

Course Description & Objective:

To acquaint and equip with the test procedures of agricultural machinery and tractors

Course outcomes:

Upon completion of this course, students will be able to:

- 1. understand the standard testing procedures and rules.*
- 2. familiarize with different instruments used in testing of agricultural machinery.*
- 3. understand different test codes of ISO, RNAM, ASTM, ASABE etc.*
- 4. carry out performance evaluation of different agricultural implements*

UNIT I

Introduction to testing, ISO, RNAM, BIS standards, Importance of testing, benefits of testing, history of tractor testing, types of tests

UNIT 2

Testing of Tractor- PTO performance, drawbar performance, air cleaner oil pull over tests, engine testing, hydraulic system testing

Unit 3

Testing of agricultural machinery- tillage implements, Rotavators, , intercultural implements.

Unit 4

Testing of agricultural machinery- plant protection equipment, sowing and planting implements

Unit 5

Testing of agricultural machinery- harvesting and threshing equipment, chaff cutters, Dangerous machines act

Practical:

The following experiments may be conducted for this lab

1. Testing of tractor- PTO performance test
2. Testing of tractor- drawbar performance test
3. Performance evaluation of tractor and power tiller drawn tillage implements
4. Performance evaluation of seeding machinery
5. Performance evaluation of weeding machinery
6. Performance evaluation of plant protection machinery
7. Performance evaluation of harvesting and threshing machines.
8. Testing of animal drawn and manually drawn operated implements.
9. Testing of crop processing equipments.
10. Using Test codes of agricultural machines.