

**LEARNING OUTCOME
BASED
VOCATIONAL CURRICULUM**

JOB ROLE: Paddy Farmer

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

SECTOR: Agriculture

Classes 9 and 10



PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

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

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

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**Agriculture- Paddy Farmer
February, 2020**

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FOREWORD

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

It is a matter of great pleasure to introduce this learning outcome based curriculum as a part of the vocational training packages for the job role- 'Paddy Farmer'. The curriculum has been developed for the vocational students of secondary level 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 occupationally-specific skills that meet employers' immediate needs. The teaching process is to be performed through the interactive lecture 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 necessary improvement in the curriculum.

Hrushikesh Senapaty
Director
National Council of Education Research and Training

PREFACE

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

In order to fulfil the growing aspirations of our youth and the demand of skilled human resource, the Ministry of Human Resource Development (MHRD), Government of India introduced the revised Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education that aims to provide for the diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provide an alternative for those pursuing higher education. For spearheading the scheme, the PSS Central Institute of Vocational Education (PSSCIVE) was entrusted the responsibility to develop competency based curricula, 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 need 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 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, policy makers, partner institutions, Vocational Education and Training experts, industry representatives, and teachers. The expert group through a series of consultations, working group meetings and use of reference materials develops a National Curriculum. Currently, the Institute is working on developing curricula and courseware for over 100 job roles in various sectors.

We extend our gratitude to all the contributors for selflessly sharing their precious knowledge, acclaimed expertise, and 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 modular curricula and courseware to the States and other stakeholders under the PAB (Project Approval Board) approved project of *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) of MHRD.

Finally, for transforming the proposed curriculum design into a vibrant reality, 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 amendments made in the curriculum document.

The PSSCIVE, Bhopal remains committed in bringing about reforms in the vocational education 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

ACKNOWLEDGEMENT

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

We are grateful to Director, NCERT for his support and guidance. We also acknowledge the contributions of our colleagues at the Technical Support Group of RMSA, MHRD, RMSA Cell at the National Council of Educational Research and Training (NCERT), National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC), and Agriculture Skill Council of India (ASCI) for their academic support and cooperation.

We are grateful to the contributions of course coordinator Rajiv Kumar Pathak, *Professor*, Department of Agriculture and Animal Husbandry, PSSCIVE, Bhopal for their untiring efforts and the development of this learning outcome based curriculum.

The contributions made by Vinay Swarup Mehrotra, *Professor* and Head, Curriculum Development and Evaluation Centre (CDEC), Vipin kumar Jain, *Associate Professor* and Head, Programme Planning and Monitoring Cell (PPMC) and Dipak Shudhalwar, *Associate Professor*, Department of engineering and Technology, PSSCIVE in development of curriculum for employability skill are duly acknowledge.

The assistance provided by Narendra Vasure Consultant (Horticulture), Department of Agriculture and Animal Husbandry, PSSCIVE, in typing and composing of the material is duly acknowledged.

PSSCIVE Team

CONTENTS

S.No.	Title	Page No.
	Foreword	(i)
	Preface	(ii)
	Acknowledgement	(iv)
1.	Course Overview	1
2.	Scheme of Units and Assessment	2
3.	Teaching/Training Activities	3
4.	Certification	4
5.	Unit Content	
	CLASS 9	
	Part A Employability Skills	
	Unit 1: Communication Skills-I	7
	Unit 2: Self-management Skills-I	8
	Unit 3: Information and Communication Technology Skills-I	8
	Unit 4: Entrepreneurial Skills-I	9
	Unit 5: Green Skills-I	10
	Part B Vocational Skills	
	Unit 1: Introduction to Paddy Cultivation	11
	Unit 2: Lands Preparation and Planting	12
	Unit 3: Nursery Preparation and Transplantation	12
	Unit 4: Growth Stages of Paddy	13
	Unit 5: Intercultural Operations in Paddy	13
	Unit 6: Seed Preparation	13
	Unit 7: Water Management	14
	Unit 8: Integrated Nutrient Management	15
	CLASS 10	
	Part A Employability Skills	
	Unit 1: Communication Skills-II	16
	Unit 2: Self-management Skills-II	17
	Unit 3: Information and Communication Technology Skills-II	18
	Unit 4: Entrepreneurial Skills-II	18
	Unit 5: Green Skills-II	19
	Part B Vocational Skills	
	Unit 1: Weed Management in Paddy Crop	20

