

**LEARNING OUTCOME
BASED
VOCATIONAL CURRICULUM**

JOB ROLE: ORGANIC GROWER

(QUALIFICATION PACK: REF. ID. AGR/Q1201)

SECTOR: AGRICULTURE

Classes 11 and 12

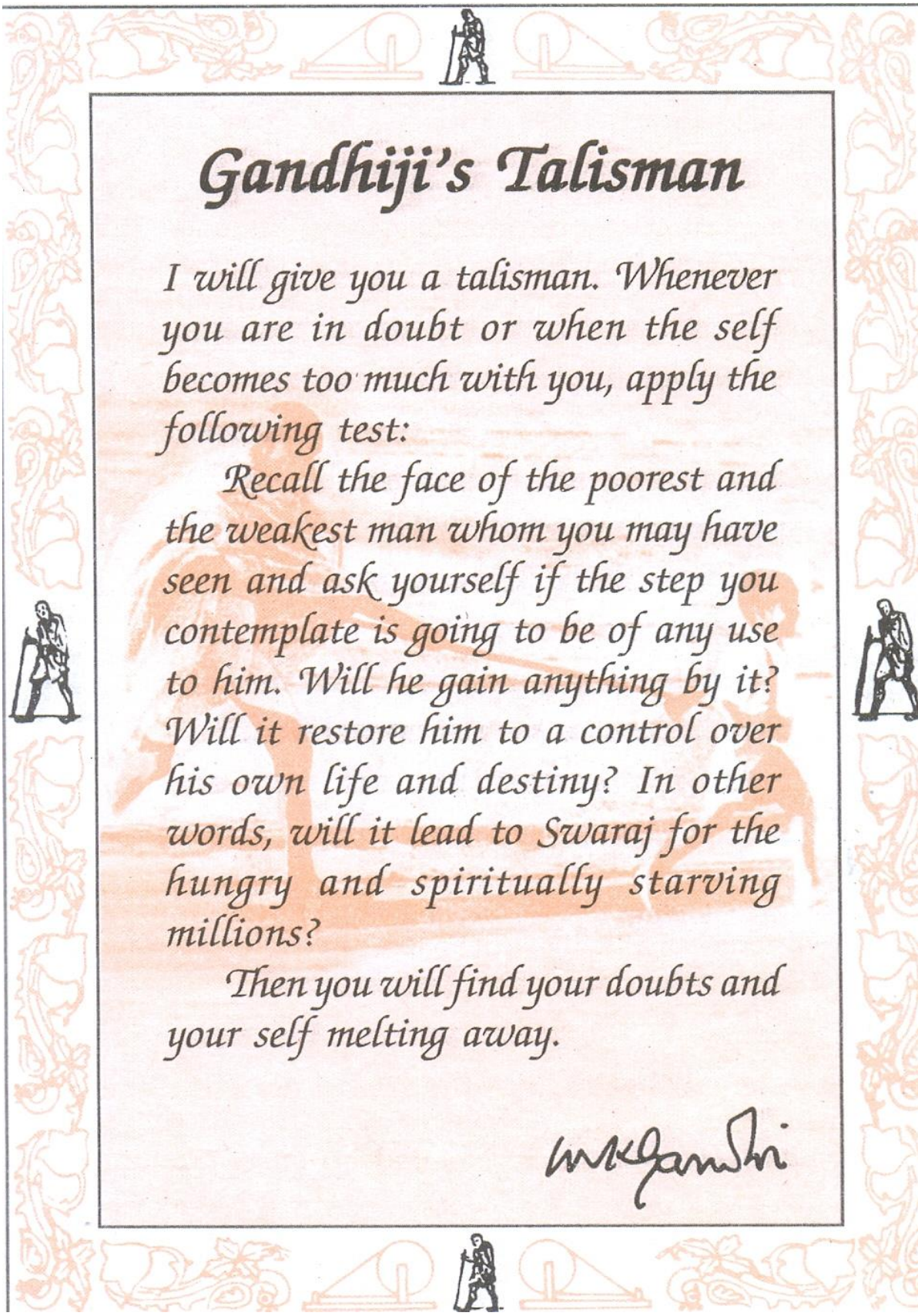


PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

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

Shyamla Hills, Bhopal- 462 013, 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.K. Gandhi

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Agriculture – Organic Grower

February, 2020

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FOREWORD

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent unit of 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 Vocationalisation of Education under *Samagra Shiksha*. The PSS Central Institute of Vocational Education (PSSCIVE) is developing curricula under the project approved by the Project Approval Board (PAB) of *Samagra Shiksha* of Ministry of Human Resource Development (MHRD), Govt. of India. The main purpose of the learning outcome based vocational curriculum is to bring about 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 package for the job role of Organic Grower (AGR/Q1201). 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 in 2012 with the aim 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. The scheme was subsumed in *Samagra Shiksha* in 2018 along with other schemes of school education. For spearheading the Vocationalisation Education, 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 50 job roles in various sectors, besides the curricula developed for 100 job roles.

