

Model Curriculum for Recognition of Prior Learning (RPL)

Integrated Farming Practitioner

Sector: Agriculture

Sub Sector: Agriculture Crop Production

Occupation: Farm Management (Mixed crop and animal workers)

QP Code: AGR/Q1211

Version: 1.0

NSQF Level: 4

Integrated Farming Practitioner

CURRICULUM / SYLLABUS

This program is aimed at training to Recognition of Prior Learning (RPL) candidates for the job of a “Integrated Farming Practitioner”, in the “Agriculture” Sector/Industry and aims at building the following key competencies amongst the learners

Program Name	Integrated Farming Practitioner
Qualification Pack Name & Reference ID.	AGR/Q1211
Version No.	1.0
Pre-requisites to Training	"Min. Educational Qualification: 12th or Equivalent OR Previous relevant Qualification of NSQF Level 3.5 with 1.5-year experience in Agriculture and allied sectors OR Previous relevant Qualification of NSQF Level 3 of Crop Grower/Cultivator with 3-year experience in Agriculture and allied sectors
Training Outcomes: Orientation and Soft Skill	After completing this programme, participants will be able to: • 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	After completing this programme, participants will be able to: • Discuss the role of an Integrated Farming Practitioner • Evaluate the requirement of an IFS system • Describe different models of IFS practiced in different agro-climatic conditions in India • Assess various IFS systems applicable to the local agro-climatic conditions • Plan for distribution of resources across various enterprises • Integrate different enterprises as per their interaction and synergies • Identify biosecurity threats and determine control measures for site • Apply and monitor biosecurity control measures to site activities • Determine requirements for an integrated farm establishment program • Undertake management of different farm enterprises in an IFS • Assess crops/produce for harvest and schedule the harvest • Process the crop/produce obtained in an integrated farm • Arrange for selling the crop/produce • Establish relationship with customers and organise timely transport of produce to buyers • Maintain records of different enterprises in an IFS • Determine systems for collection and storage of production records • Collect and maintain production records to ensure traceability • Examine operations for readily implementable changes to improve sustainability • Implement and review changes introduced in an IFS to ensure sustainability of the farm
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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	• 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	• 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	• 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	• 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	• 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 07 out of 07 National Occupational Standards (NOS) of “Integrated Farming Practitioner” Qualification Pack issued by “Agriculture Skill Council of India”.

Module 1: Introduction to the role of an Integrated Farming Practitioner

Bridge Module, Mapped to AGR/N1249 v1.0

Terminal Outcomes:

- Discuss the job role of an Integrated Farming Practitioner

Duration: 01:00	Duration: 0:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Describe the size and scope of the agriculture and its sub-sectors. • Discuss the role and responsibilities of an Integrated Farming Practitioner • Identify various employment opportunities for an Integrated Farming Practitioner	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Identify compatible farm enterprises for integrated farming system

Mapped to AGR/N1249 v1.0

Terminal Outcomes:

- Assess the IFS system requirement
- Assess various IFS systems applicable to the local agro-climatic conditions

Duration: 03:00	Duration: 03:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
● Discuss the need for IFS ● Differentiate between mixed farming and integrated farming ● Explain the principles of Integrated Farming system ● Discuss about the plant and animal systems and their integration in a system and approach of IFS ● Describe IFS practices ● State goals of IFS ● Enlist factors determining implementation of Integrated Farming System and explain them ● Explain about factors determining Nature and Size of Enterprises in Integrated Farming System ● List out advantages of Integrated Farming System ● Explain components of integrated farming system ● Describe various types of Integrated Farming Systems based on different enterprises and Agro Eco-System ● Enlist and describe different Models of Integrated Farming System ● Explain about interdependent and interacting farm enterprises for the efficient use of land, labour and other farm resources	● Determine the implementation requirement of IFS ● Examine the principles of IFS that are aligned with sustainable agriculture practices ● Determine various enterprises that can be a part of a sustainable IFS ● Assess the agro-climatic conditions of the region to determine the enterprises that can be integrated into an IFS ● Shortlist the appropriate enterprises for IFS based on the local agro-climatic conditions ● determine the nature of enterprises considering their interactions and synergies for integration into an IFS
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 3: Undertake integration of different enterprises to ensure resource use efficiency in an Integrated Farming System

Mapped to AGR/N1250 v1.0

Terminal Outcomes:

- Plan for distribution of resources across various enterprises
- Integrate different enterprises as per their interaction and synergies