		Unit 2: Integrated Pests and Diseases Management in Paddy Crop	20
		Unit 3: Straw Management in Rice	21
		Unit 4: Harvesting And Storage	21
		Unit 5: Health And Safety At Work Place	22
		Unit 6: Handling Emergency Situations During Crop Production	23
		Unit 7: Paddy Marketing	23
6.	Organisation of Field Visits		25
7.	List of Equipment and Materials		25
8.	Vocational Teacher's/ Trainers Qualification and Guidelines		26
9.	List of Contributors		27
10.	List of Reviewers		

1. COURSE OVERVIEW

COURSE TITLE: Agriculture – Paddy Farmer

Paddy Farmer is responsible to cultivate paddy on a given piece of land and is responsible right from procurement of seed material to the sale of farm produce in the market.

The job of a paddy farmer involves cultivation of paddy as per the package of practices recommended for a particular agronomic climate zone, type of soil, rainfall pattern and climatic conditions to achieve the yields as per the genetic potential of a given variety and sell the produce as per the competitive market prices without distress sale. The job requires the individual to have: Ability to work independently, bearing risks and must have ability to work hard and take decisions pertaining to his area of work. The individual should be result oriented and should be responsible for his / her own learning and working. Individual should be able to comprehend basic arithmetic and algebraic principle. Should be able to access and analyze various opportunities & threats pertaining to climatic and market conditions.

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 of entrepreneurial skills and abilities;
- Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection
- Understand basics of paddy cultivation
- Understand soil preparation & seedling raising
- Demonstrate transplanting of paddy
- Understand water and soil nutrient management in paddy
- Demonstrate weed control and management in paddy
- Demonstrate pest and disease management in paddy
- Understand straw management
- Understand Health and safety issues at work place
- Understand and handle emergency situations at work place
- Understand Harvest and post-harvest management in paddy

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

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 Agriculture.

COURSE DURATION: 400 hrs

Class 9 : 200 hrs

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

CLASS 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	
	Total	75	10
Part B	Vocational Skills		
	Unit 1: Introduction to Paddy Cultivation	10	30
	Unit 2: Lands Preparation and Planting	15	
	Unit 3: Nursery Preparation and Transplantation	15	
	Unit 4: Growth Stages of Paddy	05	
	Unit 5: Intercultural Operations in Paddy	08	
	Unit 6: Seed Preparation	12	
	Unit 7: Water Management	10	
	Unit 8: Integrated Nutrient Management	20	
	Total	95	30
Part C	Practical Work		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
	Total	10	35
Part D	Project Work/Field Visit		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	15	15
Part E	Continuous and Comprehensive Evaluation (CCE)		
	Total	05	10
	Grand Total	200	100

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

CLASS 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	10
	Unit 2: Self-management Skills – II	10	
	Unit 3: Information and Communication Technology Skills – II	20	
	Unit 4: Entrepreneurial Skills – II	15	
	Unit 5: Green Skills – II	10	
	Total	75	10
Part B	Vocational Skills		
	Unit1: Weed Management in Paddy Crop	15	30
	Unit 2: Integrated Pests and Diseases Management in Paddy Crop	20	
	Unit 3: Straw Management in Rice	10	
	Unit 4: Harvesting And Storage	10	
	Unit 5: Health And Safety At Work Place	10	
	Unit6: Handling Emergency Situations During Crop Production	15	
	Unit 7: Paddy Marketing	15	
		95	30
Part C	Practical Work		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
	Total	10	35
Part D	Project Work/Field Visit		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	15	15
Part E	Continuous and Comprehensive Evaluation (CCE)		
	Total	05	10
	Grand 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 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:

Classes 9 and 10

Duration: 3 hrs

Max. Marks: 30

S. No.	Typology of Question	No. of Questions			Marks
		Very Short Answer (1 mark)	Short Answer (2 Marks)	Long Answer (3 Marks)	
1.	Remembering – (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; identify, define or recite, information)	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, provide 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 predict outcomes based on values)	0	1	0	02
	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.

CONTINUOUS AND COMPREHENSIVE EVALUATION

Continuous and Comprehensive Evaluation (CCE) refers to a system of school-based evaluation of students that covers all aspects of student's development. In this scheme, the term 'continuous' is meant to emphasize that evaluation of identified aspects of students 'growth and development' is a continuous process rather than an event, built into the total teaching-learning process and spread over the entire span of academic session. The second term 'comprehensive' means that the scheme attempts to cover both the scholastic and the co-scholastic aspects of students' growth and development. For details, the CCE manual of Central Board of Secondary Education (CBSE) or the guidelines issued by the State Boards on the procedure for CCE should be followed by the Institutions.