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 *Samagra Shiksha* of Ministry of Human Resource Development (MHRD), Government of India.

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 *Samagra Shiksha* 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, National Council of Educational Research & Training (NCERT) for his support and guidance. We also acknowledge the contributions of our colleagues at the Technical Support Group of *Samagra Shiksha*, MHRD, National Skill Development Agency (NSDA) and National Skill Development Corporation (NSDC) and Agriculture Skill Council of India (ASCI) for their support and cooperation.

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

The contributions made by Dr. Vinay Swarup Mehrotra, Professor and Head, Department of Agriculture and Animal Husbandry and Curriculum Development and Evaluation Centre (CDEC), Dr. Vipin Kumar Jain, Associate Professor and Head, Department of Humanities, Science, Education and Research and Dr. Dipak D. Shudhalwar, Associate Professor and Head, Department of Engineering and Technology, PSSCIVE in development of the curriculum for the employability skills are duly acknowledged.

The assistance provided by Mr. Jivan Koli, Computer Operator, PSSCIVE and Mr. Rajesh Yadav, Computer Operator (Contract), PSSCIVE in layout, design and composing of the material is duly acknowledged.

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1. COURSE OVERVIEW

COURSE TITLE: AGRICULTURE – ORGANIC GROWER

The Organic Grower or Organic Farmer recognizes the need for maximization of agricultural productivity and profitability with long-term sustainable goals and ensures safe and healthy food for consumers. The job of an Organic Grower/Farmer involves cultivation of organic crops as per the organic package of practices recommended for a particular agro-climate zone, using approaches like diversity, cattle integration, on-farm input generation, biomass recycling, natural resource use optimization in exclusion of synthetic inputs directly or indirectly. He/she may also sell the organic produce.

COURSE OUTCOMES: On completion of the course, student's 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;
- Describe the knowledge of importance and scope of organic farming;
- Identify the need and types of organic farming practices.
- Utilize techniques used to use organic wastes and
- Demonstrate seed treatment and soil nutrient management under organic farming.
- Define weeds and irrigation Management practices under organic farming.
- Demonstrate Integrated Pest and Disease Management under organic
- Identify the harvesting ,storage& post-harvest management under organic farming

COURSE REQUIREMENTS: The learner should have the basic knowledge of science.

COURSE DURATION: 600 hrs

Class 11: 300hrs

Class 12: 300hrs

Total: 600 hrs

2. SCHEME OF UNITS

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		
1.	Communication Skills – III	25	10
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	10
Part B	Vocational Skills		
6.	Introduction to Crops and Cropping Systems	45	
7.	Introduction to Organic Farming	40	
8.	Water, Nutrients and Pest Management in Organic Farming	40	
9.	Package of Practices for Organic Farming	40	
	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/ OJT		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	15	15
	Grand Total	300	100

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

CLASS 12			
	Units	No. of Hours for Theory and Practical =300	Max. Marks for Theory and Practical = 100
Part A	Employability Skills		
1.	Communication Skills – IV	25	10
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	10
Part B	Vocational Skills		
6.	Harvesting and Post Harvesting Technology	60	
7.	Standards and Certification in Organic Farming	60	
8.	Marketing of Organic Produce	45	
	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/OJT		
	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

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

Maximum Marks: 40

	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 and 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.

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.

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 Skill– III			
Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 Hrs)
1. Demonstrate knowledge of various methods of communication	1. Methods of communication <ul style="list-style-type: none"> • Verbal • Non-verbal • Visual 	1. Writing pros and cons of written, verbal and non-verbal communication 2. Listing do's and don'ts for avoiding common body language mistakes	05
2. Identify specific communication styles	1. Communication styles- assertive, aggressive, passive-aggressive, submissive, etc.	1. Observing and sharing communication styles of friends, teachers and family members and adapting the best practices 2. Role plays on communication styles.	10
3. Demonstrate basic writing skills	1. Writing skills to the following: <ul style="list-style-type: none"> • Sentence • Phrase • Kinds of Sentences • Parts of Sentence • Parts of Speech • Articles • Construction of a Paragraph 	1. Demonstration and practice of writing sentences and paragraphs on topics related to the subject	10
Total			25

