LEARNING OUTCOME BASED VOCATIONAL CURRICULUM

JOB ROLE: Warehouse Associate

(QUALIFICATION PACK: Ref. Id. LSC/Q0101)

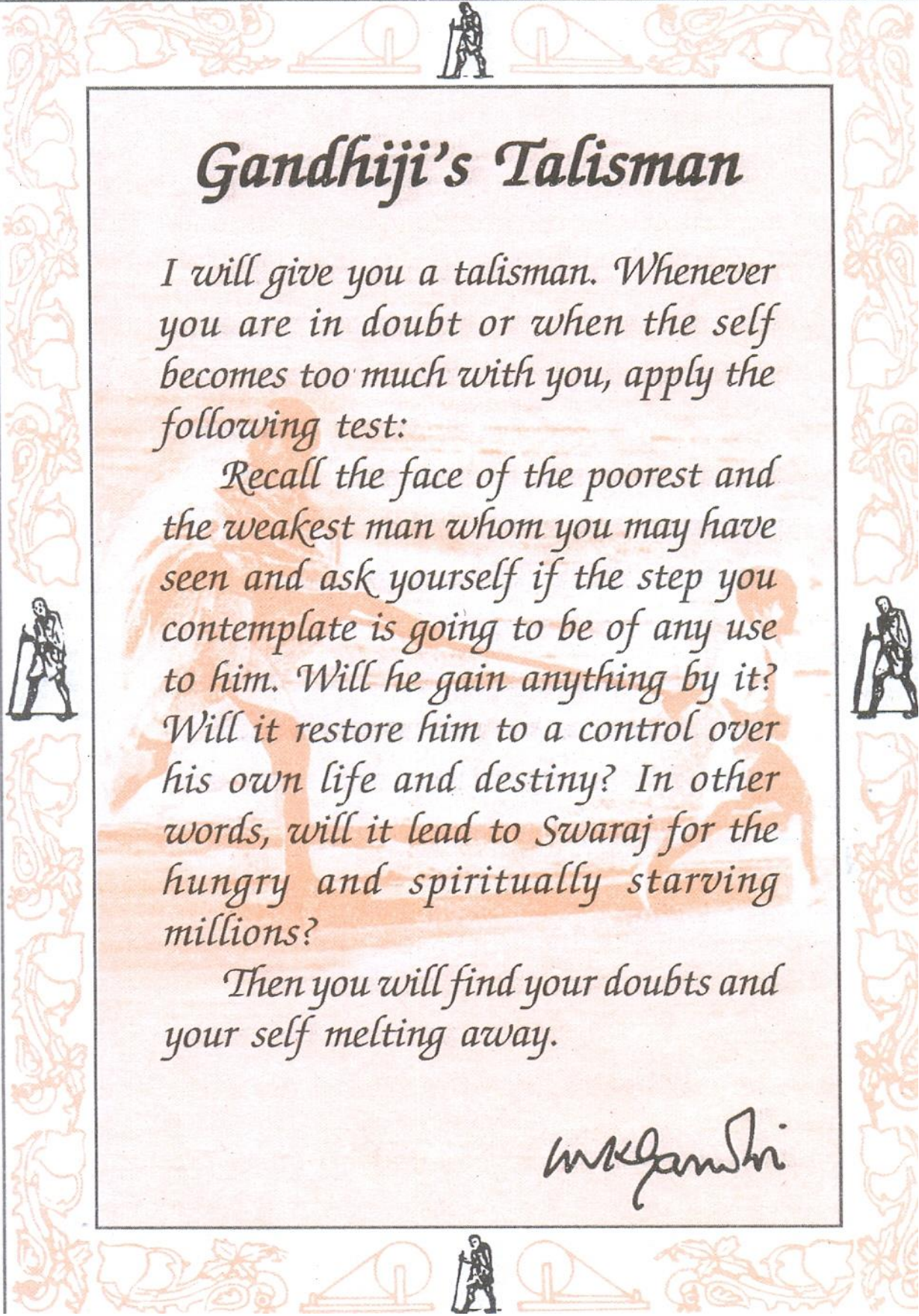## SECTOR: Logistics

Grades 9 and 10

विद्यया ऽमृतमश्नुते

एन सी ई आर टी
NCERT

PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION
Shyamla Hills, Bhopal- 462 002, M.P., India
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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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LEARNING OUTCOME BASED VOCATIONAL CURRICULUM
Logistics – Warehouse Associate
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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 curricula and courseware aimed at integrating both vocational and general qualifications to open pathways of career progression for students. The curriculum has been developed for the vocational education program introduced under the Centrally Sponsored Scheme of *Samagra Shiksha* of the Ministry of Education (erstwhile, Ministry of Human Resource Development) and is aligned to the National Skills Qualifications Framework (NSQF). The curricula for vocational courses are being developed under the project approved by the Project Approval Board (PAB) of 'Samagra Shiksha' which is an overarching program for the school education sector extending from pre-school to Grade 12. The main purpose of the learning outcome-based curricula is to bring about improvement in the 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 curriculum as part of the vocational training packages for the job role of **Warehouse Associate**. The curriculum has been developed for the secondary students of Grade 9 and 10 and is aligned to the National Occupation Standards (NOSs) of a job role identified and approved under the National Skill Qualifications Framework (NSQF).

The curriculum aims to provide children with employability and vocational skills to support occupational mobility and lifelong learning. It will help students to acquire specific occupational skills that meet employers' immediate needs. The teaching process is to be performed through 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.

Dinesh Prasad Saklani

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 is 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 fulfill the growing aspirations of our youth and the demand for a skilled human resource, the Ministry of Education,(MoE), Government of India introduced the revised Centrally Sponsored Scheme of Vocationalisation of School Education under *Samagra Shiksha* 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 with the responsibility to develop learning outcome-based curricula, student workbooks, teacher handbooks, and e-learning materials for 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 fulfill the needs of society and the world of work. In order to honor the commitment to the nation, the PSSCIVE has initiated the work on developing learning outcome-based curricula with the involvement of faculty members and leading experts in respective fields. It is being done through the concerted efforts of leading academicians, professionals, policymakers, partner institutions, Vocational Education and Training experts, industry representatives, and teachers. The expert group through a series of consultations, working group meetings, and the use of reference materials develops the national curriculum.

We extend our gratitude to all the contributors for selflessly sharing their precious knowledge, acclaimed expertise, and valuable time and positively responding to our request for the development of the curriculum. We are grateful to MoE and NCERT for the financial support and cooperation in realizing the objective of providing learning outcome-based modular curricula and courseware to the States and other stakeholders under the PAB (Project Approval Board) approved project of *Samagra Shiksha of* MoE

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.

