

Model Curriculum for Recognition of Prior Learning (RPL)

Tropical/Sub-tropical Fruit Grower

SECTOR: AGRICULTURE & ALLIED
SUB-SECTOR: AGRICULTURE CROP PRODUCTION
OCCUPATION: FRUIT CROP CULTIVATION
REF ID: AGR/Q0309
VERSION: 2.0
NSQF LEVEL: 4

Tropical/Sub-tropical Fruit Grower

CURRICULUM / SYLLABUS

This program is aimed at training to Recognition of Prior Learning (RPL) candidates for the job of a “**Tropical/Sub-tropical Fruit Grower**”, in the “**Agriculture & Allied**” Sector/Industry and aims at building the following key competencies amongst the learners.

Program Name	Tropical/Sub-tropical Fruit Grower		
Qualification Pack Name & Reference ID.	AGR/ Q0309		
Version No.	2.0	Version Update Date	
Pre-requisites to Training	<p>Minimum Educational Qualification: 12th grade pass OR Completed 2nd year of 3-year diploma (after 10th) and pursuing regular diploma OR 10th grade pass plus 2-year NTC OR 10th grade pass plus 1-year NTC plus 1 year NAC OR 8th pass plus 2-year NTC plus 1-Year NAC plus CITS OR 10th grade pass and pursuing continuous schooling OR 10th Grade Pass with 2-year relevant experience OR Previous relevant Qualification of NSQF Level 3.0 with minimum education as 8th Grade pass with 3- year relevant experience OR Previous relevant Qualification of NSQF Level 3.5 with 1.5- year relevant experience Minimum Age: 18 Years</p>		

Training Outcomes: Orientation and Soft Skill	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Identify personal strengths and value systems: safe work habits, achievement motivation, time management, anger management, stress management. • Prepare for employment and self-employment: preparing for an interview, effective resume writing, basic workplace terminology. • Illustrate the basics of entrepreneurship and identify new business opportunities • Develop personality and learn general ethics and discipline • Learn about health and safety hazards and hygiene at work place • Learn effective communication skills • Learn about importance of RPL certification and process of assessment
Training Outcomes: Bridge Course	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Classify Tropical/sub-tropical fruits grown in India • Plant a tropical/subtropical fruit plantation/ orchard • Discuss how to nurture a tropical/subtropical fruit orchard • Harvest tropical/subtropical fruits • Discuss the basic entrepreneurial activities for a small enterprise • Explain the health, hygiene and safety measures at the workplace • Apply the techniques for pomegranate cultivation • Apply the techniques for guava cultivation • Apply the techniques for ber cultivation • Apply the techniques for mango cultivation • Apply the techniques for banana cultivation • Apply the techniques for citrus cultivation

Orientation and Soft Skill Details

Sr. No.	Module	Key Learning Outcomes	Equipment Required
A.	Orientation , General Discipline, doubts/gaps in Domain Training and Health and Safety		
1.	Orientation, General Discipline, doubts/gaps in Domain Training and Health and Safety Theory Duration (hh:mm) 06:00 Practical Duration (hh:mm) 00:00	<ul style="list-style-type: none"> • Domain Training (clarifying any doubts/gaps regarding Job Role) • Understanding Qualification Packs, NOS • Understanding about NSQF framework and applied level descriptors • Understand skill development ecosystem, roles of various stakeholders • Recognize the importance of general discipline in the classroom (dos and don'ts) • List expectations from the program • Outline the objectives of the RPL and importance of skill and certification • Identify risks to health and safety at the workplace and measures to be taken to control them 	White Board, Marker, Laptop, projector,
B.	Soft Skills and Entrepreneurship Tips specific to the Job Role		
1.	Entrepreneurship Theory Duration (hh:mm) 02:00	<ul style="list-style-type: none"> • Discuss the concept and significance of entrepreneurship and the characteristics of an entrepreneur • List the traits of an effective team and team dynamics • Resolve problems by identifying important problem-solving traits • Discuss how to identify new business opportunities within your business • Follow the entrepreneurial process and explain the entrepreneurship ecosystem • Identify key schemes of the govt. and banks to promote entrepreneurship • Define the relationship between entrepreneurship and risk appetite and entrepreneurship and resilience • Importance of book keeping and accounts management. • Understand market dynamics and value chain of agri products. • Understanding formation of cooperatives, FPO, FPC and enterprise creation 	Laptop, white board, marker and projector, SWOT activity: pen and paper individual exercise, charts, coloured pens, Group Activity: poster making on entrepreneurship ecosystem. Activity: SMART Goal writing