Unit 2: Self-Management – III			
Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 Hrs)
1. Demonstrate impressive appearance and grooming	1. Describe the importance of dressing appropriately, looking decent and positive body language 2. Describe the term grooming 3. Prepare a personal grooming checklist 4. Describe the techniques of self- exploration	1. Demonstration of impressive appearance and groomed personality 2. Demonstration of the ability to self-explore	10
2. Demonstrate team work skills	1. Describe the important factors that influence in team building 2. Describe factors influencing team work	1. Group discussion on qualities of a good team 2. Group discussion on strategies that are	10

		adopted for team building and team work	
3. Apply time management strategies and techniques	1. Meaning and importance of time management – setting and prioritizing goals, creating a schedule, making lists of tasks, balancing work and leisure, using different optimization tools to break large tasks into smaller tasks.	1. Game on time management 2. Checklist preparation 3. To-do-list preparation	05
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 word processor	<ol style="list-style-type: none"> 1. Introduction to word processing. 2. Software packages for word processing. 3. Opening and exiting the word processor. 4. Creating a document 	1. Demonstration and practice of the following: <ul style="list-style-type: none"> • Listing the features of word processing • Listing the software packages for word processing • Opening and exit the word processor • Creating a document 	10
2. Edit, save and print a document in word processor	<ol style="list-style-type: none"> 1. Editing text 2. Wrapping and aligning the text 3. Font size, type and face 4. Header and Footer 5. Auto correct 6. Numbering and bullet 7. Creating table 8. Find and replace 9. Page numbering 10. Printing document 11. Saving a document in various formats 	1. Demonstration and practising the following: <ul style="list-style-type: none"> • Editing the text • Word wrapping and alignment • Changing font type, size and face • Inserting header and footer • Removing header and footer • Using 	10

		autocorrect option <ul style="list-style-type: none"> • Insert page numbers and bullet • Save and print a document 	
Total			20

Unit 4: Entrepreneurial Skills – III

Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 Hrs)
1. Describe the significance of entrepreneurial values and attitude	1. Values in general and entrepreneurial values 2. Entrepreneurial value orientation with respect to innovativeness, independence, outstanding performance and respect for work	1. Listing of entrepreneurial values by the students. 2. Group work on identification of entrepreneurial values and their roles after listing or reading 2-3 stories of successful entrepreneur 3. Exhibiting entrepreneurial values in Ice breaking, rapport building, group work and home assignments	10
2. Demonstrate the knowledge of attitudinal changes required to become an entrepreneur	1. Attitudes in general and entrepreneurial attitudes 2. Using imagination/ intuition 3. Tendency to take moderate risk 4. Enjoying freedom of expression and action 5. Looking for economic opportunities 6. Believing that we can change the environment 7. Analyzing situation and planning action 8. Involving in activity	1. Preparing a list of factors that influence attitude in general and entrepreneurial attitude 2. Demonstrating and identifying own entrepreneurial attitudes during the following micro lab activities like thematic appreciation test 3. Preparing a short write-up on “who am I”	15

		<p>4. Take up a product and suggest how its features can be improved</p> <p>5. Group activity for suggesting brand names, names of enterprises, etc.</p>	
Total			25

Unit 5: Green Skills – III			
Learning Outcome	Theory (07 hrs)	Practical (08 hrs)	Duration (15 Hrs)
1. Describe importance of main sector of green economy	<p>1. Main sectors of green economy- E-waste management, green transportation, renewal energy, green construction, water management</p> <p>2. Policy initiatives for greening economy in India</p>	<p>1. Preparing a poster on any one of the sectors of green economy</p> <p>2. Writing a two-page essay on important initiatives taken in India for promoting green economy</p>	08
2. Describe the major green Sectors/Areas and the role of various stakeholder in green economy	<p>1. Stakeholders in green economy</p> <p>2. Role of government and private agencies in greening cities, buildings, tourism, industry, transport, renewable energy, waste management, agriculture, water, forests and fisheries</p>	<p>1. Preparing posters on green Sectors/Areas: cities, buildings, tourism, industry, transport, renewable energy, waste management, agriculture, water, forests and fisheries</p>	07
Total			15

PART B: VOCATIONAL SKILLS

S.No.	Units	Duration (Hrs)
1.	Introduction to Crops and Cropping Systems	45
2.	Introduction to Organic Farming	40
3.	Water, Nutrient and Pest Management in Organic Farming	40
4.	Package of Practices for Organic Farming	40
	Total	165