Duration: 05:00	Duration: 04:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Discuss IFS design information, including site plan and components of integrated plant and animal systems • Discuss about different interdependent and interacting farm enterprises for the efficient use of land, labour and other farm resources • Explain about plant and animal/bird/fish species and their interactions and interrelationships • Explain about indigenous animals and plants and its significance • Discuss about what grows or thrives locally – plants, animals, birds, fish • Explain about food, fodder and medicinal plant species suitable for chosen animals/birds/fish • Discuss the role of animals in improving soil, recycling nutrients, managing 'weedy' plants and controlling pests and diseases • Discuss about recycling of materials and waste • Explain workplace health and safety, including typical hazards and risks and their controls • Explain about economic considerations to be taken while selecting the enterprises- farm budget, monthly cash flow, opportunity costs, risks and market, equity/income distribution	• Estimate the type and quantity of resources required for the shortlisted enterprises • Identify resources which are easily available on farms/ nearby areas • Plan for utilizing the resources which are underutilized/not utilized • Plan to utilize the resources which are overutilized/not utilized in a sustainable fashion • select different enterprises in a way that maximizes the efficient use of resources and minimizes negative environmental impacts • determine the size of enterprises in IFS considering various factors including the available resources • allocate resources required for the identified enterprises as per their nature and size • Determine combinations of plant and animal species that achieve desired IFS outcomes • Identify and compile a list of plants and animals/birds/fish to suit IFS design parameters • Assess availability of the identified chosen varieties and breeds • Obtain plants, animals, fish, etc for IFS • minimize the waste from various subsystems of the farm by expanding the symbiotic or synergistic systems between livestock, aquaculture, agriculture, and agroindustry, such that

	the waste of one process becomes the input for other operations ● enhance ecological diversity by selecting the appropriate cropping methodology, cropping, intercropping, to reduce competition including mixed crop rotation, and for water, nutrition, and space ● use the entire available area effectively and ensure interactions between biotic and abiotic components ● Diversify the rural farm to improve the farm household's dietary diversity and achieve sustainable livelihoods and minimize risks ● Ensure that the integrated system enhances the benefits of all users of the common property resource ● Consider various economic factors to arrive at the most judicious and profitable combination of enterprises ● Work out the economics of the proposed integrated farming system
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop , IFS models	
Tools, Equipment and Other Requirements	
FYM and vermicompost making and other farm waste List of external inputs that were reduced in various locally significant IFS practices and the reduction in cost of investment on each enterprise.	

Module 4: Implement biosecurity measures

Mapped to AGR/N1251 v1.0

Terminal Outcomes:

- Identify biosecurity threats and determine control measures for site
- Apply biosecurity control measures to site activities
- Monitor biosecurity procedures

Duration: 03:00	Duration: 03:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
● Explain about principles and practices of biosecurity on different sites ● Explain about sources of biosecurity information, biosecurity threats, biosecurity plans and their function ● Discuss risk assessment principles, standards and regulations for biosecurity ● Explain control measures to minimize the threats entering or spreading into, or from, the site ● Explain record keeping for traceability, both trace back and trace forward, of inputs and outputs ● Explain processes for monitoring effectiveness of control measures ● Describe the process for reporting biosecurity concerns and issues. ● Explain environmental protection strategies ● Discuss about pest and weed management and control strategies ● Explain work health and safety legislative requirements ● Explain about environmental legislation and codes of practice, relating to crop/livestock/poultry/fish, etc production	● Access and interpret site biosecurity plan and information ● Identify biosecurity hazards and threats for the site ● Identify control measures to minimise the risk of identified biosecurity threats ● Apply control measures identified in site biosecurity plan for all activities according to workplace procedures ● Incorporate the site control measures into work routines ● Monitor effectiveness of control measures ● Monitor work duties of site personnel to ensure biosecurity control measures are applied appropriately ● Report issues and concerns for biosecurity to the designated authority ● Maintain currency in biosecurity measures applicable to workplace ● Record inputs and outputs for traceability of activity according to workplace procedures and legislative requirements
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Farms where biosecurity measures are adopted so that trainees can visit and witness the measures Traceability Records to be maintained by farmers	

Module 5: Manage an integrated farm production

Mapped to AGR/N1252 v1.0

Terminal Outcomes:

- Determine requirements for an integrated farm establishment program
- Implement crop/livestock/poultry/fish, etc maintenance
- Monitor crop/livestock/poultry/fish, etc through to harvest