5. UNIT CONTENTS

CLASS 9

Part A: Employability Skills

Sino.	Units	Duration (Hrs)
1.	Communication Skills - I	20
2.	Self-management Skills - I	10
3.	Information and Communication Technology Skills-I	20
4.	Entrepreneurial Skills - I	15
5.	Green Skills - I	10
	Total	75

Unit 1: Communication Skills - I			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Demonstrate knowledge of various methods of communication	1. Methods of communication - 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 elements of communication cycle	1. Meaning of communication 2. Importance of communication skills 3. Elements of communication cycle– (I) sender, (ii) ideas, (iii) encoding, (iv) communication channel, (v) receiver, (vi) decoding, and (vii) feedback	1. Draw a diagram of communication cycle 2. Role plays on communication process related to the sector/job role	05
3. Identify the factors affecting our perspectives in communication	1. Perspectives in communication 2. Factors affecting perspectives in communication - Visual perception - Language - Past experience - Prejudices - Feelings - Environment	1. Group discussion on factors affecting perspectives in communication 2. Sharing of experiences on factors affecting perspectives 3. Sharing experiences on factors affecting communication at workplace	05
4. Demonstrate the knowledge of	1. Writing skills related to the following:	1. Demonstration and practice of	

basic writing skills	<ul style="list-style-type: none"> • Phrases • Kinds of sentences • Parts of sentence • Parts of speech • Use of articles • Construction of a paragraph 	writing sentences and paragraphs on topics related to the subject	05
Total			20

Unit 2: Self-management Skills - I			
Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Describe the meaning and importance of self-management	1. Meaning of self-management 2. Positive results of self-management 3. Self-management skills	1. Identification of self-management skills 2. Strength and weakness analysis	05
2. Identify the factors that helps in building self-confidence	1. Factors that help in building self-confidence – social, cultural, and physical factors 2. Self-confidence building tips – getting rid of the negative thoughts, thinking positively, staying happy with small things, staying clean, hygienic and smart, chatting with positive people, etc.	1. Role play exercises on building self-confidence 2. Use of positive metaphors/ words 3. Positive stroking on wakeup and before going bed 4. Helping others and working for community	05
Total			10

Unit 3: Information and Communication Technology Skills - I			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Describe the role of Information and Communication Technology (ICT) in day-to-day life and workplace	1. Introduction to ICT 2. Role and importance of ICT in personal life and at workplace 3. ICT in our daily life (examples) 4. ICT tools - Mobile, tab, radio, TV, email, etc.	1. Discussion on the role and importance of ICT in personal life and at workplace. 2. Preparing posters / collages for showing the role of ICT at workplace	04
2. Identify components of basic computer system and their functions	1. Computer system - Central Processing Unit (CPU), memory, motherboard, storage devices 2. Hardware and software of a computer system 3. Role and functions of Random Access Memory (RAM) and Read	1. Connecting the cables and peripherals to the Central Processing Unit 2. Starting and shutting down a computer 3. Group	07

	<p>Only Memory(ROM)</p> <p>4. Role and functions of Central Processing Unit</p> <p>5. Procedure for starting and shutting down a computer</p>	discussion on the various aspects of hardware and software	
3. Demonstrate use of various components and peripherals of computer system	1. Peripherals devices and their uses – mouse, keyboard, scanner, webcam, etc. of a computer system	<p>1. Identification of various parts and peripherals of a computer</p> <p>2. Demonstration and practice on the use of mouse</p> <p>3. Demonstration and practice on the use of keyboard</p> <p>4. Demonstration of the uses of printers, webcams, scanner and other peripheral devices</p> <p>5. Drawing diagram of computer system and labelling it</p>	05
4. Demonstrate basic computer skills	1. Primary operations on a computer system – input, process, storage, output, communication networking, etc.	1. Identification of the various input and output units and explanation of their purposes	04
Total			20

Unit 4: Entrepreneurial Skills - I			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Identify various types of business activities	<p>1. Types of businesses – service, manufacturing, hybrid</p> <p>2. Types of businesses found in our community</p> <p>3. Business activities around us</p>	<p>1. Prepare posters of business activities found in cities/villages, using pictures</p> <p>2. Discuss the various types of activities, generally adopted by small businesses in a local community</p> <p>3. Best out of waste</p> <p>4. Costing of the product made out of waste</p> <p>5. Selling of items made from waste materials</p> <p>6. Prepare list of businesses that</p>	09