Deepak Paliwal

Joint Director

PSS Central Institute of Vocational Education

ACKNOWLEDGEMENTS

PSSCIVE Team

CONTENTS

1. COURSE OVERVIEW

COURSE TITLE: Logistics - Warehouse Associate

Warehouses are vital components of the distribution logistic and have a significant role in the supply chain at national and international level. Warehousing is often confused with 'storage' but it encompasses sorting, packaging, labelling, safety/quarantine treatments (pest control, fumigation, etc.) also, along with safe storage of goods. For becoming a successful associate, the understanding and skills in warehousing are necessary. Logistics is a key area that can help companies gain a significant competitive advantage.

Storage of goods is as important as the manufacturing, marketing and transportation of goods. Storage involves receipt, identification, verification, sorting, putting away and retrieval for issue and even maintenance of goods. Thus, warehousing is a combination of number of activities performed in accordance with each other.

Storage is an essential activity for many business enterprises. Goods are stored to avoid sudden shortage. In order to avoid the situation such as price rise or sudden surge in demand, warehousing of goods is a good scheme. Raw material also needs to be stored so as to ensure uninterrupted supplies during a production cycle.

Warehouse work is full of challenges, none of which are going away. But the jobs of the future will continue to evolve into more complex work that will improve both output and productivity. Future warehouse jobs will be a mix of complex tasks assisted by technology, existing roles supplemented by technology, and new jobs that will help with output and production by providing workers with new skills and finding new ways to help the business. The warehouse of the future is not simply a dark cavern full of machines. It will be a lively place with workers using the knowledge and skills they learn from their companies' training programs to ensure that any technology added to the workflow is working well and serving everyone's needs.

After completion of this course the learner would be able to work as Warehouse Associate to perform picking, packaging, labelling, kitting and binning activities at the warehouse. He/she is responsible for execute safe loading and unloading of goods at the warehouse. Additional responsibilities could at times may include work place integrity, ethical and regulatory practices and to manage workplace for safe and healthy work environment by following and ensuring compliance to regulatory and safety norms. This job requires working well with his/her team and achieving joint goals. He/she must be able to prioritize and execute tasks within scheduled time limits. He/she should be able to maintain high concentration levels throughout his/her shift.

COURSE OUTCOMES: On completion of the course, students 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.
➢ Perform picking, packaging, labelling, kitting and binning activities at the warehouse
➢ Execute safe loading and unloading of goods at the warehouse

➢ Comply to work place integrity, ethical and regulatory practices
➢ Manage workplace for safe and healthy work environment by following and ensuring compliance to regulatory and safety norms
➢ Demonstrate safe segregation, grading, storage, temperature control, and movement of goods in a cold storage warehouse for perishable goods
➢ Execute goods sorting, storage, picking, inventory counting and movement of goods in a FMCG warehouse
➢ Perform safe storage, packaging, palletisation and process improvement activities in an automotive warehouse
➢ Perform cargo handling, volume/weight measurement, pest control, spillage control and equipment operations in a dry bulk warehouse

COURSE REQUIREMENTS: The learner should have the basic knowledge of Warehouse and Logistics.

COURSE LEVEL: This is a beginner level course. On completion of this course, a student can take up an Intermediate level course for a job role in warehouse and storage operations such as Transport Associate in Grade XI and Grade XII.

COURSE DURATION: **400 Hrs.**
Grade 9 : 200 Hrs.
Grade 10 : 200 Hrs.
_____

Total : 400 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 Grade 9 and 10 opting for vocational subject along with general education subjects. The unit-wise distribution of hours and marks for Grade 9 is as follows:

GRADE 9			
Units		**No. of Hours for Theory and Practical 200**	**Max. Marks for Theory and Practical 100**
Part A	**Employability Skills**		
	Unit 1: Communication Skills -I	20	10
	Unit 2: Self-management Skills -I	10	
	Unit 3: Information and Communication Technology Skills - I	20	
	Unit 4: Entrepreneurial Skills - I	15	
	Unit 5: Green Skills - I	10	
		75	**10**
Part B	**Vocational Skills**		
	Unit 1: Introduction to Warehousing	10	30
	Unit 2: Picking, Packing, Kitting, Labelling and Binning	35	
	Unit 3: Loading and Unloading of Goods	30	

	Unit 4: Health, Safety And Security	20	
		95	**30**
Part C	**Practical Work**		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
		10	**35**
Part D	**Project Work/Field Visit**		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
		15	**15**
Part E	**Continuous and Comprehensive Evaluation (CCE)**		
		05	**10**
	Total	**200**	**100**

The unit-wise distribution of hours and marks for Grade 10 is as follows:

	GRADE 10		
Units		**No. of Hours for Theory and Practical 200**	**Max. Marks for Theory and Practical 100**
Part A	**Employability Skills**		
	Unit 1: Communication Skills - II	20	
	Unit 2: Self-management Skills - II	10	
	Unit 3: Information and Communication Technology Skills - II	20	10
	Unit 4: Entrepreneurial Skills - II	15	
	Unit 5: Green Skills - II	10	
		75	**10**
Part B	**Vocational Skills**		
	Unit 1: Handling of Perishable Goods	27	
	Unit 2: Handling of Fast-Moving Consumer Goods	27	
	Unit 3: Handling of Automotive Goods	27	30
	Unit 4: Integrity And Ethics	14	
		95	**30**
Part C	**Practical Work**		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
		10	**35**
Part D	**Project Work/Field Visit**		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
		15	**15**
Part E	**Continuous and Comprehensive Evaluation (CCE)**		
		05	**10**
	Total	**200**	**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, 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: 30**

Sl.No.	Typology of Question	Very Short Answer (1 mark)	Short Answer (2 Marks)	Long Answer (3 Marks)	Marks
1.	Remembering – (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; identify, define or recite, information)	2	1	2	10
2.	Understanding – (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	1	2	2	11
3.	Application – (Use abstract information in concrete situation, to apply knowledge to new situations: Use given content to interpret a situation, private an example, or solve a problem)	0	1	1	05
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	1	0	02
5.	Evaluation – (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to	0	1	0	02

Table header: **No. of Questions** spans the Very Short Answer, Short Answer, and Long Answer columns.

predict outcomes based on values)					
	Total	**3x1=3**	**6x2=12**	**5x3=15**	**30 (14 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 and 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

GRADE 9

Part A: Employability Skills

S.No.	Units	Duration (hrs)
1.	Communication Skills – I	20
2.	Self-management Skills – I	10
3.	Information and Communication Technology Skills-I	20
4.	Entrepreneurship Skills – I	15
5.	Green Skills – I	10
	Total	**75**

