machinery 2. Potential hazards, risk and threats based on nature of operations 	<ol style="list-style-type: none"> 1. Prior checking for correct equipment 2. Visit a factory and make a list of sign boards seen 	04
3. Describe the benefits of a healthy lifestyle	<ol style="list-style-type: none"> 1. How to minimize health and safety risks to self and others due to own actions 2. The value of physical fitness, personal hygiene and good habits 3. Effects of alcohol, tobacco and drugs 	<ol style="list-style-type: none"> 1. Prepare a report after interviewing the industry workers regarding their personal health and hygiene 	04
4. Explain environmental management procedures, security details, potential accidents and emergencies	<ol style="list-style-type: none"> 1. Environmental management system related procedures at the workplace 2. Layout of the plant and details of emergency exits, escape routes, emergency equipment and assembly points 3. Potential accidents and emergencies and response to these scenarios 	<ol style="list-style-type: none"> 1. Visit an industry and study layout of the factory 	04
5. Identify and implement safety measures at workplace	<ol style="list-style-type: none"> 1. Different type of safety measures at workplace and their application 2. Actions to take in the event of a mock drills/evacuation procedures or actual accident, emergency or fire 	<ol style="list-style-type: none"> 1. Preparing report of details of personnel trained in first aid, fire fighting and emergency response 	04

Total	20
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Unit 6: Legal, Regulatory and Ethical Requirements			
Learning Outcome	Theory (10Hrs)	Practical (10Hrs)	Duration (20Hrs)
1. Describe the importance and benefits of ethical and value-based approach to management	2. The importance of having an ethical and value-based approach to management 3. Benefits to company and workers due to practice of these procedures	1. Visit an industry and get information about ethical and value-based approach to management	05
2. Explain company policies, procedures and their benefits	1. Different policies and procedures of the company and their benefits	1. Visit an industry and study their policies 2. Make a report of the visit. 3. Visit an organisation and enquire about the Procedure for applying for a house loan by an employee	05
3. Demonstrate teamwork and support to supervisor	1. How to Provide support to supervisor and team members at workplace for considering policies	1. Collect data and make a report 2. How to support to supervisor and team members at workplace for helping in unloading and storing fabric unloaded accessories.	05
4. Plan and manage work routines	1. How to Plan and manage work routine based on company procedure 2. Benefits of proper planning of routine work 3. The importance of punctuality and attendance 4. The benefits of punctuality	1. Collect data and make a report 2. Prepare a chart on the importance of punctuality	05
Total			20

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 (10 hrs)	Practical (15 hrs)	Duration (25 hrs)
1. Demonstrate active listening skills	<ol style="list-style-type: none"> Active listening - listening skill, stages of active listening Overcoming barriers to active listening 	<ol style="list-style-type: none"> Group discussion on factors affecting active listening Preparing posters of steps for active listening Role-play on negative effects of not listening actively 	10
2. Identify the parts of speech	<ol style="list-style-type: none"> Parts of speech – using capitals, punctuation, basic parts of speech, Supporting parts of speech 	<ol style="list-style-type: none"> Group practice on identifying parts of speech Group practice on constructing sentences 	10
3. Write sentences	<ol style="list-style-type: none"> Writing skills to the following: <ul style="list-style-type: none"> Simple sentence Complex sentence Types of object Types of sentences <ul style="list-style-type: none"> Active and Passive sentences Statement/ Declarative sentence Question/ Interrogative 	<ol style="list-style-type: none"> Group work on writing sentences and paragraphs Group work on practicing writing sentences in active or passive voice Group work on writing different types of sentences (i.e., 	05

	sentence <ul style="list-style-type: none"> • Emotion/ • Reaction or Exclamatory sentence • Order or Imperative sentence 3. Paragraph writing	declarative, exclamatory, interrogative and imperative)	
Total			25

UNIT 2: SELF-MANAGEMENT SKILLS – IV

Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 hrs)
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	5
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- <ul style="list-style-type: none"> •Suspicious •Emotional and impulsive •Anxious 4. Steps to overcome personality disorders	1. Group discussion on self-awareness	10
Total			25

UNIT 3: 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 LibreOffice Calc 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 LibreOffice Calc	03
5. Make use of the software used for making slide presentations	1. Presentation software available 2. Steps 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 on LibreOffice Impress	03
Total			20

UNIT 4: ENTREPRENEURIAL SKILLS-IV			
Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 hrs)
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	05

		entrepreneur.	
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 listing stress 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 (05 hrs)	Practical (10 hrs)	Duration (15 hrs)
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	1. Preparing posters on green jobs. 2. Group activity on tree plantation.	07

	<ul style="list-style-type: none"> • Minimizing waste and pollution • Protecting and restoring ecosystems • Adapting to the effects of climate change 		
Total			15