Unit 4: Entrepreneurial Skills - I			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
		provides goods and services in exchange for money	
2. Demonstrate the knowledge of distinguishing characteristics of entrepreneurship	1. Meaning of entrepreneurship development 2. Distinguishing characteristics of entrepreneurship 3. Role and rewards of entrepreneurship	1. Prepare charts showing advantages of entrepreneurship over wages 2. Group discussions on role and features of entrepreneurship 3. Lectures/presentations by entrepreneurs on their experiences and success stories 4. Identify core skills of successful entrepreneur	06
Total			15

Unit 5: Green Skills - I			
Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Demonstrated the knowledge of the factors influencing natural resource conservation	1. Introduction to environment, 2. Relationship between society and environment, ecosystem and factors causing imbalance 3. Natural resource conservation 4. Environment protection and conservation	1. Group discussion on hazards of deteriorating environment 2. Prepare posters showing environment conservation 3. Discussion on various factors that influence our environment	05

2. Describe the importance of green economy and green skills	1. Definition of green economy 2. Importance of green economy	1. Discussion on the benefits of green skills and importance of green economy 2. Prepare a Poster showing the importance of green economy with the help of newspaper/magazine cuttings	05
Total			10

Part B: Vocational Skills

S. No.	Units	Duration (Hrs)
1.	Unit 1: Introduction to Paddy Cultivation	10
2.	Unit 2: Lands Preparation and Planting	15
3.	Unit 3: Nursery Preparation and Transplantation	15
4.	Unit 4: Growth Stages of Rice	05
5.	Unit 5: Intercultural Operations in Paddy	08
6.	Unit 6: Seed Preparation	12
7.	Unit 7: Water Management	10
8.	Unit 8: Integrated Nutrient Management	20
	Total	95

Unit 1: Introduction to Paddy Cultivation			
Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Demonstrate the knowledge of importance of paddy cultivation and growing regions	1. Importance of paddy cultivation 2. Describe the importance of rice to Indian Economy 3. Describe different rice cultivation conditions 4. Describe races/sub-species of rice	Activity 1: Prepare a pie chart on information depicting highest rice producing states and indicate these states in the maps of India.	05
2. Demonstrate the knowledge of climate requirements and rice growing regions	1. Describe climatic requirement for paddy cultivation 2. Describe rice growing seasons of India 3. Describe rice Growing Regions of India 4. Important Growing Ecology of Rice	Activity 1: Enlist the states in which rice grown under irrigated ecosystem and indicate these states in the maps of India.	05
Total			10

Unit 2: Lands Preparation and Planting			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Identify the Implement used for lands preparation and planting	1. Describe process of land preparation 2. Describe the different types of implement and machines used in land preparation and planting.	1. Identification of various implement used in sowing and transplanting 2. Demonstration of use of implement in intercultural operation	08
	3. Implement for seed sowing and transplanting 4. Implements used in intercultural operations.		
2. Demonstrate methods of sowing and planting	1. Methods of sowing of seeds for paddy cultivation 2. Methods of transplanting 3. Describe the method of transplanting	1. Demonstrate System of Rice Intensification (SRI).	07
Total			15

Unit 3: Nursery Preparation and Transportation			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Explain types of nursery and seed sowing	1. Criteria for site selection 2. Types of nursery and their merit and demerits 3. Care and maintenance of nursery	1. Prepare dry bed nursery of paddy	05
2. Identify and manage weed, insect-pest and diseases in nursery	1. Describe common weeds of nursery and their control 2. Management of insect pest and diseases of nursery	1. Identification of Insect pest and diseases in rice nursery.	05
3. Demonstrate packaging and transportation of seedlings	1. Age of seedlings for transplanting 2. Pulling seedlings 3. Transportation of paddy seedlings 4. Packing 5. Transplanting methods 6. Precautions during transplanting	1. Demonstration of packaging of seedling for transpiration	05
Total			15

Unit 4: Growth Stages of Paddy			
Learning Outcome	Theory	Practical	Duration (05 Hrs)
1. Explain growth stages of paddy	1. Describe plant's parts- i. Root system- ii. Shoot system- Culm or stem, Leaves, Spikelet, Grain, and Panicle. 2. Growth stages of rice- Vegetative Phase- a. Seedling Stage, b. Transplanting Stage c. Tillering Stage Reproductive Phase- a. Booting Stage b. Heading Stage c. Flowering Stage Ripening Phase- a. Milk Stage b. Dough Stage c. Maturity stage d. Over-ripe Stage Photoperiod Sensitivity	1. Field visit for identification of different growth stages of rice	05
Total			05