UNIT 1: COMMUNICATION SKILLS – I			
Learning Outcomes	**Theory (08 hrs)**	**Practical (12 hrs)**	**Duration (20 hrs)**
1. Demonstrate the knowledge of importance, elements and perspectives in communication	1. Introduction to communication process 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 the importance of communication and factors affecting perspectives in communication 3. Charts preparation on elements of communication 4. Asking students to write statements exemplify the use of the 7Cs (i.e. Clear, Concise, Concrete, Correct, Coherent, Courteous and Complete) for effective communication	02
2. Demonstrate the knowledge of verbal communication	1. Verbal communication 2. Types of verbal communication 3. Advantages and disadvantages of verbal	1. Role play of a phone conversation 2. Chart preparation on types of verbal	02

	communication 4. Public speaking	communication 3. Group discussion on advantages and disadvantages of verbal communication 4. Delivering a speech and practicing public speaking by using 3P's	
3. Demonstrate the knowledge of non-verbal communication	1. Non-verbal communication 2. Importance of non-verbal communication 3. Types of non-verbal communication 4. Visual communication	1. Role play on non-verbal communication 2. Group discussion and demonstration of Do's and Don'ts to avoid body language mistakes 3. Group discussion on three methods of communication	02
4. Demonstrate the knowledge of basic writing skills	1. Writing skills: Parts of speech 2. Using capitals 3. Punctuation 4. Basic parts of speech	1. Reading paragraphs and sentences and identifying parts of speech 2. Constructing and writing sentences by using parts of speech 3. Identifying nouns by guessing the name, place, animal, and thing	02
5. Describe the parts and types of sentences	1. Writing skills: Sentences 2. Parts of a sentence 3. Types of objects 4. Types of sentences – Active and Passive 5. Types of sentences, according to their purpose 6. Paragraphs	1. Framing and writing sentences using direct and indirect objects 2. Writing a paragraph using active and passive voice 3. Writing different types of sentences (i.e., declarative, exclamatory, interrogative and imperative)	02

6. Demonstrate the knowledge of pronunciation basics	1. Pronunciation Basics 2. Speaking correctly 3. Phonetics 4. Types of sounds	1. Pronouncing words and identifying vowels, diphthongs and consonants 2. Practicing the pronunciation of words	02
7. Demonstrate how to greet and introduce self	1. Greetings and Introductions 2. Greetings 3. Types of greetings 4. Introducing yourself and others	1. Role-play on Formal and informal greetings 2. Role-play on introducing someone 3. Practice and discussion on how to greet different people.	02
8. Answer questions that others ask about you	1. Talking about self 2. Filling a form	1. Practicing introducing yourself and 2. Practicing filling of forms 3. Role-play on Self Introduction	02
9. Asking questions according to a situation	1. Asking questions 2. Need for asking questions 3. Method for asking questions	1. Framing and writing questions (using Who, Where, When, What, Why and How) 2. Framing and writing questions (based on purpose of the question) 3. Discussing and guessing the personality using framed questions	02
10. Use the correct question words to ask open-ended and close-ended questions	1. Asking questions 2. Types of questions 3. Framing questions	1. Framing and writing open-ended and close-ended questions. 2. Group practice on framing questions 3. Identifying open-ended and closed-ended questions.	02
Total			**20**

UNIT 2: SELF-MANAGEMENT SKILLS – I			
Learning Outcome	**Theory (07 hrs)**	**Practical (03 hrs)**	**Duration (10 hrs)**
1. Describe the meaning and importance of self-management	1. Introduction to self-management and its components 2. Self-awareness 3. Self-confidence 4. Self-motivation 5. Positive thinking 6. Self-control 7. Problem solving 8. Personal hygiene and grooming 9. Team work 10. Time management 11. Goal setting	1. Group discussion on self-management skills 2. Performing activities to know how much aware are you about yourself. 3. Chart preparation on components of self-management	01
2. Identifying strength and weakness analysis	1. Identifying strength and weakness 2. Knowing yourself 3. Strength and Weakness analysis 4. Difference between interests and abilities	1. Group discussion on aim and goal in life 2. Perform a strength and weakness analysis 3. Group discussion on interests and abilities	01
3. Build self-confidence	1. Self–confidence 2. Qualities of self-confident people 3. Building self-confidence	1. Role play on building self-confidence 2. Performing activities on building confidence through positive words	02
4. Building the concept on positive thinking	1. Positive thinking 2. Positive thinking and its importance 3. How to keep your thinking positive?	1. Story-telling 2. Role-play on following the class rules 3. Practicing saying positive words 4. Making a list of steps involved in self-reflection) on how you will follow positive attitude	02

		practices 5. Home activity on helping others, community service and social work	
5. Describe the concept and aspects of personal hygiene	1. Personal hygiene 2. Three steps of personal hygiene • Care • Wash • Avoid 3. Essential steps of handwashing	1. Role-play on following personal hygiene steps 2. Discussion and follow up on personal hygiene practices	02
6. Follow the guidelines for dressing and personal grooming	1. Grooming 2. Grooming and its importance 3. Guidelines for dressing and grooming – clothes, hair, face	1. Role play on dressing and grooming standards 2. Self-reflection on dressing and grooming well	02
Total			**10**

UNIT 3: INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS – I			
Learning Outcome	**Theory (06 hrs)**	**Practical (14 hrs)**	**Duration (20 hrs)**
1. Explain the role of Information and Communication Technology (ICT) in day-to-day life and the workplace	1. Introduction to Information and Communication Technology (ICT) 2. ICT at workplace 3. ICT at home	1. Group discussion on past, present, and future use of ICT 2. Preparations of posters on applications of ICT	02
2. Differentiate between the ICT tools and use of mobile apps	1. ICT tools smartphones and tablets I 2. Smartphones 3. Tablets 4. TV and Radio 5. Application or apps	1. Performing activities to get familiar with mobile devices	02
3. Differentiate between smartphones and tablets	1. ICT tools -smartphone and tablets II 2. Mobile device layout 3. Basic features of a mobile device 4. Home screen of mobile device 5. Basic gestures used	1. Performing activities to get familiar with the mobile device – use and applications of mobile devices	02

4. Describe the parts of computer and the computer peripherals	1. Parts of a computer and peripherals 2. Parts of a computer 3. Input devices 4. Output devices 5. Peripherals devices and their functions 6. Central Processing Unit (CPU) 7. Understanding Random Access Memory (RAM) and Read Only Memory (ROM) 8. Motherboard 9. Ports and connections	1. Chart preparation on components of a computer 2. Group activity on connecting devices to a computer	02
5. Demonstrate basic computer operations	1. Basic computer operations 2. Computer hardware and software 3. Starting a computer 4. Log in and log out 5. Shutting down computer 6. Using the keyboard 7. Using a mouse	1. Group activity on use of computer 2. Group practice on using the keyboard	02
6. Perform basic file computer operations	1. Performing Basic file operations 2. Need to perform basic file operations. 3. Files and folders -creating a file and using text editor Ubuntu	1. Group practice on creating a file.	02

7. Demonstrate the knowledge of internet and networking	1. Communication and Networking -Basics of Internet
	2. Use of the Internet
	3. Connecting to the Internet
	  • Types of connection
	  • Bandwidth
	  • Internet browser
		1. Group discussion on the uses of the internet	02

8. Perform internet browsing	1. Communication and Networking – Internet Browsing 2. World Wide Web 3. Web page 4. Web browsers	1. Group practice on web browsing	02