Duration: 05:00	Duration: 08:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
● Explain about agricultural crops/ livestock/poultry/fish, etc. and their cultural requirements ● Discuss about land and soil conditions and assessment, including soil nutrient and fertility, interpretation of soil conditions and analysis, crop nutrient requirements, impact of soil biology on soil condition and nutrient availability, effects of soil characteristics on nutrient availability ● Explain the significance of soil moisture and impact on crop development ● Explain about budgeting and financial analysis techniques such as basic financial analysis, estimating costs, importance of financial records ● Explain environmental protection strategies ● Explain pest and weed management and control strategies ● Discuss work health and safety legislative requirements ● Explain environmental legislation and codes of practice, relating to crop/livestock/poultry/fish etc production.	● Develop a crop/produce establishment program according to farm production plan post selecting plant/ livestock/ poultry/fish etc. varieties best suited to the local agro-climatic conditions and marketing goals ● Determine available resources- soil moisture and water requirement for different integrated systems. ● Assess available water reserves and develop a water management plan for various components of farm production ● Determine crop/livestock/poultry/fish, etc nutrient requirements to achieve required yield according to environmental procedures ● Determine appropriate sustainable practices that can be integrated for efficient farm production and continued improvement through introduction of sustainable practices, viz. intercropping, crop rotation, cover crops, agroforestry, fish farming, beekeeping, etc ● Assess technology to ensure most efficient performance of operations ● Identify and maintain budgetary requirements ● Identify health and safety hazards, assess risk and develop and implement controls procedures ● Implement strategies to reduce or eradicate pest/weed infestation ● Apply nutrients/diets at rates specified in nutrient program

	● Demonstrate management of water reserves for irrigation, aquaculture and watering livestock/poultry ● Monitor water requirements and implement water management plan to maintain crop/livestock/poultry/fish, etc. ● Determine and implement processes to minimize waste and soil degradation according to environmental management policies ● Determine trends in weed, pest and disease incidence, on crop and other components and implement control measures ● Monitor soil structure and erosion and implement changes to production practices according to production plan ● Check and maintain water and drainage systems ● Monitor crop/component maturity and undertake harvesting to meet marketing and production targets
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Notes from the previous modules on bio security and integration of different enterprises Details on the breeds and varieties of livestock and cropping systems suitable to the geography Feed, fodder, health and hygiene requirements of locally integrated livestock enterprises Models of locally successful IFS units with details of income expenditure so that BC Ratios can be explained to trainees.	

Module 6: Harvest and market crops/produce in an Integrated Farming system

Mapped to AGR/N1253 v1.0

Terminal Outcomes:

- Assess crops/produce obtained from different farm enterprises in an IFS for harvest
- Prepare equipment for harvesting
- Harvest and process the crop/produce
- Sell the produce
- Develop and maintain relationship with customers
- Organise transport of produce to the buyers
- Maintain records

Duration: 04:00	Duration: 04:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
● Explain IFS principles related to harvesting ● Discuss principles of sustainable agricultural, aquaculture and animal husbandry practices ● Explain about components commonly used in IFS ● Discuss indicators of crop/produce maturity for harvesting ● Explain the impact of environmental conditions on crop/produce harvesting, including weather impact on crop/produce and safe access to harvest site ● Discuss harvesting techniques of various components in the selected IFS system ● Discuss about equipment and machinery used in harvesting ● Discuss sorting and grading methods ● Explain about storage, transportation including containers and their maintenance ● Discuss methods of waste disposal with minimal impact on the environment ● Explain safe work practices when harvesting, grading and storing crops/produce.	● Identify crops/produce to be harvested according to the harvesting plan ● Determine crop/produce maturity ● Schedule crop/produce harvesting as per the maturity and the market needs ● ensure conditions are conducive for harvesting operations ● Select tools, equipment and machinery for harvesting operations ● Carry out pre-operational and safety checks on tools, equipment and machinery according to manufacturer specifications ● Select, use and maintain personal protective equipment (PPE) ● Harvest crop/produce safely according to workplace safety procedures ● Harvest and handle crop/produce to prevent damage and maintain quality ● Sort and grade crop/produce into containers according to harvesting plan ● Clean and maintain harvesting tools, equipment and machinery ● Employ safe manual handling techniques throughout harvesting operations

● Discuss applicable legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes in selling produce ● Explain organisation policies and procedures related to supply chain management, purchasing, and contracting ● Explain ways to build trust and collaboration ● Explain about ethical behaviour and established communication channels and protocols ● Explain procedures for recording and reporting workplace information and completing relevant documentation	● Move and stack containers to minimise damage to crop/produce ● Maintain temperature of crop/produce according to harvesting plan ● Transport crop/produce from field to processing or storage area ● Maintain containers in good working order ● Identify various types of markets including e-marketing platforms ● Identify and document potential customer base ● Evaluate and document selling options ● Sell the produce to the buyers at a profitable price ● Identify and comply with market requirements ● Develop connections with potential customers ● Identify transport requirements and engage carrier for produce distribution ● Schedule transport and delivery of product with the buyer ● Identify and comply with buyer's delivery requirements ● evaluate actual yield against production targets and determine possible reasons for variance
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Quality standards of various products arising from the IFS that determine their price and marketability. List of local markets and transport infrastructure List of customer requirements/consumer preferences and demand for local produce, List of machinery and implements required for harvesting the components of IFS Storage infrastructure available locally.	