Unit 5: Intercultural Operations In Paddy			
Learning Outcome	Theory	Practical	Duration (08 Hrs)
1. Intercultural operations during sowing and planting	1. Define intercultural operations 2. Intercultural operation in direct seeded rice i. Cultural practices- -Stale seedbed technique ii. Physical practices. 3. Intercultural operation in <i>Biasi</i> rice -Gap filling in transplanted fields	1. Perform manual weeding in rice crop	04
2. Intercultural operation during weeding	1. Manual weeding 2. Mechanical weeding 3. Nursery and seedling management	1. Demonstration of weeding by cono-weeder	04
Total			08

Unit 6: Seed Preparation			
Learning Outcome	Theory	Practical	Duration (12 Hrs)
1. Explain method of seed production	1. Introduction of seed bed 2. Describe importance of seed production 3. Seed Production System in India	1. Demonstration of rouging 2. Enlist standards of foundation and certified seeds	04

	<ol style="list-style-type: none"> 4. Importance of isolation distance 5. Roguing 6. Seed standards 		
2. Identify improved and indigenous rice varieties of India	<ol style="list-style-type: none"> 1. Improved and indigenous rice varieties in India <ol style="list-style-type: none"> A) High Yielding Varieties <ol style="list-style-type: none"> i. Upland ecosystem of rice ii. Irrigated ecosystem in rice B) Hybrid Rice Varieties <ol style="list-style-type: none"> i. Aromatic rice ii. Aerobic rice varieties Rice varieties for aerobic or direct sown (DSR) 	1. Enlist the common high yielding varieties for different ecosystem.	04
3. Explain Traits of rice varieties	<ol style="list-style-type: none"> 1. Important Traits of rice varieties 2. Define Biotic and abiotic stress 3. Varieties tolerant to Biotic and abiotic stress 4. Varieties of Rice for Malnutrition problems 	1. Identify the biotic stress in rice field	04
Total			12

Unit 7: Water Management			
Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Explain Water requirement of paddy	<ol style="list-style-type: none"> 1. Describe water requirement of paddy 2. Average water requirement 3. Critical crop growth stages for irrigation 4. Irrigation Schedule 	1. Identify and enlist the critical stages of water requirement.	03
2. Demonstrate methods of irrigation	<ol style="list-style-type: none"> 1. Describe irrigation 2. Irrigation methods <ol style="list-style-type: none"> a. Continuous submergence b. Continuous Flowing Irrigation c. Intermittent submergence d. Rotational Irrigation 3. Precautions taken during irrigation 	1. Demonstrate Rotational irrigation method	03

3. Alternate Wetting & Drying and Water Use Efficiency	<ol style="list-style-type: none"> 1. Alternate Wetting and Drying (AWD) 2. How to apply alternate wetting and drying method of irrigation 3. Describe water use efficiency (WUE) 4. Advantage of AWD device 5. Measures to be taken for maximizing water use efficiency 	1. Demonstrate the alternate drying and wetting irrigation method in rice field.	04
Total			10

Unit 8: Integrated Nutrient Management			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Explain Soil and Sampling Analysis	<ol style="list-style-type: none"> 1. Describe the soil sampling 2. Describe the components of soil analysis report 3. Recommendation of fertilizers: 4. Define integrated nutrient management 	1. Collection of soil sample from field	05
2. Nutrients requirement and its sources:	<ol style="list-style-type: none"> 1. Essential nutrients required by plants 2. Different sources of manure and fertilizers <ol style="list-style-type: none"> a. Organic sources of nutrients b. Inorganic fertilizer sources 3. Sources of Micro Nutrient Fertilizers 	<ol style="list-style-type: none"> 1. To identify organic and inorganic sources of fertilizers. 2. Prepare a chart showing the essential nutrient of organic and chemical fertilizers on an excel sheet of the computer 3. Identify micro nutrient fertilizers. 	05
3. Methods and time of fertilizer applications	<p>Methods Fertilizer Applications</p> <p>Important considerations in fertilizer use</p> <p>Application of fertilizers</p>	1. Calculate fertilizer quantity for rice crop	05
4. Identify nutrient deficiency symptoms in rice	<ol style="list-style-type: none"> 1. Describe nutrient deficiency 2. Types of deficiency symptoms and its corrective measures 	1. Identification of nutrient deficiency symptoms in rice	05
Total			20