9. Apply the knowledge of communication networking	1. Communication and Networking – Introductions to E-Mail 2. How does the E-mail work 3. Email Id or address 4. Advantages of E-mail	1. Group discussion on using E-mail and its advantages	01
10. Create an Email account	1. Communication and Networking – Creating an E-mail account 2. Creating an E-mail account 3. Steps to open an E-mail account on Gmail	1. Group practice on creating and operating an e-mail account	01
11. Write an Email	1. Communication and Networking – Writing an E-mail 2. Writing an E-mail 3. Attaching a file to an E-mail 4. Managing folders	1. Group practice on writing an e-mail with attachments	01
12. Reply an Email	1. Communication and Networking – Receiving and Replying to an E-mail 2. Receiving Email 3. Replying to an Email 4. Forwarding Email 5. Deleting Email	1. Group practice on receiving and replying to an e-mail.	01
Total			**20**

UNIT 4: ENTREPRENEURSHIP SKILLS – I			
Learning Outcome	**Theory (06 hrs)**	**Practical (09 hrs)**	**Duration (15 hrs)**
1. Describe the concept of Entrepreneurship skills	1. What is Entrepreneurship? 2. Entrepreneurship 3. Enterprise	1. Group activity on guessing the Entrepreneur	04
2. Describe the role of entrepreneurship	1. Role of Entrepreneurship 2. Economic development 3. Social development 4. Improved standard of living 5. Optimal use of resources 4. More benefits at lower prices - products and services at competitive prices	1. Group discussion on "A world without Entrepreneurs" 2. Role-play on roles of entrepreneurship	03

3. Describe the qualities of a successful entrepreneur	1. Qualities of a successful entrepreneur 2. Patience 3. Positivity 4. Hardworking 5. Confidence 6. Open to trial and error 7. Creativity and innovation	1. Role-play on appearing for an interview 2. Group activity on interactions with entrepreneurs	02
4. State the characteristics of entrepreneurship	1. Distinguishing characteristics of entrepreneurship and wage employment 2. Characteristics of entrepreneurship 3. Wage employment 4. Benefits of entrepreneurship	1. Group activity on identifying characteristics of enterprise 2. Discussion on advantages of entrepreneurship over wage employment	03
5. Identify the type of business activity	1. Types of business activities 2. Product business 3. Service business 4. Hybrid business	1. Group activity on identifying different types of products and services	01
6. Differentiate between the product, service, and hybrid businesses	1. Product, Service, and Hybrid Businesses 2. Types of product-based business 3. Manufacturing businesses 4. Trade businesses	1. Poster making on business activities around us	01

7. Describe the entrepreneurship development process	1. Entrepreneurship Development Process
	2. Steps of starting a business
	  • Idea generation
	  • Getting money and material
	  • Understanding customer needs
	  • Improving product/ service
		1. Group activity on Make-and-Sell business	01

Total			**15**

UNIT 5: GREEN SKILLS – I			
Learning Outcome	**Theory (07 hrs)**	**Practical (03 hrs)**	**Duration (10 hrs)**
1. Demonstrate the knowledge of society and environment	1. Society and Environment 2. Natural resources 3. Renewable and Non-	1. Group activity on listing the factors influencing the environment	05

	renewable resources 4. Types of pollutions 5. Climate change 6. Harmful radiation 7. Natural disaster 8. Saving the environment: What can you do? 9. Reduce, reuse and recycle 10. Actions for saving the environment	2. Group activity on listing the steps one can take to save the environment	
2. Describe the meaning and importance of conserving natural resources	1. Conserving natural resources 2. Soil conservation 3. Water conservation 4. Energy conservation 5. Food conservation 6. Forest conservation	1. Group discussion on various ways of conserving natural resources	02
3. Describe the meaning and scope of sustainable development and green economy	1. Sustainable Development and Green Economy 2. Sustainable Development 3. Sustainable Development 4. Goals (SDGs) 5. Green growth 6. Green economy 7. Components of green economy 8. Skill development for the green economy 9. Green skills 10. Green jobs 11. Green projects	1. Group discussion on importance of green skills 2. Poster making on importance of green economy	03
Total			**10**

Part B: Vocational Skills

S.No.	Units	Duration (Hrs.)
1.	Introduction to Warehousing	10
2.	Picking, Packing, Kitting, Labelling and Binning	35
3.	Loading and Unloading of Goods	30
4.	Health, Safety and Security	20

UNIT 1: INTRODUCTION TO WAREHOUSING			
Learning Outcome	**Theory (5 Hrs.)**	**Practical (5 Hrs.)**	**Duration (10Hrs.)**
1. Describe the basics of logistics and supply chain	1. Meaning, function and importance of Logistics 2. Meaning, function, importance, components and types of supply chain 3. Logistics linkage in supply chain management 4. Relationship between logistics and warehousing	1. Prepare a chart showing basic functions and requirement of supply chain and logistics 2. Draw a flow chart showing functions of logistics.	2
2. Demonstrate the fundamentals of warehousing with its functions	1. Meaning and needs of warehousing 2. Benefits of warehousing 3. Aims of warehousing 4. Classification, & features of warehouses 5. Warehousing operation and warehouse activities 6. Function of warehousing 7. Warehouse people management 8. Role of a warehouse associate and its interface with other job roles 9. Duties and responsibilities of warehouse associate	1. Field Visit on exposure of warehouse 2. Field Visit for getting idea on the types of warehouses and prepare a report on the types of warehouses and its respective goods. 3. Field Visit for getting idea on the duties and responsibilities of Warehouse associate. 4. Draw a chart mentioning benefits of Warehouse	4

3. Design a layout of warehousing	1. Meaning and significance of warehouse layout 2. Warehousing layout principles 3. General warehouse layout 4. Warehouse layout and design objectives	1. Field Visit for study of warehouse layout and prepare report. 2. Prepare Chart on layout of the warehouse 3. Sketch the warehouse layout and design with suitable equipment.	2
4. Demonstrate the use of Personal Protective Equipment (PPEs) and Material Handling Equipment (MHEs)	1. Types of PPE and MHE 2. Functions of PPE and MHE 3. Importance of PPE and MHE 4. Usefulness of PPE and MHE 5. MHE and PPE equipment used in Warehouse	1. Field Visit to identify and enlist functions of Personal Protective Equipment (PPE) & and Material Handling Equipment (MHE). 2. Prepare a Chart showing Working process of PPE & MHE of the warehouse.	2
		Total	**10**

UNIT 2: PICKING, PACKING, KITTING, LABELLING AND BINNING OF WAREHOUSE PRODUCTS			
Learning Outcome	**Theory** **(15 Hrs.)**	**Practical** **(20 Hrs.)**	**Duration** **(35Hrs.)**
1. Describe the picking process and type of MHE to be used for different types of goods	1. Process of warehousing 2. Meaning of picklist and its components. 3. Different types of Material Handling Equipment (MHEs) and types of goods. 4. Picking process. 5. Traditional put-away & picking process 6. Mechanized put-away & picking process	1. Identifying and listing the uses of MHE in Picking process 2. Perform Picking Process in Warehouse 3. Study of picking and preparing the pick list at a warehouse	8