Unit 1: Introduction to Crops and Cropping Systems			
Learning Outcome	Theory (25 hrs)	Practical (20 hrs)	Duration (45 hrs)
1. Identify the major agriculture crops and differentiate between speciality and commodity crops	<ol style="list-style-type: none"> Introduction to agriculture – classification of major agricultural crops Major agriculture crops of India grown under organic farming: <ul style="list-style-type: none"> Field crops: rice, wheat, cotton, sugarcane, millets, pulses, etc. Vegetables: onion, okra, cowpea, potato, tomato, etc. Fruit crops: mango, banana, pineapple, Passion fruit, etc. Plantation crops: tea, coffee, coconut, etc. Floriculture crops: rose, marigold, gerbera, carnations, etc. Difference between commodity crops and specialty crops 	<ol style="list-style-type: none"> Visit to various websites to study the major agricultural crops, including crops grown locally Study of the agronomic map of India Preparation of charts, collages, posters depicting importance of different crops, including organically grown crops - food grain crops, oil seed crops, cash crops, pulses, vegetable crops, fruit crops, plantation crops, etc. Study of seeds of different agricultural crops Use of "Plant apps" on internet for identification of plants Sowing seeds of various crops and recording observations 	20
1. Describe the different types of farming systems	<ol style="list-style-type: none"> Types of farming systems <ul style="list-style-type: none"> Pure organic farming Integrated farming system (combination of organic and Inorganic) Mixed farming 	<ol style="list-style-type: none"> Group discussion on different farming systems – advantages and limitations 	10
2. Describe the various cropping systems	<ol style="list-style-type: none"> Cropping systems Production of crops - <ul style="list-style-type: none"> Monoculture Multiple cropping Intercropping Mixed cropping Relay cropping Sequential cropping 	<ol style="list-style-type: none"> Group discussion on advantages of crop diversity and cropping systems Study of management practices for the various types of cropping systems 	15

	<ul style="list-style-type: none"> • Ratoon cropping • Alley cropping 3. Examples of cropping systems		
Total			45

Unit 2: Introduction to Organic Farming			
Learning Outcome	Theory (15hrs)	Practical (25 hrs)	Duration (40 hrs)
1. Principles and components of organic farming	1. Introduction to organic farming 2. Detrimental effects of chemical based farming system – depletion of soil health, environment pollution, reduction of natural enemies, pesticide consumption, threat to biodiversity, etc. 3. Natural v/s organic foods and farm production systems 4. Types of organic farming – pure and integrated organic farming systems 5. Farm machinery and equipment	1. Preparation of charts, depicting advantages of organic farming and organic produce 2. Case studies and success stories of organic farmers 3. Discussion on factors effecting ecological balance and sustainability of agricultural resources 4. Study of pure and integrated organic farming systems	10
2. Explain the various components of an organic farming system	1. Principles of organic farming – health, ecology, care, fairness 2. Components of organic farming – agronomic, biological and mechanical 3. Advantages and limitations of organic farming 4. Recycling nutrients in organic farm 5. Organic farming in India	1. Group discussion on the principles of organic farming 2. Preparation of charts on components of organic farming system	10
3. Describe the sources and production methods of organic manures	1. Types of organic manures–Farm Yard Manure, vermicompost, rural compost, city compost, animal	1. Group discussion on the nutrient content and method of preparation of organic manures	10

	<p>wastes, green manure, liquid manure, etc.</p> <ol style="list-style-type: none"> 2. Method of preparation of Farm Yard Manure 3. Method of composting 4. Vermicomposting 	<ol style="list-style-type: none"> 2. Demonstration on the application of Farm Yard Manure, compost, green manure, liquid manure and vermicompost. 3. Preparation of compost 4. Preparation of vermicompost 	
4. Describe the importance and use of livestock in organic farming	<ol style="list-style-type: none"> 1. Livestock production system – types and characteristics 2. Importance of dairy farming, sheep and goat rearing, poultry farming, pig rearing, fish production, sericulture, apiculture, etc. in organic farming 3. Factors influencing livestock farming 4. Role and benefits of livestock in organic farming - nutrient recycling, pest management, etc. 5. Animal by-products and their re-cycling 	<ol style="list-style-type: none"> 1. Group discussion on the significance of integrating crop and livestock – dairy farming, sheep and goat rearing, poultry farming, pig rearing, fish production, sericulture, apiculture, etc. 2. Visit to nearby cattle farm and recording observations of housing, sanitation, feeding of animal, animal waste, agriculture waste, etc. 3. Enlisting of by-products of livestock production 4. Visit to a biogas plant to study the generation of organic waste and its use in organic farming 5. Recording of observations on uses of by products and their re-cycling methods 	10
Total			40

