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			
						Theory		Practical	
		T	P	Total		CFA	ESE	CFA	ESE
	I Semester								
11AGRD0101	Soil and Nutrient Management	3		3	100	40	60		
11AGRD0102	Soil and Nutrient Management - practical	-	1	1	50			25	25
11AGRD0103	Principles of Agronomy	3		3	100	40	60		
11AGRD0104	Principles of Agronomy - practical		1		50			25	25
11AGRD0105	Agricultural Meteorology and Land Use Systems	3		3	100	40	60		
11AGRD0106	Agricultural Meteorology and Land Use Systems-practical		1	1	50			25	25
11AGRD0107	Irrigation and Drainage	3		3	100	40	60		
11AGRD0108	Irrigation and Drainage – practical		1	4	50			25	25
11AGRD0109	Dairy Cattle Production	3		3	100	40	60		
11AGRD0110	Dairy Cattle Production – practical		1	1	50			25	25
11AGRD0111	Rural Development	3		3	100	40	60		
11AGRD0112	Rural Development – practical		1	1	50			25	25
	Total	**18**	**6**	**24**	**900**				
11AGRD0113	Village Placement Programme*	0	4	4	100				
	II Semester								
11AGRD0214	Agronomy of Field Crops – I	3		3	100	40	60		
11AGRD0215	Agronomy of Field Crops – I : pracical		1	1	50			25	25
11AGRD0216	Fundamentals of Plant Protection	3		3	100	40	60		
11AGRD0217	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
11AGRD0218	Environmental Science and Organic Farming	3		3	100	40	60		
11AGRD0219	Environmental Science and Organic Farming – practical		1	1	50			25	25
11AGRD0220	Dairy Technology	3		3	100	40	60		
11AGRD0221	Dairy Technology – practical		1	1	50			25	25
11AGRD0222	Principles of Plant Breeding and Seed Science Technology	3		3	100	40	60		
11AGRD0223	Principles of Plant Breeding and Seed Science Technology –practical		1	1	50			25	25
	Total	**18**	**6**	**24**	**900**				
	III Semester								
11AGRD0324	Agronomy of Field Crops – II	3		3	100	40	60		
11AGRD0325	Agronomy of Field Crops – II : practical		1	1	50			25	25
11AGRD0326	Crop Insect Pest Management	3		3	100	40	60		
11AGRD0327	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
11AGRD0328	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.