2. Demonstrate the different types of packing and labelling process	1. Meaning and items used for packing and labelling 2. Levels of packing and labelling 3. Process of packing and labelling 4. Terminology used in packaging- 5. Importance of clean area after packing	1. Study the packaging at a warehouse. 2. Conduct a group discussion on Grouping of goods and using items for packing and labelling 3. Visit to nearby Warehouses	8
3. Describe the usefulness of personal protective equipment (PPEs), kitting process	1. Meaning of personal protective equipment (PPE) and equipment's used for kitting 2. Documents required for kitting 3. Kitting items for damages and errors 4. Kitting Process 5. Definition of bill of material (BOM), Bar code 6. Components of kitting documentation 7. Check kitting items for damages and errors	1. Study of PPE at a warehouse. 2. Role Play Note make group of five students from class and ask them to perform the following binning activities stepwise in the warehouse 3. Visit to warehouse and observe the Knitting Process	10
4. Demonstrate the binning for various types of goods and list the equipment and stationery used for binning	1. Meaning and types of binning 2. Stationary used for binning 3. Binning for various types of goods 4. Binning process 5. Meaning and importance of clean area after post work	1. Visit a warehouse in your area and interact with the owner regarding binning, and prepare a report in not more than 50 words. 2. Understanding the binning process. 3. Observations on Warehouse Activities	9
Total			**35**

UNIT 3: LOADING AND UNLOADING OF GOODS			
Learning Outcome	**Theory (10 Hrs.)**	**Practical (20 Hrs.)**	**Duration (30Hrs.)**
1. Describe the material handling equipment (MHE) and personal protective equipment (PPE) used for loading/unloading	1. Meaning of loading and unloading of goods 2. Identification of load characterizations 3. Unloading & Quality Control (QC) process 4. Types & importance of MHE 5. Types & importance of PPE	1. Visit to a warehouse to see the process and steps employed in Loading and unloading of goods and understand the policies of warehouse. 2. Prepare a report showing the list of MHE and PPE.	6
2. Demonstrate loading and unloading procedure and documentation	1. Loading process, standard operating process (SOP) of loading and unloading 2. Order verification & loading (dispatch) of material and equipment required in loading and unloading process 3. Documents required for delivery (outbound)	1. Prepare checklist for better operational efficiency. 2. Visit nearby Warehouse to see the process of Loading and Unloading.	8
3. Handle the procedure for breakage/ spillage of package/ consignment	1. Process to handle hazardous and dangerous goods 2. Space requirements 3. Material inspection (including load and safety) 4. Process for loss, damage of goods	1. Draw a chart showing the list of Hazardous goods and dangerous goods. 2. Visit a nearby Warehouse to see the schedule of Loading and unloading.	8
4. Demonstrate the procedure of parking MHE equipment correctly and reporting of daily operations to the supervisor	1. Designate specific area for parking the MHE. 2. Goods as per coding, labelling and marking 3. Documentation and MIS data to be captured.	1. Visit on exposure of Warehouse. 2. Experiential learning activity: Execute the following exercises in warehouse	8
		Total	**30**

UNIT 4: HEALTH, SAFETY AND SECURITY			
Learning Outcome	**Theory (10 Hrs.)**	**Practical (10 Hrs.)**	**Duration (20 Hrs.)**
1. Monitor health, safety and security procedures in port terminals, Container fright stations (CFS) and Inland container depots (ICD)	1. Concept and importance of health, safety and security. 2. Precaution in area of operation (CFS and ICD) 3. Importance of PPE in cargo. 4. Importance of periodical health check ups	1. Make note of all safety processes in different location (cargo loading area, ramp operation area, etc.) with reference to area of operation 2. Prepare and demonstrate and wear all PPE 3. Undertake and record periodical preventive health check-up students	3
2. Inspect area and equipment for appropriate and safe conditions	1. Meaning of safe and unsafe conditions 2. Safety of equipment 3. Importance of stacking, ladders and smoke detectors, tags, labels and signage 4. Implementation of 5S at workplace 5. Standard driving practice	1. Prepare a Chart on Safe and unsafe conditions in a warehouse 2. Visit Logistics Laboratory and Demonstrate the importance of Stacking, ladders, smoke detectors, tags, labels and signage 3. Perform Role Play on Standard Driving Practice and 5 S at the work place	3
3. Demonstrate the standard operating procedures (SOP) while handling dangerous and hazardous goods	1. Meaning of dangerous and hazardous goods 2. Handling dangerous and hazardous goods 3. Standardized operating procedure of Warehouse activities 4. Standard material handling procedure 5. Health risks and safety and security procedures 6. Data safety regulations	1. Prepare a Quiz on Standard Operating procedures 2. Prepare a Chart Preparation on Dangerous and Hazardous Groups 3. Group discussion on health risk safety and security procedures 4. Perform Role Play on Standard Protocol in Emergency 5. Demonstrate Security procedures	8

	7. Implementation of standard protocol in case of emergency 8. Concept of escalation matrix		
4. Documentation of health, safety and security and violations	1. Documents for health and safety in the workplace 2. Cargo security management 3. Loading instruments and certificates required 4. Importance of security checks	1. Chart Preparation on Cargo Security Management and Documents of Health, Safety and Security 2. Conduct Group Discussion on Loading Instruments and Certificates required and Importance of security checks.	6
		Total	**20**

GRADE 10

Part A - Employability Skills

S.No.	Units	Duration (hrs)
1.	Communication Skills – II	20
2.	Self-management Skills – II	10
3.	Information and Communication Technology Skills – II	20
4.	Entrepreneurial Skills – II	15
5.	Green Skills – II	10
	Total	**75**

