

# **DIPLOMA IN AGRICULTURE**

## **SYLLABUS**

(with effect from June 2015)



**FACULTY OF AGRICULTURE AND ANIMAL HUSBANDRY**

The Gandhigram Rural Institute – Deemed University

Gandhigram – 624 302 Tamil Nadu

FACULTY OF AGRICULTURE AND ANIMAL HUSBANDRY  
**Diploma in Agriculture Programme Revised syllabus with effect from July 2011**  
**Scheme of Examinations**

Code No	Subject	Credit			Total Marks	Scheme			
		T	P	Total		Theory		Practical	
						CFA	ESE	CFA	ESE
	<b>I Semester</b>								
11AGR0101	Soil and Nutrient Management	3		3	100	40	60		
11AGR0102	Soil and Nutrient Management - practical	-	1	1	50			25	25
11AGR0103	Principles of Agronomy	3		3	100	40	60		
11AGR0104	Principles of Agronomy - practical		1		50			25	25
11AGR0105	Agricultural Meteorology and Land Use Systems	3		3	100	40	60		
11AGR0106	Agricultural Meteorology and Land Use Systems-practical		1	1	50			25	25
11AGR0107	Irrigation and Drainage	3		3	100	40	60		
11AGR0108	Irrigation and Drainage – practical		1	4	50			25	25
11AGR0109	Dairy Cattle Production	3		3	100	40	60		
11AGR0110	Dairy Cattle Production – practical		1	1	50			25	25
11AGR0111	Rural Development	3		3	100	40	60		
11AGR0112	Rural Development – practical		1	1	50			25	25
	<b>Total</b>	<b>18</b>	<b>6</b>	<b>24</b>	<b>900</b>				
11AGR0113	Village Placement Programme*	0	4	4	100				
	<b>II Semester</b>								
11AGR0214	Agronomy of Field Crops – I	3		3	100	40	60		
11AGR0215	Agronomy of Field Crops – I : practical		1	1	50			25	25
11AGR0216	Fundamentals of Plant Protection	3		3	100	40	60		
11AGR0217	Fundamentals of Plant Protection – practical		1	1	50			25	25
15HORD0201	Introduction to Horticulture and Fruit Production	3		3	100	40	60		
15HORD0202	Introduction to Horticulture and Fruit Production - practical		1	1	50			25	25
11AGR0218	<u>Environmental Science and Organic Farming</u>	3		3	100	40	60		
11AGR0219	<u>Environmental Science and Organic Farming – practical</u>		1	1	50			25	25
11AGR0220	Dairy Technology	3		3	100	40	60		
11AGR0221	Dairy Technology – practical		1	1	50			25	25
11AGR0222	Principles of Plant Breeding and Seed Science Technology	3		3	100	40	60		
11AGR0223	Principles of Plant Breeding and Seed Science Technology –practical		1	1	50			25	25
	<b>Total</b>	<b>18</b>	<b>6</b>	<b>24</b>	<b>900</b>				
	<b>III Semester</b>								
11AGR0324	Agronomy of Field Crops – II	3		3	100	40	60		
11AGR0325	Agronomy of Field Crops – II : practical		1	1	50			25	25
11AGR0326	Crop Insect Pest Management	3		3	100	40	60		
11AGR0327	Crop Insect Pest Management – practical		1	1	50			25	25
15HORD0303	Vegetable Production	3		3	100	40	60		
15HORD0304	Vegetable Production – practical		1	1	50			25	25
11AGR0328	Farm Power and Machinery	3		3	100	40	60		

## II Semester

### 11 AGD 0204 ENVIRONMENTAL SCIENCE AND ORGANIC FARMING (3+1)

#### Objective:

- To teach the students about the ecology, ecosystem concepts, organic farming and IK
  - To conceptualize Sustainable Agriculture and LEISA and their basic concepts to the students
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- I. **Introduction:** Ecology – Ecosystems – forest, grassland and aquatic ecosystems - water cycle, carbon, oxygen, nitrogen and phosphorous cycles - Environment - Components – Natural Resources - Soil, water, mineral, forest, wildlife resources – Components and Types of Ecosystems.
  - II. **Agricultural Pollution and Management:** Adverse effect of Modern Agriculture on soil and water resources - Impact of high technology agriculture on crop production – Soil pollution – Agro chemical pollution – Acid Rain – Ozone layer depletion – Green House Effect – Global Warming and Climate Change.
  - III. **Organic Farming:** Stages in Agricultural Development – History of Alternative Agricultural Development – Ill effects of Green Revolution Organic farming – Need, Concepts, Definition and Components – Essential characteristics – Key principles – Different concepts of organic farming – Natural farming, Biodynamic farming, Perma culture and Zero Budget Farming.
  - IV. **Sustainable Agriculture:** Concept of Sustainable Agriculture – Economic and Ecological aspects of Agriculture – Focus of conventional agricultural research and extension – using external inputs in low input farming – Common traits of Indigenous farming— Basic ecological principles of LEISA.
  - V. **Indigenous Knowledge:** Indigenous Knowledge –meaning and definition- Indigenous Vs Western (External) Knowledge – Forms and Types of IK- Nature, Scope and Characteristics of IK, Need, Importance, limitations of IK-Collection and Documentation IK-Sources and Methods- Participatory Technology Development.

#### Practicals:

1. Observe and document the do nothing farming practices in the farmers field
2. Preparation of Biodynamic farming i.e. cow horn manures.
3. Preparation of Organic nutrient solution.
4. Preparation of Bio pesticides formulations.
5. Zero Budget Farming components and preparation of organic nutrients.
6. Visit to Organic farm and observe LEISA techniques.
7. Study on crop rotation and mixed cropping techniques.
8. Identification of sources for collection of IKs
9. Practicing different methods of collecting IKs
10. Documentation of IKs on Field crops.
11. Field Visits to Organic farmer's field.

**References:**

1. Dhaliwal, G.S. and D.S. Kler. (2000). Agricultural Ecology, Himalaya Publishing Company, Mumbai.
2. IIRR (1996), Recording and using Indigenous Knowledge: A Manual International Institute of Rural Reconstruction, Silang, Cavite, Philippines.
3. Palaniappan.S.P. and K. Annadurai.(1999). Organic Farming Theory and Practice. Scientific Publishers (India), Jodhpur.
4. Sharma, Arun K. (2002). A Hand Book of Organic Farming Agrobios (India), Jodhpur.
5. Sundaramari, M. (2003). Indigenous Agricultural Practices for Sustainable Farming, Agrobios (India), Jodhpur.

**Outcome:**

The students can understand about ecology, environment, ecosystem concept and can practice and identify different methods of Indigenous Knowledge and collection of IK.