2	Personal Strengths and Value Systems Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 00:00	<ul style="list-style-type: none"> • Self-Improvement, inculcate leadership qualities. • Importance of Discipline in managing small business. • Discuss how to maintain a positive attitude • List your strengths and weaknesses • Describe the importance of honesty in entrepreneurs • Discuss the benefits of time management and applied techniques • Apply tips for anger management and stress management • Effective interpersonal skills, listening and speaking skills. 	Workbook exercises on health standards, Laptop, activity on strengths and weaknesses, white board, marker, projector
3	Preparing for Employment and Self-Employment Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 00:00	<ul style="list-style-type: none"> • Follow the steps to prepare for an interview • Create an effective Resume • Conduct mock interviews • Identify the most frequently asked interview questions and how to answer them 	Laptop, white board, marker, projector, sample CVs, Mock interviews, role plays, role play briefs, FAQs, quiz on basic workplace technologies.
C.	Familiarization with Assessment Process and Terms		
1	Familiarization with Assessment Process and Terms (hh:mm) 02:00	<ul style="list-style-type: none"> • Familiarization about assessment process • Understanding the need of assessment • Preparation tips for assessment • Doubt clearance session 	
	Total Duration: Theory Duration (hh:mm) 12:00 Practical Duration (hh:mm) 00:00	Laptop, white board, marker and projector, SWOT activity: pen and paper individual exercise, charts, coloured pens, Group Activity: poster making on entrepreneurship ecosystem. Activity: SMART Goal writing	

Bridge Course Details

This course encompasses 8 out of 8 National Occupational Standards (NOS) of “Tropical/Sub-tropical Fruit Grower” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction to the horticulture sector and the job</p> <p>Theory Duration (hh:mm) 01:00</p> <p>Practical Duration (hh:mm) 00:00</p>	<ul style="list-style-type: none"> • Describe the agriculture industry and the horticulture sub-sector. • Discuss the career growth opportunities within the horticulture segment of the agriculture industry. • List the key responsibilities of a tropical / sub-tropical fruit grower. 	<p>White Board, Marker, Laptop, projector</p>
2	<p>Fruit cultivation fundamentals and Preparation of site for cultivation & planting material</p> <p>Theory Duration (hh:mm) 03:00</p> <p>Practical Duration (hh:mm) 03:00</p> <p>Corresponding NOS Code AGR/N0347</p>	<ul style="list-style-type: none"> • List various tropical /sub-tropical fruits grown in India and their common varieties. • Explain the criteria for selection of tropical /sub-tropical fruits and their varieties for cultivation. • Describe basics of plant anatomy, morphology, physiology - photosynthesis, respiration, water relations, transpiration. • Describe the site conditions suitable for tropical /sub-tropical fruit growing. • State the agro-climatic conditions suited for growing various tropical /sub-tropical fruit. • Evaluate the risks associated with tropical /sub-tropical fruit growing and the accompanying precautions. • Demonstrate measures that can be taken to make the site suitable for tropical /sub-tropical fruit growing. • Describe different types of planting material, viz. seeds, seedling, rootstock, etc. required for growing tropical /sub-tropical fruit. • Explain the advantages and disadvantages of transplanting and direct sowing methods. • criteria for selecting healthy planting material • Demonstrate grafting, budding and inarching of planting materials. 	<p>Sample walk-in tunnels, natural ventilation greenhouses, poly cum shade house, poly tunnel. Tropical /sub-tropical fruit seeds and seedlings, planting material pesticide and fungicide, grafting and budding knives, storage bags for seedlings.</p>

<p>3</p>	<p>Preparation for planting and Planting of fruit crop</p> <p>Theory Duration (hh:mm) 03:00</p> <p>Practical Duration (hh:mm) 04:00</p> <p>Corresponding NOS Code AGR/N0348</p>	<ul style="list-style-type: none"> • Describe various types of tropical/sub-tropical fruit orchards, their land characteristics and planning considerations. • Explain the basic layout for the orchard. • Describe the methods of soil preparation and soil improvement. • Describe the tools and techniques used for land preparation. • Design a layout of the orchard. • Demonstrate the preparation of pits according to the nature of the soil and the size of the fruit trees to be planted • Describe various planting techniques such as using a planting board, using stakes and transplanting. • Importance of planting depth and spacing to achieve the optimum planting density. • Demonstrate transplantation of seedlings at appropriate time, stage and with appropriate spacing. 	<p>Hoe, rake, sickle, scythe, spade, weeder, mulching materials, fertilizer, organic soil nutrients, rope, tapes, ranging poles/rods, sand, pegs, Personal protective equipment used during cultivation operations e.g. Boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, respirator or face mask, sun protection (sun hat, sunscreen)</p>
<p>4</p>	<p>Protection of crop, Soil management</p> <p>Theory Duration (hh:mm) 03:00</p> <p>Practical Duration (hh:mm) 05:00</p> <p>Corresponding NOS Code AGR/N0349</p>	<ul style="list-style-type: none"> • Describe the basic principles of integrated pest management. • Describe mechanical, chemical, biological and cultural methods for treatment of weeds, pests and diseases. • Describe the economic, aesthetic or environmental thresholds for a range of fruit pests, diseases and disorders. • Demonstrate safe spraying of pesticides/fungicides/ herbicides for effective control of pests/diseases/ weeds. • Demonstrate measures to protect the fruit plant/ trees, environment including soil and groundwater while applying treatments. • Describe the basic macro and micro-nutrients and their role in plant growth. • Describe the importance of soil testing. • Describe various methods of fertilizer application. • Demonstrate the method of soil sampling • Demonstrate the application of organic and inorganic fertilizer in correct dosage. 	<p>Weedicide; pesticide; fungicide; sprayers; axe; sickle; weeder; hand gloves; masks; pair of boots; apron.</p>