UNIT 1: COMMUNICATION SKILLS – II			
Learning Outcome	**Theory (12 hrs)**	**Practical (08 hrs)**	**Duration (20 hrs)**
1. Demonstrate the knowledge of various methods of communication	1. Methods of communication 2. Communication process and elements	1. Role-play on communication process 2. Group discussion on the effects of elements of communication cycle.	05
2. Describe the types of verbal communication	1. Verbal communication 2. Types of verbal communication 3. Advantages and disadvantages of Verbal communication 4. Mastering Verbal communication	1. Role-play of a telephonic conversation 2. Chart preparation on types of verbal communication 3. Group discussion on the advantages and disadvantages of verbal communication 4. Group activity on delivering a speech and practicing public speaking.	02
3. Demonstrate the knowledge of	1. Non-verbal communication	1. Role play on non-verbal	02

non-verbal communication	2. Importance of Non–verbal communication 3. Types of non-verbal communication 4. Visual communication	communication 2. Group discussion and practice on how to avoid body language mistakes 3. Group discussion on three methods of communication	
4. Describe the communication cycle and importance of feedback	1. Communication cycle and importance of feedback 2. Feedback 3. Types of feedback 4. Importance of feedback	1. Role play on providing feedback 2. Group activity on constructive feedback	02
5. Identify the barriers to effective communication	1. Barriers to Effective communication 2. Effective communication 3. Barriers to effective communication • Physical barriers • Linguistic barrier • Interpersonal barriers • Organizational barriers • Culture barriers 5. Ways to overcome barriers to effective communication	1. Role play on barriers to effective communication 2. Group activity on overcoming barriers to effective communication 3. Chart preparation on barriers to effective communication	04
6. Demonstrate the knowledge of parts of speech	1. Writing skills – Parts of speech 2. Capitalization 3. Punctuations 4. Basics of parts of speech 5. Supporting parts of speech • Article • Conjunctions • Prepositions • Interjections	1. Reading paragraph and sentences and identifying parts of speech 2. Group activity on sentence construction 3. Identifying nouns by guessing the name, place, animal, or thing	03
7. Write sentences	1. Writing Skills - Sentences 2. Parts of sentence 3. Types of objects 4. Types of sentences • Active • Passive 5. Paragraphs	1. Making sentences using direct and indirect objects 2. Writing a paragraph using active and passive voice 3. Framing different types of sentences	02

		(i.e., declarative, exclamatory, interrogative and imperative)	
Total			**20**

UNIT 2: SELF-MANAGEMENT SKILLS – II			
Learning Outcome	**Theory (05 hrs)**	**Practical (05 hrs)**	**Duration (10 hrs)**
1. Apply stress management techniques	1. Stress management 2. Stress and Stress management techniques 3. Management technique 4. Ability to work independently 5. Emotional intelligence	1. Role Play on avoiding stressful situation 2. Activity on listing stressful situations and discussing the stress management techniques like yoga, deep breathing exercises etc.	02
2. Identify strengths and weaknesses of self	1. Self-Awareness – Strength and Weakness Analysis 2. Knowing yourself 3. Strength and weakness analysis 4. Techniques for identifying strengths and weaknesses Difference between interests and abilities	1. Group discussion on aim and goal in life 2. Perform a strength and weakness analysis Group discussion on interests and abilities	02
3. Demonstrate the knowledge of self-motivation	1. Self-Motivation 2. Types of motivation 3. Qualities of self-motivated people 4. Building self–motivation	1. Group discussion on staying motivated 2. Activity on listing the ways to motivate oneself	02

4. Set SMART goals	1. Self-Regulation – Goal Setting 2. Goals and Setting SMART goals 3. How to set goals • Specific • Measurable • Achievable • Realistic • Time bound	1. Group activity on setting SMART goals 2. Writing long- term and short-term goals 3. Activity on listing the ways to surely set SMART goals	02
5. Demonstrate the knowledge of time management	1. Self-Regulation – Time Management 2. Time management and its importance 3. Example and non-example of time management 4. Four steps for effective time management • Organise • Prioritise • Control • Track 5. Tips for practicing the four steps of effective time management	1. Preparing a list of activities to practice time management 2. Discussion on how to manage time to reach school on time	02
Total			**10**

UNIT 3: INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS – II			
Learning Outcome	**Theory (08 hrs)**	**Practical (12 hrs)**	**Duration (20 hrs)**
1. Perform basic computer operations	1. Basics computer operations 2. Computer hardware and software 3. Starting a computer 4. Shutting down a computer 5. Using keyboard 6. Using a mouse • Roll over or hover • Point and click • Drag and drop • Double click	1. Demonstration on use of computers 2. Group activity on using the keyboard	12

2. Apply basic file operations	1. Performing basic file operations 2. Basic File Operations 3. Files and folders • Creating a file • Creating a folder	1. Practice of creating a folder	02
3. Demonstrate computer care and maintenance	1. Computer care and Maintenance 2. Importance of care and maintenance of computers 3. Basic tips for taking care of devices • Cleaning computer devices • Preparing maintenance schedule for computers • Taking backup data • Scanning and cleaning viruses • Removing SPAM files	1. Group activity on preparing a chart on care and maintenance of computer	03
4. Describe the importance of maintaining computer security and privacy	1. Computer security and privacy 2. Computer security deals with protecting computer • Reasons for security breach • Threats to computer • Protecting your data	1. Group activity on preparing an infographic chart on computer security and privacy	03
Total			**20**

UNIT 4: ENTREPRENEURIAL SKILLS – II			
Learning Outcome	**Theory (06 hrs)**	**Practical (09 hrs)**	**Duration (15 hrs)**
1. Describe the meaning of entrepreneurship	1. Entrepreneurship and society 2. Activities of entrepreneurs: • Fulfil customer needs • Use local materials • Help society • Create job • Share wealth • Lower price product	1. Group work on finding the problems in school campus and turning them into business opportunities	05

2. Identify the qualities and functions of an entrepreneur	1. Qualities and functions of an entrepreneur 2. Qualities of an entrepreneur	1. Activity on self-assessment of entrepreneurial qualities 2. Brainstorming on solving a problem in their area 3. Taking an interview of an entrepreneur	03
3. Describe the myths and realities about entrepreneurship	1. Misconceptions and myths about entrepreneurship	1. Group activity on identifying everyday heroes 2. Activity on interviewing the entrepreneurs 3. Group activity on making items and selling to someone	04
4. Describe entrepreneurship as a career option	1. Entrepreneurship as a career option 2. Meaning of career • Ways of earning a living • Self-employment 3. Wage employment 4. Entrepreneur career process • Enter • Survive • Grow	1. Brainstorming on entrepreneurship as a life option 2. Group discussion on the power of entrepreneurship	03
Total			**15**

UNIT 5: GREEN SKILLS – II			
Learning Outcome	**Theory (07 hrs)**	**Practical (03 hrs)**	**Duration (10 hrs)**
1. Demonstrate the knowledge of green skills	1. Sustainable Development 2. Importance of sustainable development 3. Problems related to sustainable development 4. Sustainable development Goals 5. Sustainable	1. Group activity on creating garden in the school or planting tree saplings 2. Group discussion on "How to prevent wastage"	05

	development initiatives 6. Sustainable process		
2. Describe the role of self in sustainable development	1. Our role in sustainable development 2. Our role towards Sustainable Development • Quality education • Clean water and sanitation • Affordable and clean energy • Decent work and economic growth • Reducing inequalities • Creating sustainable cities and communities • Responsible consumers and producers • Protect life below water • Protect life on land	1. Group discussion on conservation and protection of environment 2. Group activity on organizing an art project using waste	05
Total			**10**

Part B–Vocational Skills

S. No.	Units	Duration (Hrs.)
1.	Handling of Perishable Goods	27
2.	Handling of Fast-Moving Consumer Goods	27
3.	Handling of Automotive Goods	27
4.	Integrity and Ethics	14
	Total	**125**