Module 7: Ensure traceability and sustainability in an integrated farming system

Mapped to AGR/N1254 v1.0

Terminal Outcomes:

- Determine systems for collection and storage of production records
- Collect and maintain production records to ensure traceability
- Examine operations for readily implementable changes to improve sustainability
- Implement and review changes introduced in the IFS

Duration: 02:00	Duration: 03:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
● Explain the importance of record-keeping ● Explain the procedures for production records ● Discuss methods for collection and storage of records ● Explain the recording processes to meet quality assurance requirements ● Explain about the technology used to record and analyse production information ● Discuss latest trends and technologies in sustainable farming practices and biosecurity measures ● Explain economic, environmental and social sustainability issues within the industry ● Discuss current and emerging approaches to improving sustainability within the industry ● Explain the sustainability issues relevant to the work area and/or its value chain, including the following: ● Explain about extended product lifecycle and retaining and/or managing residual resources ● Discuss about safety and/or environmental impact of materials ● Explain about efficient use of materials, resources and/or energy	● Determine physical records and inventories required for proper management of the farm ● Identify methods for collecting and storing information that allow effective access and analysis ● Identify the most appropriate information collection and storage methods according to farm requirements ● Identify the most appropriate system for record keeping ● Collect records as per the farm requirement ● Collate and sort records for analysis and decision-making purposes ● Save records in a range of formats for future retrieval ● Review current practices and identify potential areas across the value chain for improvement ● Examine processes and/or procedures related to work area or value chain to identify sustainability issues ● Short-list sustainability issues which may be easily eliminated or improved ● Estimate positive and negative sustainability impacts arising from readily implementable changes to address short-listed sustainability issues

● Explain about reduction of pollution and/or greenhouse gas emissions ● Explain about waste management ● Discuss current and emerging industry practices relevant to sustainability issues ● Explain about interactions between sustainability issues and operational processes ● Discuss measures and indicators relevant to sustainability issues in the work area and/or its value chain ● Discuss the newly introduced changes and related issues with the co-workers and other stakeholders for finding solutions ● Discuss measures and indicators of success with the experts ● Explain about new biosecurity threats, technologies, and advancements in agricultural practices	● Estimate positive and negative business impacts of readily implementable changes to address short-listed sustainability issues ● Rank short-listed sustainability issues by estimated sustainability and business benefits and costs ● Seek feedback from stakeholders to improve the management of the environment and resource efficiency ● Develop implementation plan to deliver desired outcomes ● Use appropriate techniques and tools to achieve efficiencies and sustainability targets ● Negotiate required resources with stakeholders ● Bring Innovations in introducing crops, livestock species, and other systems ● Apply strategies to minimise wastage ● Apply strategies to minimise environmental risks and impacts ● Acquire and deploy resources required to achieve agreed outcome ● Monitor implementation and make required adjustments ● Measure immediate impact of change ● Identify any non-compliances with planned improvements ● analyse further actions to achieve desired outcomes, as needed ● Record progress against resource efficiency and environmental targets
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Templates of inventory records Documentation model of pest and disease management activities being undertaken	

Total Duration: Theory Duration: (hh:mm) 23:00 Practical Duration: (hh:mm) 25:00 Grand Total Bridge Course Duration: (hh:mm) 48:00	Unique equipment required: Egg trays / baskets, Temporary storage containers like jute/gunny bags, Freezers, tarpaulin sheets, cane containers, earthen pots etc, De beaker, Plastic crates, Litter raker, Sprayer, Weighing scale, Water drippers, Feeders, Chick guards, Brooders, Potassium Parmanganate sol., Digging tools (Fawada, Khurpi), Permanent Markers, Casting Ropes (10-15 Meter), Animal Medicine Kit/first aid kit, Milk container, Dry fodder, Wheel barrow, FYM, compost, Bird Perches, Light Traps, Pheromone traps, Yellow and Blue Sticky Traps
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Grand Total Course Duration: 12 (Orientation session) + 48 (Bridge Course) = 60 Hours, 0 Minutes