5	Pruning and training, Plant health and Optimum resource utilization Theory Duration (hh:mm) 04:00 Practical Duration (hh:mm) 06:00 Corresponding NOS Code AGR/N0349	<ul style="list-style-type: none"> • Describe principles of plant nutrition, growth and development. • List the tools, equipment and machinery used in pruning and training. • Describe the method of pruning, positioning of cuts, formative and routine pruning and regenerative pruning. • Demonstrate application of suitable plant growth regulators and chemicals. • Describe different methods of water conservation. • Explain the importance of need based irrigation using suitable irrigation systems like micro-irrigation and fertigation. • Explain the benefits of resource optimization. • Explain the environment friendly work practices • Demonstrate how to dispose the waste as per the procedure. 	Shears; long cutters; cutters; loppers; wheelbarrow; secateurs; pruning saws. Chemical fertilizers, bio-fertilizers, organic compost, rake, hoe, spade, gloves, mask.
6	Irrigation management Theory Duration (hh:mm) 02:00 Practical Duration (hh:mm) 02:00 Corresponding NOS Code AGR/N0309	<ul style="list-style-type: none"> • Explain different methods of irrigation. • Explain the frequency of irrigation required at various stages of plant growth. • Describe Water Use Efficiency (WUE) and how to improve it. • Demonstrate water drainage techniques to be adopted in the field. 	Micro irrigation system, irrigation equipment, hose, bucket.
7	Harvesting the fruit plant Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 03:00 Corresponding NOS Code AGR/N0344	<ul style="list-style-type: none"> • Describe the quality specifications for different types of tropical/sub-tropical fruits • Describe the harvesting tools and picking kit, their usage and care. • Describe relevant harvesting/maturity indices for the specified produce. • Describe personal safety and hygiene procedures required during harvesting. • Sorting and grading techniques used during harvesting. 	Sickle, knife, picking shears, storage bags, wooden or plastic bulk bins and boxes, weighing machine, sealing machine.
8	Basic entrepreneurial activities Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 01:00 Corresponding NOS Code AGR/N9908	<ul style="list-style-type: none"> • Describe how to do basic accounting practices such as calculating expenses incurred, total cost of production etc. • Explain how to determine the demand and supply of produce in the market. • Explain relevant regulations related to marketing and sale of the produce. • Describe strategies for choosing and exploiting marketing channels related to the produce such as retailers, vendors, whole-sellers (mandi), e-trading platforms, related companies, marketing 	

		associations, cold storage owners, exporters, etc.	
9	Hygiene and cleanliness, Safety and emergency procedures Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 01:00 Corresponding NOS Code AGR/N9903	<ul style="list-style-type: none"> • Explain the requirements of personal health, hygiene and fitness at work. • Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. • Describe the hazards caused due to chemicals/pesticides/fumigants. • Demonstrate emergency procedures to the given workplace requirements. 	Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask
10	Employability Skills Theory Duration (hh:mm) 02:00 Practical Duration (hh:mm) 00:00 Corresponding NOS Code DGT/VSQ/N0102	Entrepreneurship <ul style="list-style-type: none"> • Explain the types of entrepreneurship and enterprises • Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan • Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement • Create a sample business plan, for the selected business opportunity. 	
	Total Duration: Theory Duration (hh:mm) 23:00 Practical Duration (hh:mm) 25:00 Grand Total Bridge Course Duration: (hh:mm) 00:00	Unique Equipment Required: Zinc, Urea, Soil Auger, Seeds/Seed Plant of different Varieties*, Seedling/ Root stock/ Planting material*, Secateur/ Pruning knife, Gumboots, Ripening process hurdles / shelf life enhancing agents, Pruning Shear, Pesticide-Any, MOP, Mask, Knapsack sprayer, Khurpi, Video Recording Equipment, Herbicide-Any, Grafting Tape, Grafting and Budding Knife, Hand Gloves, FYM, Fungicides, Fawda, Irrigation equipment, Dormant Scions*, DAP, Compost, Banana Suckers*, Bags for storage	

Grand Total Course Duration: 12 (Orientation session) + 48 (Bridge Course) = 60 Hours, 0 Minutes