UNIT 1: HANDLING OF PERISHABLE GOODS			
Learning Outcome	**Theory (10 Hrs.)**	**Practical (17Hrs.)**	**Duration (27Hrs.)**
1. Describe the coding requirement for various types of perishable products	1. Concept, features and classification of perishablegoods 2. Importance of the individual's role in the workflow for handling perishable goods	1. Prepare a chart showing various coding of perishables goods stored in warehouse. 2. Visit to a warehouse to understand the equipment required for	7

	3. Procedure's to be followed for handling perishable goods 4. Coding system followed tolabel items 5. Basics of enterprise resource planning system of the organization for coding	handling the perishable goods. 3. Have a discussion containing precautions as per Standard Operating Procedures (SOP) for handling various perishable products. 4. Prepare a chart of safety standards and security procedures to be followed while handling perishable goods	
2. Demonstrate segregation, sorting, and grading operations in a cold chain warehouse	1. Introduction of Cold Chain 2. Ideal time required for each cold chain activity 3. Process flow of cold chain operation 4. Types of goods and their handling precautions as per SOP 5. Characteristics of the products being handled, for e.g.: texture, odor, stickiness etc. 6. Maintenance temperature as per product types 7. Segregation, sorting and grading operations	1. Prepare a chart showing the list of equipment used while handling goods in cold chain warehouse. 2. Have a discussion containing measuring of the units and scales used in cold storage operations 3. Prepare a Chart on segregating, sorting, grading and maintaining the temperature of perishable goods stored in warehouse.	6
3. Identify the cleaning process of cold chain warehouse and its equipment	1. Meaning of cleaning process of cold chain warehouse 2. Equipment's required cold chain warehouse to remove product from slots 3. SOP to prevent contamination	1. Remove, clean and maintain warehouse aisles and product slots. 2. Have a discussion and enlist precautions as per SOP to prevent contamination of perishable products. 3. Visit a company and make notes of its reporting structure, company's policy and work instructions on quality standards. 4. Identify goods to be moved either to the storage from the staging area/unloading area and also make	6

		arrangement of equipment/tools. 5. Demonstrate the operation of MHE to pick the perishable items and how to load finished pallets of perishable products on assigned trailers safely and accurately.	
4. Identify contaminate d goods and quarantine procedure	1. Meaning of contaminated goods and quarantine procedure 2. Clean and maintenance of warehouse aisles and product slots 3. Procedures for dealing with loss or damage to goods 4. Risk and impact of not following defined work, safety and security procedures 5. Precautions followed to avoid contamination 6. Company's reporting structure and policy	1. Prepare a chart showing quarantine procedure for contaminated goods. 2. Prepare daily report and send to supervisor about total loading/unloading done, damages, delays report to supervisor about miss happenings and accident.	8
Total			**27**

UNIT 2: HANDLING OF FAST-MOVING CONSUMER GOODS			
Learning Outcome	**Theory (10Hrs.)**	**Practical (17 Hrs.)**	**Duration (27 Hrs.)**
1. Enlisting the components of documentation for fast-moving consumer goods (FMCG) warehouse goods movement process	1. Basis of FMCG 2. Importance of individual workflow handling 3. Concept and types of FMCG 4. Warehouse FMCG goods movement process 5. Meaning and types of coding system and followed to label FMCG items 6. Company's policy and work instructions on quality standards, use of PPE, use of equipment, MHEs, documentation, etc., for FMCG warehouse goods movement	1. Identify and list out the documentation and coding for FMCG warehouse goods movement process in a logistic retail lab. 2. Prepare a chart on documentation of FMCG goods in warehouse.	5
2. Identify FMCG goods and its storage location based on picklist	1. Meaning and types of picklists 2. SAP material picklist transaction codes 3. Meaning and uses of different information processing devices like barcode scanners, Radio Frequency Identification (RFID) scanners, etc.	1. Visit a warehouse to learn picklist procedure. 2. Design a Digital Pick List System 3. Warehouse Safety Poster Creation 4. Perform Simulation of Batch Picking Process	5
3. Demonstrate sorting, placing of goods and the process of packaging and labelling	1. Meaning of sorting system 2. Procedures for dealing with loss or damage to goods 3. Sorting and placing the goods in suitable places 4. Meaning and process of packaging and labelling 5. Defected or broken products	1. Role play on order picking in logistic lab. 2. List out safety and security procedures to be followed for picking the FMCG 3. Design Your Dream Warehouse Board Game	8

4. Maintain First-Out (FIFO)/ Last In, First Out (LIFO) inventory methods	1. Meaning of inventory management 2. Process of inventory Management 3. FIFO, LIFO meaning with numerical 4. SOP inventory cycle counting	1. Learn sorting and placing of goods. 2. Identify the procedure for dealing with loss or damage to goods. 3. Demonstration on packaging and labelling.	4
		Total	**27**

	UNIT 3: HANDLING OF AUTOMOTIVE GOODS		
Learning Outcome	**Theory (10 Hrs.)**	**Practical (17 Hrs.)**	**Duration (27Hrs.)**
1. Demonstrate the packing/ de-packing and labelling of automotive goods	1. Meaning of automotive goods, packing/ de-packing and labelling of automotive goods 2. Certifications for automotive goods 3. Coding system and its importance in automotive goods	1. Perform packing/ de-packing and labelling of automotive goods 2. Perform a role play on racking, palletisation, storing, coding and labeling of automotive goods. 3. Introduction to Packaging and Labeling 4. Demonstrate different types of palletization. 5. Storage System Design 6. Create the importance of certifications in ensuring quality, safety, and environmental responsibility	7
2. Demonstrate loading/ unloading of automotive goods from fixtures/ crates/ pallets/ boxes	1. Meaning of Loading/Unloading 2. Material Handling Equipment 3. Strapping and Lashing	1. Prepare a chart showing racking. 2. Identify PPE and MHE used for automotive goods. 3. Visit to automotive goods warehousing industry.	7
3. Discuss the precautions to be taken while loading/ unloading, strapping and	1. Meaning of Loading and unloading items 2. safe strapping and lashing of pallets/ crates/ boxes/ fixtures	1. Perform safe strapping and lashing of pallets/ crate for automotive goods 2. Adopt the precautions while	7

		loading/ unloading of automotive goods 3. Identify the different roles of employers and employees while handling automotive goods	
4. Inventory Management and Process Improvement Tools	1. Meaning and process of inventory counting 2. Poka-Yoke Process 3. Process Improvement Tools 4. SOP for dangerous and special goods 5. Inventory Count Process	1. Prepare a chart for process improvement tools. 2. Class Presentation: list the benefits of inventory management for Automotive Goods. 3. Role Play in lab setting: Sort and place material for item on racks, shelves or in bins according to Kanban list.	6
		Total	**27**