Part B–Vocational Skills

S. No.	Units	Duration (Hrs)
1.	Unit 1: Selection of Machine Attachments as per Embroidery Techniques/ Stitches	35
2.	Unit 2: Specification sheet and Handling of Different Fabrics While Embroidery	25
3.	Unit 3: Detecting faults in Embroidery Machine and Inspection Process to Maintain Quality	45
4.	Unit 4: Maintain a clean and hazard free working area	20
5.	Unit 5: Health, Safety and Security at Workplace	20
6.	Unit 6: Industry and Organizational Requirements	20
Total		165

Unit 1: Selection of Machine Attachments as per Embroidery Techniques/ Stitches			
Learning Outcome	Theory (10 Hrs)	Practical (25 Hrs)	Duration (35 Hrs)
1. Perform advanced embroidery stitches	1. Advanced embroidery stitches like: <ul style="list-style-type: none"> • Quilting • Applique work • Sequin work • Mirror Work • Cutwork • Rice stitch • Gota Patti • Eyelet Work • Ribbon/ Lace work • Cording work • Beadwork 	1. Prepare Samples using advanced embroidery stitches	15
2. To select machine attachments as per Embroidery Techniques/ stitches	1. Using attachments as per different types of embroideries <ul style="list-style-type: none"> • Cording • Sequin • Mirror 	1. Prepare different embroidery samples using different embroidery machine attachments	10

Unit 1: Selection of Machine Attachments as per Embroidery Techniques/ Stitches			
Learning Outcome	Theory (10 Hrs)	Practical (25 Hrs)	Duration (35 Hrs)
	<ul style="list-style-type: none"> • Darning • Ribbon • Beading • Applique • Cut work 2. Instructions for setting up embroidery machine		
3. To learn understand contribution of basic and advanced stitches to create innovative patterns	1. Placement of design 2. Mix and match of different types of embroideries 3. Creating effects with machine similar to hand embroidery	1. Identify difference between machine and hand embroidery	10
Total			35

Unit 2: Specification sheet and Handling of Different Fabrics While Embroidery			
Learning Outcome	Theory (10 Hrs)	Practical (15 Hrs)	Duration (25 Hrs)
1. To learn use of design specification sheet as per embroidery work	1. Interpretation of the spec sheet and following the buyer's instructions to ensure the embroidery work matches the specification 2. Use of CAD to develop digital design on embroidery	1. Preparing an embroidery specification sheet	15
2. Explain factors affecting the processing of embroidery work	1. Problems encountered while working on different fabrics like silk, fur , tissue etc. 2. Procedure to set stitch type on embroidery style on automatic embroidery machines	1. Collect different types of fabrics and prepare swatch file	10
Total			25

Unit 3: Detecting faults in embroidery machine and inspection process to maintain quality			
Learning Outcome	Theory (15 Hrs)	Practical (30 Hrs)	Duration (45 Hrs)
1. To learn to Detect faults in machine	<ol style="list-style-type: none"> 1. Types of faults: Correctable and Non-correctable 2. Faults arising while working over advanced embroidery stitches 3. Equipments and special attachment maintenance 4. Setting up an efficient workstation 5. Consequences of incorrect machine setting and handling 	<ol style="list-style-type: none"> 1. Identify the different faults and correct them 	15
2. Perform inspection of embroidered products	<ol style="list-style-type: none"> 1. Inspection of embroidered products against specifications 2. Quality system and machine embroidery processes practiced in the organization 3. Identify, mark and place rejects in designated locations 4. Appropriate inspection methods that can be used for embroidered products 5. Acceptable solutions for particular faults 6. The consequences of not rectifying problems 	<ol style="list-style-type: none"> 1. Inspect the embroidered product against specification and prepare report 	15
3. Set up an efficient work station and quality checks	<ol style="list-style-type: none"> 1. Set up equipment and test it 2. Set up an efficient work station 3. Plan and manage work routine based on company procedure 4. Owner responsibilities at work during production 5. Carry out quality checks at specified intervals according to instructions 6. Apply the allowed tolerances 	<ol style="list-style-type: none"> 1. Set up equipment and test it 2. Set up an efficient work station 	15
Total			45

Unit 4: Maintain a Clean And Hazard Free Working Area			
Learning Outcome	Theory (05Hrs)	Practical (15Hrs)	Duration (20Hrs)
1. Identify Importance of routine maintenance and its procedures	<ol style="list-style-type: none"> 1. The importance of running maintenance 2. Carry out running maintenance within agreed schedules 3. Hazards likely to be encountered when conducting routine maintenance 	<ol style="list-style-type: none"> 1. Prepare a report on various types of maintenance conducted 	05
2. Explain how to Maintain cleanliness	<ol style="list-style-type: none"> 1. The benefits of maintaining cleanliness 2. Different types of cleaning equipment, substances and their use 3. Safe working practices for cleaning and the method of carrying them out 4. Carrying out cleaning according to schedules and limits of responsibility 	<ol style="list-style-type: none"> 1. Prepare a graphical poster on PPE kit for safety during cleaning process. 	05
3. Analyze handling of machinery, equipment and tools safely and correctly	<ol style="list-style-type: none"> 1. Handling materials, machinery, equipment and tools safely and correctly 2. Correct lifting and handling procedures 3. Maintenance of tools and equipment 	<ol style="list-style-type: none"> 1. Visit a Garment manufacturing firm, discuss with the safety officer / team and prepare a report on safety measures adopted by them. 	05
4. Describe Effective oral and written communication at workplace	<ol style="list-style-type: none"> 1. Introduction to communication process 2. The lines of communication, authority and reporting procedures at work place 3. The importance of complying with written instructions 	<ol style="list-style-type: none"> 1. Prepare a graphical poster on SOP (Standard Operating Procedure) instructions. 	05
Total			20

