Training Schedule

Soil and Fertiliser Management (362)

S.No	Schedule		Theory (40 Hrs)		Practical (80 Hrs)		Instructions to the trainer	Key Learning outcomes
	Week	Day	Topic	Hours	Topic	Hours		
1.	Week 1	Day 1	Introduction to soil & importance	2	Identification of different soils	3	• Use relevant PPTs/ videos showing the different type of soil • Explain using relevant audio video Aids.	• Apply knowledge and competency to demonstrate importance of soil
2.		Day 2	Introduction to rocks & their classification	2	Visit to geological lab for identifying rock & minerals	3	• Use relevant PPTs/ videos showing the different type of rocks & minerals • Explain using relevant audio video Aids.	• Apply knowledge and competency to demonstrate importance of rocks and minerals
3.	Week 2	Day 1	Weathering & soil formation process	2	Description of an alluvial & black soil profile	3	• Use relevant PPTs/ videos showing the describing alluvial & black soil profile • Explain using relevant audio video Aids.	• Know the soil formation process • Describe the properties of alluvial & black soil
4.		Day 2	Soil profile & its component	2	Description of an red & lateritic soil profile	3	• Use relevant PPTs/ videos showing the describing red & lateritic soil profile • Explain using relevant audio video Aids.	• Describe the properties of red & lateritic soil

5.	Week 3	Day 1	Soils of India	1	Identification of soil type	4	• Use relevant PPTs/ videos showing soils types. • Show specimen of soil types from nearby field	• Learn about different soil types • Categories soil types & its characteristics
6.		Day 2	-	-	Visit to soil survey organization	5	• Use relevant PPTs/ videos showing soils of India. • Arrange visit to nearby soil survey organization in advance.	
7.	Week 4	Day 1	Physical properties of soil	2	Estimation of soil texture by feel method	3	• Make prior arrangement for chemical, weighing balance & other equipment required. • Take record of the observations & calculation • Demonstrate the methodology for soil texture estimation • Explain about soil texture using relevant audio video Aids.	• Learn about the physical properties of soil • Calculate soil texture
8.		Day 2	Chemical properties of soil	1	Determination of soil pH using indicator solution & indicator paper	4	• Make prior arrangement for chemical, weighing balance & other equipment required.	• Learn about the chemical properties of soil • Calculate the soil pH

							• Take record of the observations & calculation • Demonstrate the methodology for soil pH estimation • Explain about soil pH using relevant audio video Aids.	
9.	Week 5	Day 1	Biological properties of soil	1	Determination of available nitrogen using a soil testing kit	4	• Make prior arrangement for chemical, weighing balance & other equipment required. • Take record of the observations & calculation • Demonstrate the methodology for available nitrogen estimation • Explain about soil nitrogen using relevant audio video Aids.	• Learn about the biological properties of soil • Calculate available nitrogen in soil
10.		Day 2	Introduction to soil related problems	1	Visit to soil lab	4	• Use relevant PPTs/ videos showing problem related to soil. • Arrange visit to nearby soil lab in advance.	• Get acquainted with soil related problems
11.	Week 6	Day 1	Physical problems of soil	2	Determination of lime requirement of	3	• Make prior arrangement for	• Learn about the physical problems of

					acid soil		chemical, weighing balance & other equipment required. • Take record of the observations & calculation • Explain about lime requirement of acidic soil using relevant audio video Aids.	soil • Calculate lime requirement of acidic soil
12.		Day 2	Chemical problems of soil	1	Estimation of gypsum requirement of alkali soil	4	• Make prior arrangement for chemical, weighing balance & other equipment required. • Take record of the observations & calculation • Explain about gypsum requirement of alkali soil using relevant audio video Aids.	• Learn about the chemical problems of soil • Calculate gypsum requirement of alkaline soil
13.	Week 7	Day 1	Soil nutrient & its role	2	Introduction to available nutrients in soil	3	• Use relevant PPTs/ videos showing soils fertility. • Show specimen of soil fertility status from nearby field	• Learn about the soil fertility • Learn about essential plant nutrients & its role in plant growth
14.		Day 2	Essential plant nutrients & soil fertility	1	Introduction to essential nutrient	4	• Use relevant PPTs/ videos showing different essential nutrient.	

							• Show specimen of fertilizers having essential nutrient	
15.	Week 8	Day 1	Macronutrients & Secondary nutrients and their role in crop growth	2	Calculation of amount of NPK based on recommended dose	3	• Explain about recommended dose of NPK of any crop	• Know about macronutrient & secondary nutrient • Calculate the recommended dose of fertilizer especially NPK
16.		Day 2	Micronutrients & their importance	2	Foliar spray of micronutrient	3	• Make prior arrangement for sprayer, chemical & other equipment for foliar spray • Explain about the safety measures	• Prepare the micronutrient solution • Calculate the recommended dose of fertilizer
17.	Week 9	Day 1	Nutrient deficiency symptoms & management	2	Identification of nutrient deficiency symptom	3	• Explain characteristics symptoms using videos/PPTs/charts and specimen.	• Identify nutrient deficiency symptoms in plants
18.		Day 2	-	-	Management of nutrient deficiency	5	• Explain management practices	• Manage nutrient deficiency in plants
19.	Week 10	Day 1	Introduction to fertilisers	1	Identification of fertilizers	4	• Explain characteristics symptoms using videos/PPTs/charts and specimen.	• Learn about different types of fertilisers
20.		Day 2	Fertilisers & their effect on soil & crop	2	Visit to a fertilizer manufacturing plant	3	• Use relevant PPTs/ videos showing components of fertilizer production. • Arrange visit to nearby fertilizer	• Learn about various components of fertilizer production.

							manufacturing plant in advance.	
21.	Week 11	Day 1	Introduction to organic manure	2	Preparation of neem coated urea	3	• Make prior arrangement for chemical, weighing balance & other equipment required. • Take record of the observations & calculation • Explain about process of neem coating of urea using relevant audio video Aids.	• Learn about organic manure • Use of neem coated urea
22.		Day 2	Introduction to biofertilisers	2	Preparation of vermicompost	3	• Explain about the components of vermicomposting using relevant audio video Aids. • Make prior arrangement for vermin, FYM, chemical, weighing balance & other equipment required. • Take record of the observations & calculation	• Learn about biofertiliser • Use of vermicompost
23.	Week 12	Day 1	Integrated nutrient management	2	Components of Integrated nutrient management	3		• Learn about integrated pest management • Use of biocontrol agents

24.		Day 2	Revision and doubt clearance for plant protection	5	-	-	• Revision of tough topics to be done. • Class test may be conducted.	
		Total		**40**		**80**		