Unit 3: Water, Nutrients and Pest Management in Organic Farming			
Learning Outcome	Theory (15 hrs)	Practical (25 hrs)	Duration (40 hrs)
1. Describe the sources and methods of irrigation	<ol style="list-style-type: none"> 1. Introduction to irrigation 2. Sources and methods of irrigation 3. Micro irrigation – drip and sprinkler irrigation systems 4. Factors affecting irrigation interval 5. Irrigation scheduling 	<ol style="list-style-type: none"> 1. Demonstration of use of drip and sprinkler for irrigation systems 2. Discussion on the importance of irrigation scheduling and time of application of water 	10
2. Describe the types and use of bio-fertilizers	<ol style="list-style-type: none"> 1. Classification of bio-fertilizers – nitrogen fixing, phosphorus solubilising, phosphorus mobilising, plant growth promoting Rhizobacteria 2. Methods of application of bio-fertilizers – seed treatment, seedling root dip, direct application in soil 3. Precautions in use of bio-fertilizers 	<ol style="list-style-type: none"> 1. Group discussion on the effect of chemical fertilizers on soil and microorganisms and as a source of pollution 2. Acquaintance with different types of bio-fertilizers 3. Demonstration of the use of bio-fertilizers 4. Application of bio-fertilizers using different methods 	10
3. Demonstrate the application of various methods in weed control	<ol style="list-style-type: none"> 1. Methods of weed control <ul style="list-style-type: none"> • Cultural practices – cover crop, crop rotation, intercropping, mulching, etc. • Mechanical control • Biological control - bio-control agents and their use in controlling diseases 2. Thermal and physical methods of weed control 	<ol style="list-style-type: none"> 1. Field visits to study the practices being adopted by the farms which are helpful in reducing the weeds and pest incidence. 2. Identification of important weeds of different crops 3. Preparation of a weed herbarium 	10
4. Describe the various pest control methods used in organic farming	<ol style="list-style-type: none"> 1. Identification of common insect-pests and diseases of agricultural crops, including horticultural 	<ol style="list-style-type: none"> 1. Group discussion on harmful effects of chemical pesticides and as a source of pollution v/s use of bio 	10

	<p>crops</p> <p>2. Methods of pest management and control measures – hand picking, use of bio pesticides, use of light trap, pheromone trap, yellow sticky trap, etc.</p> <p>3. Plant based extracts (e.g. neem, garlic, pongamia, etc. used for pest control</p> <p>4. Biocontrol agents used for pest control</p>	<p>pesticides and bio-herbicides</p> <p>2. Identification of visual symptoms of insect-pest attack and their causal agents</p> <p>3. Identification of common diseases of plants and their causal agents</p> <p>4. Use of pheromone trap and yellow sticky trap for pest control</p> <p>5. Preparation of biopesticides, such as Neem kernel powder and neem kernel aqueous extract</p>	
Total			40

Unit 4: Package of Practices for Organic Farming

Learning Outcome	Theory (15)	Practical (25)	Duration (40)
1. Describe the package of practices for organic farming of vegetable crop	<p>1. Organic farming of -</p> <ul style="list-style-type: none"> • Popular varieties of vegetable crop grown in the region • Climatic requirements • Land preparation for nursery, sowing, seed treatment using bio-control agents and biofertilizers • Nutrient management – physiological diseases and disorders and their control • Water management • Weeds, insect-pests and diseases - management using organic agents • Harvesting • Post-harvest management 	<ul style="list-style-type: none"> • Visit to organic farm for understanding organic farming practices • Familiarisation with popular varieties the vegetable crop • Demonstration of land preparation, nursery bed preparation, sowing methods, transplanting of saplings • Interaction with farmers regarding use of bio-control methods of weed, pest control and disease management • Health, hygiene and safety practices adopted during agriculture practices • Case studies and success stories of Organic Farmers 	20

<p>2. Demonstrate the knowledge of package of practices for organic farming of local flowering crop</p>	<ol style="list-style-type: none"> 1. Popular varieties of flowering crops viz. rose, chrysanthemum, marigold, etc. 2. Climatic requirements for cultivation selected flowering crop 3. Land preparation for nursery, seed treatment using bio-control agents and biofertilisers, sowing seeds, etc. 4. Irrigation methods - use of drip and sprinklers 5. Organic nutrient management 6. Pest management techniques of 7. Harvesting 8. Post-harvest management 	<ol style="list-style-type: none"> 1. Visit to organic farms for recording observations on cultivation practices, and farm management in organically grown flowering crops 2. Preparation and application of organic manures and fertilisers 3. Demonstration of harvesting and post-harvest handling of flowers for marketing or short-term storage 	<p>10</p>
<p>3. Describe protected cultivation and its application in growing crops organically</p>	<ol style="list-style-type: none"> 1. Types of greenhouses, based on shape, construction, material, and ventilation 2. Crops commonly grown in greenhouses/ Playhouses – rose, gerbera, carnation, anthurium, orchids, lily, strawberry, cucumber, tomato, capsicum, exotic vegetables, etc. 3. Equipment used in greenhouse/ polyhouse 3. Cultural practices in green houses/poly houses 4. Greenhouse/ polyhouse management 	<ol style="list-style-type: none"> 1. Visit to greenhouse/ playhouse in organic farms for recording observations on cultivation practices and greenhouse management 2. Preparation of charts on design and layout of playhouses 3. Preparation of charts on package of practices for growing crops organically in playhouses. 	<p>10</p>
<p>Total</p>			<p>40</p>