CLASS 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	Practical	Duration (20 Hrs)
1. Demonstrate knowledge of various methods of communication	1. Methods of communication - 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
3. Provide descriptive and specific feedback	1. Communication cycle and importance of feedback 2. Meaning and importance of feedback 3. Descriptive feedback - written comments or conversations 4. Specific and non-specific feedback	1. Constructing sentences for providing descriptive and specific feedback	03
3. Apply measures to overcome barriers in communication	1. Barriers to effective communication – types and factors 2. Measures to overcome barriers in effective communication	1. Enlisting barriers to effective communication 2. Applying measures to overcome barriers in communication	04
4. Apply principles of communication	1. Principles of effective communication 2. 7 Cs of effective communication	1. Constructing sentences that convey all facts required by the receiver 2. Expressing in a manner that shows respect to the receiver	03

		of the message 3. Exercises and games on applying 7Cs of effective communication	
5. 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	05
Total			20

Unit 2: Self-management Skills - II			
Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Apply stress management techniques	1. Meaning and importance of stress management 2. Stress management techniques – physical exercise, yoga, meditation 3. Enjoying, going to vacations and holidays with family and friends 4. Taking nature walks	1. Exercises on stress management techniques – yoga, meditation, physical exercises 2. Preparing a write-up on an essay on experiences during a holiday trip	06
3. Demonstrate the ability to work independently	1. Importance of the ability to work independently 2. Describe the types of self-awareness 3. Describe the meaning of self-motivation and self-regulation	1. Demonstration on working independently 2. goals 3. Planning of an activity 4. Executing tasks in a specific period, with no help or directives 5. Demonstration on the qualities required for working independently	04
Total			10

Unit 3: Information and Communication Technology Skills- II			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Distinguish between different operating systems	1. Classes of operating systems 2. Menu, icons and task bar on the desktop 3. File concept, file operations, file organization, directory structures, and file-system structures 4. Creating and managing files and folders	1. Identification of task bar, icons, menu, etc. 2. Demonstration and practicing of creating, renaming and deleting files and folders, saving files in folders and sub-folders, restoring files and folders from recycle bin	17
2. Apply basic skills for care and maintenance of computer	1. Importance and need of care and maintenance of computer - Cleaning computer components - Preparing maintenance schedule - Protecting computer against viruses - Scanning and cleaning viruses and removing SPAM files, temporary files and folders	1. Demonstration of the procedures to be followed for cleaning, care and maintenance of hardware and software	03
Total			20

Unit 4: Entrepreneurial Skills - II			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. List the characteristics of successful entrepreneur	1. Entrepreneurship and society 2. Qualities and functions of an entrepreneur 3. Role and importance of an entrepreneur 4. Myth about entrepreneurship 5. Entrepreneurship as a career option	1. Writing a note on entrepreneurship as career option 2. Collecting success stories of first generation and local entrepreneurs 3. Listing the entrepreneurial qualities – analysis of strength and weaknesses 4. Group discussion of self-qualities that students feel are needed to become	15

		successful entrepreneur 5. Collect information and related data for a business 6. Make a plan in team for setting up a business	
Total			15

Unit 5: Green Skills - II			
Learning Outcome	Theory	Practical	Duration (10 hrs)
1. Demonstrate the knowledge of importance, problems and solutions related to sustainable development	1. Definition of sustainable development 2. Importance of sustainable development 3. Problems related to sustainable development	1. Identify the problem related to sustainable development in the community 2. Group discussion on the importance of respecting and conserving indigenous knowledge and cultural heritage 3. Discussion on the responsibilities and benefits of environmental citizenship, including the conservation and protection of environmental values 4. Preparing models on rain water harvesting, drip / sprinkler irrigation, vermin-compost, solar energy, solar cooker, etc.	10
Total			10

Part B–Vocational Skills

Sino.	Units	Duration (Hrs)
1.	Unit 1: Weed Management in Paddy Crop	15
2.	Unit 2: Integrated Pests and Diseases Management in Paddy Crop	20
3.	Unit 3: Straw Management in Rice	10
4.	Unit 4: Harvesting And Storage	10
5.	Unit 5: Health And Safety At Work Place	10
6.	Unit 6: Handling Emergency Situations During Crop Production	15
7.	Unit 7: Paddy Marketing	15
Total		95

