

20FM005 TESTING OF TRACTORS AND AGRICULTURE MACHINERY

Hours Per Week :

L	T	P	C
4	-	3	5

Total Hours :

L	T	P	W/RA	SSH/SHS	CS	SA	S	BS
45	-	-	-	-	-	-	-	-

Course Description and Objectives:

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

SKILLS:

- ✓ *Test different form Implements.*

ACTIVITIES:

- o *Testing of rotavator*
- o *Testing of seed cum fertilizer drill*

UNIT I

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

UNIT II

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

UNIT III

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

UNIT IV

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

UNIT V

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.

Text books:

1. Testing and evaluation of agricultural machinery; M L Mehta, S R Verma, S K Mishra, V R Sharma ,ISAE and ASABE Test codes