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. Describe the steps to active listening skills	1. Importance of active listening at workplace 2. Steps to active listening	1. Demonstration of the key aspects of becoming active listener 2. Preparing posters of steps for active listening	10
2. Demonstrate basic writing skills	2. Writing skills to the following: <ul style="list-style-type: none"> • Sentence • Phrase • Kinds of Sentences • Parts of Sentence • Parts of Speech • Articles • Construction of a Paragraph 	1. Demonstration and practice of writing sentences and paragraphs on topics related to the subject	15
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 self-motivation	1. Finding and listing motives (needs and desires); 2. Finding sources of motivation and inspiration (music, books, activities);expansive thoughts; living fully in	1.Group discussion on identifying needs and desire 2. Discussion on sources of motivation and inspiration	10

	the present moment; dreaming big		
2. Describe the basic personality traits, types and disorders	<ol style="list-style-type: none"> 1. Describe the meaning of personality 2. Describe how personality influence others 3. Describe basic personality traits 4. Describe common personality disorders- paranoid, antisocial, schizoid, borderline, narcissistic, avoidant, dependent and obsessive 	1. Demonstrate the knowledge of different personality types	15
Total			25

Unit 3: Information and Communication Technology Skills - IV			
Learning Outcome	Theory (06 hrs)	Practical (14 hrs)	Duration (20 Hrs)
1. Perform tabulation using spreadsheet application	<ol style="list-style-type: none"> 1. Introduction to spreadsheet application 2. Spreadsheet applications 3. Creating a new worksheet 4. Opening workbook and entering text 5. Resizing fonts and styles 6. Copying and moving 7. Filter and sorting 8. Formulas and functions 9. Password protection. 10. Printing a spreadsheet. 11. Saving a spreadsheet in various formats. 	1. Demonstration and practice on the following: <ul style="list-style-type: none"> • Introduction to the spreadsheet application • Listing the spreadsheet applications • Creating a new worksheet • Opening the workbook and enter text • Resizing fonts and styles • Copying and move the cell data • Sorting and Filter the data • Applying elementary formulas and functions • Protecting the spreadsheet with password • Printing a 	10

		spreadsheet <ul style="list-style-type: none"> • Saving the spreadsheet in various formats. 	
2. Prepare presentation using presentation application	<ol style="list-style-type: none"> 1. Introduction to presentation 2. Software packages for presentation 3. Creating a new presentation 4. Adding a slide 5. Deleting a slide 6. Entering and editing text 7. Formatting text 8. Inserting clipart and images 9. Slide layout 10. Saving a presentation 11. Printing a presentation document. 	<ol style="list-style-type: none"> 1. Demonstration and practice on the following: <ul style="list-style-type: none"> • Listing the software packages for presentation • Explaining the features of presentation • Creating a new presentation • Adding a slide to presentation. • Deleting a slide • Entering and edit text • Formatting text • Inserting clipart and images • Sliding layout • Saving a presentation • Printing a presentation document 	10
Total			20

Unit 4: Entrepreneurial Skills - IV			
Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 Hrs)
1. Identify the general and entrepreneurial behavioural competencies	<ol style="list-style-type: none"> 1. Barriers to becoming entrepreneur 2. Behavioural and entrepreneurial competencies – adaptability/decisiveness, initiative/perseverance, interpersonal skills, organizational skills, stress management, valuing service and diversity 	<ol style="list-style-type: none"> 1. Administering self-rating questionnaire and score responses on each of the competencies 2. Collect small story/ anecdote of prominent successful entrepreneurs 3. Identify entrepreneurial competencies reflected in each story and connect it to the definition of behavioural competencies 4. Preparation of 	10

Unit 4: Entrepreneurial Skills - IV			
Learning Outcome	Theory (10 hrs)	Practical (15 hrs)	Duration (25 Hrs)
		competencies profile of students	
2. Demonstrate the knowledge of self-assessment of behavioural competencies	1. Entrepreneurial competencies in particular: self - confidence, initiative, seeing and acting on opportunities, concern for quality, goal setting and risk taking, problem solving and creativity, systematic planning and efficiency, information seeking, persistence, influencing and negotiating, team building	1. Games and exercises on changing entrepreneurial behaviour and development of competencies for enhancing self-confidence, problem solving, goal setting, information seeking, team building and creativity	15
Total			25

