

AGRO-MACHINERY LAB

Description

Agro-Machinery lab is designed to teach the theory and tools of Agricultural machinery that is used in farming or agriculture. Agro-Machinery lab mainly includes the machinery for soil preparations, seed plantation, inter-cultural operations, plant protection, harvesting and threshing. The laboratory has tractor operated, power tiller operated, self-propelled, stationary engine operated, and manually operated equipment. The farm machineries are used for practical classes. The cut-sections of different machinery are the beauty of laboratory that helps to explain the students of the different modules.

Objectives

The main objective of Agro-Machinery lab is to teach students with the basic approach to get started as a tractor mechanic and to gain basic knowledge about irrigation equipment, seed drills, tillage equipment's, solar water pumping system, air-cooling system, IC engines parts and cultivators. Theory and lab course covers key concepts and working principle of various agro systems, seed drill and the maintenance activities.

After completing this course, a student will be able to:

- Learn the basic sub-systems of a tractor and its functioning.
- Perform basic servicing of tractor like brake pedal play adjustment.
- Wheel replacement and Fuel filter replacement.
- Perform basic inspection and maintenance of a tractor and troubleshooting of irrigation equipment
- Learn about structure of irrigation system and functions of and their components
- Learn maintenance and adjustment of components like dripper, seed drill sand filter etc.
- Conduct experiments to test Water and Soil Testing
- Study Drip and sprinkler Irrigation system

Key areas covered:

1. Tractor servicing at foundation level, (which includes engine, air intake system, lubrication system, cooling system and many more)
2. Irrigation equipment (Maintenance and Field Operation)
3. Seed Drill (Maintenance and Field Operation).
4. Water testing & Soil testing
5. Demonstration of Solar water pumping system
6. Demonstration of fuel-injection system on a engine cut section model
7. Performance of offset disc harrow
8. Performance of primary tillage implements
9. Study of Internal combustion Engine components
10. Study Air cooling system and its advantages

11. Experiments to test Water and Soil Testing
12. Study of Drip and sprinkler Irrigation system

List of equipment available

1. Tractor
2. Drip Irrigation system
3. Sprinkler Irrigation system
4. Cultivator
5. Disc-Cultivator
6. Seed Drill Threshing Equipment
7. Multi crop thresher
8. Chara-cutter
9. Solar panel pumps
10. Submersible pumps
11. Centrifugal pumps
12. Generator
13. Water Testing Kit
14. Soil Testing Kit
15. Air Compressor
16. Tractor Engine cut-section

Photographs of Agro-Machinery Lab