Unit 1: Weed Management In Paddy Crop			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Identify Common weeds of paddy	<ol style="list-style-type: none"> 1. Define weeds 2. Characteristics of weeds 3. Common weeds of paddy and its effect 4. Crop-Weed Competition 5. Classification of weeds-based on life cycle, nature of cotyledons 	1. Identification of Common weeds of paddy	7
2. Describe weed management	<ol style="list-style-type: none"> 1. Methods of weed control 2. Management practices for weed control- Mechanical methods <ol style="list-style-type: none"> i. Cultural methods ii. Biological methods iii. Chemical methods 3. Application of herbicides 	<ol style="list-style-type: none"> 1. Demonstration cultural method of weed control 2. Demonstration of application of herbicides 	8
Total			15

Unit 2: Integrated Pests and Diseases Management in Paddy Crop			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Identify major Insect-pest of paddy and their management	<ol style="list-style-type: none"> 1. Describe major insect pests of Rice 2. Insect pest's symptoms of damage 3. Integrated management practices for insect pest 4. Host resistance or use of resistant varieties 5. Management practices of rodent and birds. 	<ol style="list-style-type: none"> 1. Identification of common insect pest of paddy 2. Demonstration of management practices to control insect pests 3. Prepare chart/poster to show different insect parts 4. Demonstration of control rodents and birds. 	10

2. Identify diseases of paddy and their management	<ol style="list-style-type: none"> 1. Important Diseases of Rice 2. Symptoms of different paddy diseases 3. Methods of disease management 4. Formulation of fungicides 5. Use of resistant varieties 	<ol style="list-style-type: none"> 1. Identification of common rice diseases 2. Prepare the chart/poster to show the symptoms of different diseases 3. Prepare the fungicide solution 4. Demonstration of spraying chemical. 	10
Total			20

Unit 3: Straw Management

Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Explain chemical composition of rice straw	<ol style="list-style-type: none"> 1. Describe straw 2. Chemical composition of Paddy straw 3. C/N Ratio of Rice straw 	<ol style="list-style-type: none"> 1. Enlist the ingredient of rice straw 	5
2. Manage Paddy straw	<ol style="list-style-type: none"> 1. Describe the use of Paddy straw 2. Paddy straw 	<ol style="list-style-type: none"> 5. Enlist the uses of rice straw 	5
Total			10

Unit 4: Harvesting And Storage

Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Explain harvesting,	<ol style="list-style-type: none"> 1. Harvesting 2. Proper Stage and time of harvesting Rice 3. Harvesting process 4. Method of harvesting 5. Combine harvesting 6. Guidelines for good combine harvesting methods 7. Choosing of an appropriate harvesting method 	<ol style="list-style-type: none"> 1. Enlist the various methods of harvesting. 2. Demonstration of manual harvesting. 	4

2. Explain threshing and winnowing	<ol style="list-style-type: none"> 1. Method of threshing 2. Guidelines for proper threshing 3. Grain Losses during and threshing 4. Describe winnowing practices 5. Cleaning of seed 	<ol style="list-style-type: none"> 1. Enlist the method of threshing 2. Demonstration of threshing practices 3. Demonstration of winnowing practices 	4
3. Demonstrate storage of paddy	<ol style="list-style-type: none"> 1. Storage system 2. Measuring the moisture content 3. Guidelines for safe storage 	<ol style="list-style-type: none"> 1. Enlist the various system of storage 	2
Total			10

Unit 5: Health And Safety At Work Place			
Learning Outcome	Theory	Practical	Duration (10 Hrs)
1. Demonstrate safe use of agrochemicals	<ol style="list-style-type: none"> 1. Describe harmful effects of agrochemicals 2. Methods of safe use of chemicals 3. Disposal of empty pesticides containers 	<ol style="list-style-type: none"> 1. Demonstration of safe use of agrochemicals 	3
2. Demonstrate first aid treatment and use of safety devices	<ol style="list-style-type: none"> 1. Chemical poisoning and first aid measures 2. Use of safety and protective devices 3. Health and safety awareness at work place 	<ol style="list-style-type: none"> 1. Identification of the components of first aid kit 2. Identification of safety and protective devices 3. Demonstrate Use of safety and protective devices 	4
3. Safe use of agricultural machinery	<ol style="list-style-type: none"> 1. Checking the tools and machinery before use 2. Daily/periodic mandatory inspections of machinery 3. Safety precautions taken during harvesting and threshing 4. Health and safety during Combine harvesting 	<ol style="list-style-type: none"> 1. Demonstration of general inspections for use of machinery 2. Demonstration of precautions taken during harvesting 3. Demonstration of precautions taken during threshing 	3
Total			10