Unit 5: Green Skills - IV			
Learning Outcome	Theory (05 hrs)	Practical (10 hrs)	Duration (15 Hrs)
1. Identify the role and importance of green jobs in different sectors	<ol style="list-style-type: none"> 1. Role of green jobs in toxin-free homes, 2. Green organic gardening, public transport and energy conservation, 3. Green jobs in water conservation 4. Green jobs in solar and wind power, waste reduction, reuse and recycling of wastes, 5. Green jobs in green tourism 6. Green jobs in building and construction 7. Green jobs in appropriate technology 8. Role of green jobs in Improving energy and raw materials use 	<ol style="list-style-type: none"> 1. Listing of green jobs and preparation of posters on green job profiles 2. Prepare posters on green jobs. 	15

	<ul style="list-style-type: none"> 9. Role of green jobs in limiting greenhouse gas emissions 10. Role of green jobs minimizing waste and pollution 11. Role of green jobs in protecting and restoring ecosystems 12. Role of green jobs in support adaptation to the effects of climate change 		
Total			15

Part B–Vocational Skills

S.No.	Units	Duration (Hrs)
1.	Harvesting and Post Harvesting Technology	60
2.	Standards and Certification in Organic Farming	60
3.	Marketing of Organic Produce	45
Total		165

Unit 1: Harvesting and Post Harvesting Technology			
Learning Outcome	Theory (25 hrs)	Practical (35 hrs)	Duration (60 hrs)
1. Identify the factors and stage of harvesting in agricultural crops	<ul style="list-style-type: none"> 1. Maturity and ripening in crops 2. Factors affecting maturity of crops 3. Maturity indices 4. Stage of harvesting 5. Time of harvesting (climatic conditions, distance from the market) 6. Harvesting equipment 	<ul style="list-style-type: none"> 1. Group discussion on the factors influencing the maturity of crops 2. Identification of stage of harvesting of different agricultural crops 	15
2. Describe the harvesting methods and processes	<ul style="list-style-type: none"> 1. Methods of harvesting (fruit picking method, harvesting of vegetables, harvesting of flowers, harvesting of grain and seed crops) 2. Tools, equipment and containers used for harvesting 3. Time of harvesting 	<ul style="list-style-type: none"> 1. Demonstration of the use of harvesting tools and equipment 2. Group discussion on the precautions to be taken on harvesting, time of harvesting of various crops, and 	15

Unit 1: Harvesting and Post Harvesting Technology			
Learning Outcome	Theory (25 hrs)	Practical (35 hrs)	Duration (60 hrs)
	4. Precaution to be taken during harvesting 5. Disposal of waste	disposal of waste	
3. Describe the post-harvest activities carried out in accordance with specifications	1. Post-harvest activities- grading, trimming, packing/containering, labelling, cleaning, drying, pre-storage treatments, and quality control 2. Grading of crop based on size, colour and quality 3. Packaging of crop with appropriate material and method 4. Ideal Storage condition (temperature, moisture, etc.) 5. Equipment and machinery for post-harvest activities 6. Methods for the recycling or disposal of waste created by post-harvest activities	1. Group discussion on the post-harvest activities 2. Visit to a warehouse/ Processing unit for understanding the various procedures adopted for grading, packaging and storage of agricultural produce	15
4. Describe the methods of storage of organic produce	1. Types, composition and volumes of the organic produce 2. Storage methods which are appropriate to the crops being harvested, their final destination, customer/market requirements 3. Plans for the storage and utilisation of organic by-products in accordance with relevant legislation and codes of practice 4. Records to be maintained, as required by relevant	1. Preparation of charts showing the requirement of storage conditions, such as temperature, humidity, etc. for various organic produce	15

Unit 1: Harvesting and Post Harvesting Technology			
Learning Outcome	Theory (25 hrs)	Practical (35 hrs)	Duration (60 hrs)
	legislation and the organisation 5. Transportation activities		
Total			60

Unit 2: Standards and Certification in Organic Farming			
Learning Outcome	Theory (25 hrs)	Practical (35 hrs)	Duration (60 hrs)
1. Describe the national standards for organic produce and products	1. Factors affecting food quality 2. National standards for organic food production and produce 3. Harvesting standards 4. Processing methods standards 5. Packing standards 6. Labelling standards 7. Storage and transport standards	1. Video show on national standards for organic food production and produce	20
2. Describe the process of inspection and certification of organic food	1. Inspection of organic farm and produce 2. Certification process – Organic standards, compliance, planning, documentation, inspection, fee, record keeping, etc. 3. Operational structure of national programme for organic production	1. Visit to agency for understanding process of certification of organic foods 2. Visit to market to record observations on labelling and sale of organic foods 3. Projects on sale of different organic	20
3. Demonstrate the process of documentation and record keeping for organic product certification	1. Types and importance of record keeping 2. Organic Product Certificate – (i) Name and description of the seller name, (ii) description of the buyer, (iii) date of delivery of the product, (iv) date of issuing of certificate, (v) quantity, (vi) season (vii) Lot	1. Enlist the importance of record keeping 2. Visit to an organic farm for understanding record keeping	20

	number and other identification (marks) of the products (viii) reference to invoice or bill of lading, (ix) authorized Inspection and Certification Agency 3. Certification Agencies 4. Indian Logo for Organic Products		
Total			60

