SEMESTER S6

PLASTIC APPLICATION IN AGRICULTURE

Course Code	OEAGT611	CIE Marks	40
Teaching Hours/Week (L: T:P: R)	3:0:0:0	ESE Marks	60
Credits	3	Exam Hours	2 Hrs. 30 Min.
Prerequisites (if any)	None	Course Type	Theory

Course Objectives:

1. To understand about sustainability in agricultural processes, promoting improved yields and resource conservation.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Types and quality of plastics used in soil and water conservation, production agriculture and post-harvest management. Quality control measures. Bore-well casing and subsurface drainage. Drip and sprinkler irrigation systems. Use of polymers in control of percolation losses in fields. Soil conditioning - soil solarisation, effects of different colour plastic mulching in surface covered cultivation. Nursery management - Use of plastics in nursery raising, nursery bags, trays etc.	9
2	Plastics as cladding material, green / poly / shade net houses, wind breaks, poly tunnels and crop covers. Plastic nets for crop protection - anti insect nets, bird protection nets. Plastic fencing. Plastics in drying, preservation, handling and storage of agricultural produce, innovative plastic packaging solutions for processed food products. Plastic cap covers for storage of food grains in open.	9
3	Use of plastics as alternate material for manufacturing farm equipment and machinery. Plastics for aquacultural engineering and animal husbandry -	9

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	animal shelters, vermi-beds and inland fisheries. Silage film technique for fodder preservation. Agencies involved in the promotion of plasticulture in agriculture at national and state level. Human resource development in plasticutlure applications.	
4	Water management - use of plastics in in-situ moisture conservation and rain water harvesting. Plastic film lining in canal, pond and reservoir.	**9**

Course Assessment Method
(CIE: 40 marks, ESE: 60 marks)

Continuous Internal Evaluation Marks (CIE):

Attendance	Assignment/ Microproject	Internal Examination-1 (Written)	Internal Examination- 2 (Written)	Total
5	**15**	**10**	**10**	**40**

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End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
• 2 Questions from each module. • Total of 8 Questions, each carrying 3 marks **(8x3 =24marks)**	• Each question carries 9 marks. • Two questions will be given from each module, out of which 1 question should be answered. • Each question can have a maximum of 3 sub divisions. **(4x9 = 36 marks)**	**60**

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Identify the concept of plasticulture.	**K2**
CO2	Understand about the plastic pipes used for irrigation water management	**K1**
CO3	Describe controlled environmental cultivation.	**K3**
CO4	Explain about use of plastics as alternate material for manufacturing farm equipment and machinery.	**K2**
CO5	Explain the present status and future prospective of plasticulture in India.	**K3**

Note*: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

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CO-PO Mapping Table (Mapping of Course Outcomes to Program Outcomes)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	**3**		**2**	**1**								**2**
CO2	**3**	**3**		**1**	**1**		**1**					
CO3	**3**	**2**	**1**	**1**								**2**
CO4	**3**	**2**	**1**	**1**	**1**		**1**					
CO5	**3**		**1**				**1**					**2**

Note: *1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), -: No Correlation*

Text Books				
Sl. No	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
1	Advances in Protected Cultivation	Brahma Singh, Balraj Singh, Naved Sabir and Murtaza Hasan	New India Publishing Agency, New Delhi	2014
2	Plastics in Agriculture.	Dubois	Applied Science Publishers Limited, Essex, England	2007
3	Plastics Fundamentals, Properties, and Testing	Manas Chanda, Salil K. Roy	CRC Press	2008
4	Polymers in Agriculture and Horticulture. RAPRA Review Reports : Vol. 15, No. 2,	Brown, R.P.	RAPRA Technology Limited, U.K.	2004

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