21AGRO102 FUNDAMENTALS OF AGRONOMY

Hours Per Week :

L	T	P	C
2	0	2	3

Total Hours :

L	T	P
30	-	30

Source :
https:// www.thebetterindia.com/51239/up-farmer-invents-low-cost-plough-old-cycle/

Course Description and Objectives:

This course provides insights into the basic agronomic practices from sowing to harvesting and provides hands-on experience in conducting various field operations using tools and implements

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes:

COs	Course Outcomes
1	Gain scientific and technical knowledge of basic agricultural practices from land preparation to harvesting
2	Acquire practical skills in conducting field operations using relevant tools and implements for crop production and field management

SKILLS:

- ✓ *Able to handle the equipment used for different agricultural operations*
- ✓ *Able to do different tillage operation and crop management practices*

ACTIVITIES:

- *Layout of crop cafeteria and maintenance*
- *Agricultural operations from field preparation to harvest*
- *Estimate and apply quantity of fertilizers required for unit area of field*

UNIT - 1

Introduction: Agronomy and its scope; land preparation primary and secondary Seeds and sowing, tillage and tilth, crop density and geometry; Crop nutrition, manures and fertilizers, nutrient use efficiency,

UNIT - 2

Water Management: Water resources, Soil plant water relationship, crop water requirement, water use efficiency; Irrigation, scheduling criteria, methods, quality of irrigation water and waterlogging

UNIT - 3

Weed Management:Weeds, importance, classification, crop weed competition, concepts of weed management, principles and methods. Herbicides, classification, selectivity, resistance, allelopathy

UNIT - 4

Growth and Development of Crops: Growth and development of crops, factors affecting growth and development, plant ideotypes

UNIT - 5

Croping : Crop rotation and its principles; Intercropping, strip cropping, principles and advantages of different cropping systems. Adaptation and distribution of crops, crop management technologies in problematic areas; Harvesting and threshing of crops, Modern concepts in crop production

LABORATORY EXPERIMENTS

LIST OF EXPERIMENTS

1. Visit to college farm - Classification and identification of crops
2. Practice of primary tillage implements and puddling
3. Practice of secondary tillage implements
4. Practice of seeding equipment, inter cultivation implements
5. Calculation of germination percentage, seed rate and plant population of different crops
6. Seed germination and viability test - Study of sowing depth on germination and seedling vigour
7. Identification of seeds, fertilizers and pesticides
8. Practice of fertilizer application and computation of fertilizer requirement
9. Participation in ongoing field operations
10. Identification of weeds in field crops and other habitats - Study of weed flora in different weed management practices and calculation of herbicide efficiencies (WI & WCE)
11. Herbicide label information and computation of herbicide doses
12. Study of herbicide application equipment, calibration and precautionary measures
13. Study of yield contributing characters and yield estimation
14. Identification of maturity symptoms of different crops

REFERENCES:

1. Reddy, S.R. 2016. Principles of Agronomy. Kalyani Publishers, Ludhiana - 5th edition
2. Yellamanda Reddy, T. and SankaraReddi, G. H. (2016) Principles of Agronomy Kalyani Publishers,Ludhiana
3. Gopal Chandra de.1989. Fundamentals of Agronomy. Oxford & IBH Publishing Co