Unit 3: Marketing of Organic Produce			
Learning Outcome	Theory (10 hrs)	Practical (20 hrs)	Duration (30 Hrs)
1. Describe the various type of businesses and policies and regulations for organic produce	1. Types of Businesses <ul style="list-style-type: none"> • Sole proprietorship • Partnership • Limited partnership • Corporation • Limited liability company • Co-operatives 2. Policies and regulations for marketing of organic produce 3. Government schemes and subsidies for starting an organic farm	1. Group discussion on the policies and regulations for marketing of organic produce 2. Listing of agencies/ organisation and institutions involved in marketing of organic produce	10
2. Describe the marketing functionaries and strategies	1. Marketing functionaries 2. Marketing channels 3. Marketing strategies related to <ul style="list-style-type: none"> • Product • Price • Distribution • Promotion 4. e-mail marketing campaigns 5. Major problems in marketing	1. Preparation of slides for presentation on marketing strategies 2. Interviews and case studies of local organic growers/ farmers	10
3. Describe the various Institutions/ Agencies/ Organisations	1. Role and functions of the following agencies/organisations : National Mission for Sustainable Agriculture,	1. Group discussion on the role and functions of various agencies/ institutions and organisations involved	10

Unit 3: Marketing of Organic Produce			
Learning Outcome	Theory (10 hrs)	Practical (20 hrs)	Duration (30 Hrs)
involved in promotion and marketing of organic produce	Agricultural and Processed Food Products Export Development Authority (APEDA), National Centre for Organic Farming (NCOF), Mission Organic Value Chain Development for North-Eastern Region (MOVCD-NER),	in marketing and promotion of organic farming and organic produce	

6. ORGANISATION OF FIELD VISITS/ON-THE-JOB TRAINING

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. Teachers and students should visit organic farms to observe and practice various aspects of farming, including the following: Location, Site, Office building, Store, Pot yard, Packing Yard, Seed bed, Nursery bed, Water tank/Tube well, Gate and fencing. During the visit, students should obtain the following information from the owner or the supervisor of the Organic Farm:

1. Area under Cultivation and its layout
2. Types of crop raised under organic farming
3. Name of varieties grown
5. Number of crops raised annually
6. Total production of crops grown annually
7. Sale procedure
8. Manpower engaged
9. Total expenditure on growing organic crops/produce
10. Total annual income
11. Profit/Loss (Annual)
12. Challenges faced by the farmers

On-the-job training of at least 80 hours is to be organised by the institution to provide hands-on training to the students.

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. Drip Irrigation Unit
2. Dutch Hand Hoe
3. Garden Hand Tools
4. Garden Hoes
5. Garden Knife
6. Garden Rake
7. Garden/Digging Fork
8. Garden/Digging Spade
9. Hand Screens/Sieves
10. Hoe
11. Hori Hori Knife
12. Knapsack Sprayer
13. Leaf Rake
14. Long Handle Hoes
15. Loppers or Pruning Saw
1. Organic Manure
16. Plastics Baskets
17. Plug trays
18. Poly bags (different sizes)
19. Pruners
20. Rabbiting Spade
21. Sanitizers
22. Secateurs
23. Seed Cleaner
24. Seed Treating Equipment
25. Shovels and Specialty Spades
26. Sprinkler Irrigation Unit
27. Trowels
28. Vermicompost

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:

Qualification	Minimum Competencies	Age Limit
Post-graduation in Agriculture/ Horticulture from a recognized Institute /University, with at least 1 year work/ teaching experience	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 *Samagra Shiksha*. 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 organizations 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:

- a) Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- b) Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- c) Make effective use of learning aids and ICT tools during the classroom sessions;
- d) 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;
- e) Work with the institution's management to organize skill demonstrations, site visits, on-job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- f) Identify the weaknesses of students and assist them in upgradation of competency;
- g) Cater to different learning styles and level of ability of students;
- h) Assess the learning needs and abilities, when working with students with different abilities
- i) Identify any additional support the student may need and help to make special arrangements for that support;
- j) 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 counseling 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. Organization of activities for promotion of vocational subjects;
11. Involvement in placement of students and student support services.

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