Unit 6: Handling Emergency Situations During Crop Production			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Manage aberrant monsoon situations	1. Describe aberrant monsoon situations 2. Types of Aberrant Monsoon 3. Efficient Utilization of water and rainwater under aberrant weather	1. Enlist aberrant monsoon situations	7
2. Crop management strategies under weather emergency	1. Paddy nursery under delayed monsoon situations 2. Crop management under delayed monsoon 3. Crop management under late release of canal water 4. Crop management under heavy rain and water logging 5. Crop management under situation of floods 6. Prolonged moisture stress situation in Tank	1. Enlist different weather emergency situations	8
Total			15

Unit 7: Paddy Marketing			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Classification of markets and marketing channels	<ol style="list-style-type: none"> 1. Describe market and its components 2. Classification of Market- basis of time span, seller's position, location or operation. 3. Difference between primary and secondary market, daily, weekly and seasonal markets 4. Marketing channels 	<ol style="list-style-type: none"> 1. Enlist types of markets 2. Identification of marketing channels 	5
2. Marketing cost	<ol style="list-style-type: none"> 1. Marketing costs 2. Factors affecting marketing costs 3. Ways of reducing marketing costs of farm products 4. Describe Losses during marketing 	<ol style="list-style-type: none"> 1. Factors affecting marketing costs 2. enlist factors governing marketing costs 	5
3. Marketable and marketed surplus	<ol style="list-style-type: none"> 1. Describe marketable Surplus 2. Factors affecting marketable surplus 3. Methods to improve marketable surplus 4. Determinants of Marketed Surplus 5. Relationship between marketed surplus and marketable surplus 	<ol style="list-style-type: none"> 1. Enlist factors affecting marketable surplus of paddy 	3
4. Krishi upaj mandi for price fixing	<ol style="list-style-type: none"> 1. Role of APMC or the krishi upaj mandi (KUM). 	<ol style="list-style-type: none"> 1. Enlist of various commodity and marketing channels 	2
Total			15

6. ORGANIZATION 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 Paddy Farm and observe 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 Paddy Farm:

1. Area under Cultivation and its layout
2. Types of Paddy crop raised
3. Name of varieties grown
4. Number of crops raised annually
5. Sale procedure
6. Manpower engaged
7. Total expenditure of growing Paddy
8. Total annual income
9. Profit/Loss (Annual)
10. Any other information

7. LIST OF EQUIPMENT AND MATERIALS

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

- | | |
|-------------------------------|-------------------------------------|
| 1. Auger | 21. Trowels |
| 2. Biofertilizers | 22. Soil testing kit |
| 3. Disc Harrow | 23. Measuring cylinder, pesticides. |
| 4. Farmyard Manure | 24. Pheromone traps |
| 5. Fertilizers | 25. Paddy rottrivator |
| 6. Digging Spade | 26. Paddy drum seeder |
| 7. Hoe | 27. Paddy transplanter |
| 8. Knapsack Sprayer | 28. Power tiller |
| 9. Levellers | 29. Power sprayer |
| 10. Long Handle Hoes | 30. Cono weeder |
| 11. Paddy Thresher | 31. Improved paddy biasi plough |
| 12. Plastics Baskets | 32. Paddy cultivator & puddler |
| 13. Plough | 33. Paddy combiner (small) |
| 14. Pump sets | 34. Paddy reaper |
| 15. Rigid Tillers | 35. Weighing machine |
| 16. Rotary Tiller | 36. Moisture meter |
| 17. Seed Treating Equipment | |
| 18. Seed-cum-Fertilizer Drill | |
| 19. Straw Reaper | |
| 20. Tractor | |

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

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

S. No.	Qualification	Minimum Competencies	Age Limit
1.	Post-graduation in Agriculture/Agronomy from a recognized Institute/University, with at least 1 year work experience	<ul style="list-style-type: none"> • Effective communication skills (oral and written) • Basic computing skills. 	18-37 years (as on Jan. 01 (year)) Age relaxation to be provided as per Govt. rules

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

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

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

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

OR

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

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

The educational qualifications required for being a Vocational Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers / trainers deployed in the schools

have relevant technical competencies for the NSQF qualification being delivered. The Vocational Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which he 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 upgradation of competency;
- (vii) Cater to different learning styles and level of ability of students;
- (viii) Assess the learning needs and abilities, when working with students with different abilities
- (ix) Identify any additional support the student may need and help to make special arrangements for that support;
- (x) Provide placement assistance

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

1. Participation in guidance and counselling activities conducted at Institutional, District and State level;
2. Adoption of innovative teaching and training methods;
3. Improvement in result of vocational students of Class X or Class XII;
4. Continuous upgradation 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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