UNIT 4: INTEGRITY AND ETHICS			
Learning Outcome	**Theory (04Hrs.)**	**Practical (10Hrs.)**	**Duration (14Hrs.)**
1. Describe company's policies and various regulatory requirements related to logistics industry	1. Company's policies on use of language, human resources policies, code of ethics, whistle blower policy 2. Company's rules related to sexual harassment 3. Various regulatory requirements	1. Visit a warehouse and observe. 2. Visit a warehouse to understand the difference in public and private sector functionality. 3.	**2**
2. Explain data, information and security practices	1. Meaning of data, information, data information security and steps to protect information 2. Concept and content of report 3. Company's reporting to management	1. Visit a warehouse and observe. 2. Preparation of a Poster on conditions to prepare a report.	**2**
3. Comply to regulatory requirements and Practice code of conduct and etiquettes	1. Principles of code of ethics and business ethics 2. Follow etiquettes in accordance to the place 3. Corruption practices	1. Visit a warehouse and observe. 2. Visit to a warehouse to know how to avoid acceptance of cash or kind from vendors for support or contract	**5**

	4. Meaning of nepotism	negotiations. 3. Prepare a report of violations of code of ethics.	
4. Document integrity and ethics violation	1. Meaning of document integrity and ethics violation 2. Ethical and non-ethical practices 3. Meaning, types and process of escalation matrix for reporting deviation 4. Personal protective equipment and regulatory documentation 5. Dangerous goods and SOP for handling of different types of dangerous goods	1. Visit a warehouse and ask questions from inventory manager.	**5**
Total			**14**

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 a warehouse and observe the following: Location, Site, Office building, bin, Entry & Exit gate, Store, Gate and fencing. During the visit, students should obtain the following information from the Owner /Supervisor / Manager of the warehouse:

1. Area under warehouse and its layout
2. Types of products entered in warehouse
3. Type of storage bins
4. Various equipment's used at warehouse
5. Documents used at the time of arrival and dispatch of goods.
6. Sale procedure
7. Manpower engaged
8. Total expenditure of warehouse
9. Total annual income
10. Profit/Loss (Annual)
11. Any other information
12. Warehouse lighting
13. Waste management
14. Forklift trucks

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.

A. Training Material inside Lab

SL No	Name of Item	Quantity	Approximate Cost
1.	Physical balance(01mg) / Counter Balance (01gm sensitivity)	1	1400-2400
2.	Digital moisture meter calibrated for all the commodities to be stored/ handled	1	15000
3.	Sieve Set	1	2500
4.	Scoops (different sizes)	2 sets	3000
5.	Forceps and brushes	2 sets	1000
6.	Weight Box (1mg to 200gm)	1 set	2000
7.	Enamel plates with smooth white surface (30 cm dia with raised rims)	10	3000
8.	Sample bags-polythene and cloth	As per Requirement	1000
9.	Parkhi (Bag trier)	As per Requirement	800
10.	Sample seal	1	200
11.	Magnifying glass (magnification 10X)	2	3200
12.	Petri dish (80X70 mm)	As per Requirement	90
13.	Measuring Cylinders (5ml to 50ml) graduated	5	1700
14.	Recommended Pesticides(for prophylactic and curative treatments) and rat control	As per requirement	800
15.	Rat cages (wonder traps)	As per requirement	200
16.	Thermoplastic fumigationcovers (IS 13217:1991)	As per requirement	300
17.	Multilayered cross laminated fumigation sheets/covers (IS 14611:1998)	As per requirement	800
18.	Foot / Hand sprayers	As per requirement	3000
19.	Sand snakes	As per requirement	8000
20.	Adhesive tape	As per requirement	80

21.	Tarpaulin	2	2000
22.	Ladder	1	800
23.	First Aid box	1	800
24.	Fire extinguishers	As prescribed inAnnexure V	800
25.	Fire buckets	As prescribed inAnnexure V	250
26.	Platform Scales	As per need	450
27.	Gum boots	As per requirement	600
28.	Goggles	As per requirement	500
29.	Gas Mask (full vision facemask) & Canister for use with ALP	As per requirement	600
30.	Polythene film	As per requirement	700
31.	Bamboo mats	As per requirement	500
32.	Wooden crates/polycrates	As per requirement	300
33.	Hectolitre weightapparatus	1	15000
34.	Sample Divider	1	15000
35.	Vernier Caliper (manual/Digital)	1	16000
36.	Thermo-hygrometer	2	2000
37.	Glass wares (Beakers 500ml , Funnels, Flasks conical 200 ml & 500 ml)	Two each	100
38.	Filter papers	As per requirement	600

39.	Chemical reagents:
	(i) Methylene Blue solution
	  (ii) Dilute hydrochloric acid
	  (iii) distilled water (for determination of de- husked grain in rice)
		As per requirement	5000

40.	Glass tubes	10	600
41.	Metal Probe (12 ft longfor introducing ALP tablets)	As per requirement	750
42.	Phosphine Alert personalmonitor	1	18000
43.	Phosphine gas Monitor	1	8000
44.	Tool Box (for minor repairsof pesticide application equipment)	As per requirement	14000
45.	Dust Mask	As per requirement	5000
46.	Aprons	As per requirement	500
47.	Resuscitator	1	800

B. Equipment's to be seen during Field Visit

1. Organizational Chart of the warehouse
2. Fork lifts
3. Reach trucks
4. Shelf designs
5. Shelf marks
6. Trolleys
7. Any other automatic and semi-automatic equipment used on site.
8. Safety and security equipment's on site
   - *Fire extinguisher*
   - *Security cameras*
   - *LCD screens*
   - *Safety sign boards*
   - *Personal protective equipment's (PPE) like gloves, helmets, jackets, harness etc.*
   - *Locking systems*
9. Housekeeping equipment's on site
   - *Vacuum cleaner*
   - *Mops*
   - *Cleaning chemicals*
   - *Cleaning Robots*
   - *Air purifiers*
   - *Filtering machines*
   - *Spill Absorbents*
10. Waste disposal equipment's such as scrap bins, recyclers, waste processing machines etc
11. Any other equipment mentioned in the student's manual can be sighted during the field visit

C. Teaching/Training Aids

1. Computer
2. LCD Projector
3. Projection Screen
4. White/Black Boards
5. Flip Charts

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:

Sl. No.	Qualification	Minimum Competencies	Age Limit
1.	Graduate (B. Com/BBA) or Three-years Diploma in Logistics Management, P.G. Diploma in Logistics Management with at least 55% marks And One-year work or teaching experience in	• 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.

the area of logistics. Preference will be given to higher education with MBA/M. Com (Marketing or Logistics Management) and/or PG Diploma in Marketing or Logistics Management.	• Technical competencies (e.g., in areas such as marketing, sales promotion, store maintenance, marketing and merchandising etc.)	

Vocational Teachers/Trainers form the backbone of Vocational Education being imparted as an integral part of *Samagra Shiksha* (SS). 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 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 Grade 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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NCERT

PSS Central Institute of Vocational Education

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