Unit 5: Health, Safety and Security at Workplace			
Learning Outcome	Theory (10Hrs)	Practical (10Hrs)	Duration (20Hrs)
1. Analyze Compliance to health, safety and security requirements at workplace	<ol style="list-style-type: none"> 1. Health and safety related practices applicable at workplace 2. Access to clean drinking water and sanitary facilities 	1. Prepare a report on various types of health and safety related practices.	05
2. Explain Potential safety risks and emergencies	<ol style="list-style-type: none"> 1. Response to potential accidents and emergencies. 2. Maintenance and storage of protective equipments 	1. Prepare a chart with details of potential hazards and their possible solutions	05
3. Identify and report malfunctions in machinery and equipment or any other hazard at workplace	<ol style="list-style-type: none"> 1. Identifying the hazards at workplace 2. Safety signs at work place and their meaning 	1. Prepare a report with pictures and details of all the safety signs applicable at workplace.	05
4. Explain reporting emergency situations	<ol style="list-style-type: none"> 1. Reporting protocol and required documentation 2. Emergency responses during a hazard/emergency 3. Emergency response plan 	1. Prepare a sample report of an emergency situation at the workplace.	05
Total			20

Unit 6: Industry and Organisational Requirements			
Learning Outcome	Theory (10Hrs)	Practical (10Hrs)	Duration (20Hrs)
1. Define Standard organisational compliance and related documents	<ol style="list-style-type: none"> 1. What is organisational compliance 2. Significance of compliance in Indian garment industry 3. Introduction to audit 4. Core labour standards 5. Social Responsibility in the Garment Industry 	1. Make a power-point presentation on CSR activities of a Firm.	05

Unit 6: Industry and Organisational Requirements			
Learning Outcome	Theory (10Hrs)	Practical (10Hrs)	Duration (20Hrs)
2. Explain Customer specific regulations and requirements	<ol style="list-style-type: none"> 1. Country specific regulations for sector and their importance. 2. Customer specific requirements mandated as a part of work process 	<ol style="list-style-type: none"> 1. Visit a garment production house or export unit and make a report on country specific regulations which they follow. 	05
3. Describe Ethical compliance and related documents	<ol style="list-style-type: none"> 1. Why Code of Ethics is Required 2. Working Hour & Wage Rate Compliance 3. Workplace & Work Environment Compliance 4. Health and Safety Compliance in Indian Garment Industry 5. Compliance Code Guidelines 	<ol style="list-style-type: none"> 1. Make a report on Code of Ethics followed by a garment industry. 	05
4. Explain Documentation and reporting of compliance deviation	<ol style="list-style-type: none"> 1. Identify and report any possible deviation to these requirements. 2. Procedures to follow in case of deviation 	<ol style="list-style-type: none"> 1. Make a report on Corrective Action Plan in case of compliance deviation. 	05
Total			20

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 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

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. Stabilizer
2. Iron-On Tear-Away Stabilizer
3. Water Soluble Embroidery Stabilizer & Topping
4. Self-Adhesive Sticky Peel N Stick Tear Away Embroidery Stabilizer
5. Fusible No-show Polymesh Plus Embroidery Stabilizer
6. Cut Away Machine Embroidery Stabilizer
7. Temporary Adhesive Spray
8. Needles

9. Embroidery Thread
10. Bobbin
11. Bobbin case
12. Brother PE800 Embroidery Machine
13. Over the Back Fusible Interface (For coving the back of embroidery designs so that threads don't rub against the skin)
14. Disappearing Ink Pen
15. Embroidery Snips
16. Cone Thread Holder
17. Fabric
18. Embroidery hoop
19. Pinking shears
20. Embroidery scissors
21. Fabric glue
22. Steam iron
23. Ironing board
24. A printer/scanner to print and design patterns
25. Scissors (Fabric and Paper)
26. Seam Ripper
27. Pinking Shears
28. Meter Stick/Yardstick
29. Scale Variety (L-square, French curve, hips and legs curve)
30. Embroidery machine
31. Bobbins and other Sewing Machine Attachments
32. Machine Oil and Toolkit
33. Embroidery Design template
34. Tailor's Awl
35. Handbooks of Embroidery Motives
36. Cutting Table

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	<ul style="list-style-type: none"> • 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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