

7th Semester	RAG7D002	Tractor & Farm Machinery Maintenance	L-T-P 3-0-0	3 Credits
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Module I(7 hrs)

Introduction to tractor maintenance procedure, Familiarization with tractor controls and learning procedure of tractor starting and stopping, Familiarization with different makes and models of 4-wheeled tractors, Identification of different tractor systems including fuel system, cooling system, transmission system, steering and hydraulic systems; Familiarization with tools for general and special maintenance

Module II(7 hrs)

Familiarization with service schedule, periodical service, 10 hours/daily service schedule, Maintenance after 50 hours(weekly) of tractor operation, Maintenance after 150 hours / 3 month of tractor operation, Maintenance after 500 hours/6 months of tractor operation, Maintenance after 1000 hours/one year of tractor operation, Break-down maintenance-Precautionary and break-down maintenance. Trouble shooting in tractors; Driving safety rules, Road signs, traffic rules, road safety .

Module III(7 hrs)

Forward and reverse gear in tractors; problems associated with driving under forward and backward gears; parking of tractor: Tractor driving with two wheeled tractor trailer forward and reverse; Study and practicing the hitching and detaching of implements; Study operation and field adjustments of MB plough and disk plough; Field operation of trailing & mounted disk harrow.

Module IV(7 hrs)

Steering geometry, wheel track adjustment; Fuel injection pumps–time setting, pressure adjustment (nozzle opening); Maintenance of electrical system of tractor. Electrical system (including starting motor, alternator and battery); off-season maintenance -Care and maintenance procedure of agricultural machinery during operation and off-season; Preparing the tractor for off-season storage.

Module V(7 hrs)

Fuel saving tips; Adjustment and maintenance of mould board plough and disk plough; Adjustment and maintenance of disk harrows; Adjustment and maintenance of seeding and planting equipment; Adjustment, operation and maintenance of harvesting equipment ;Adjustment, operation and maintenance of threshing equipment with tractor; Field operation and adjustments of seed drill/planter/sprayer.

Books

1. Jain SC and CR Rai. Farm Tractor Maintenance and Repair.
2. Ghosh RK and S Swain. Practical Agricultural Engineering.
3. Operators' manuals of tractors.
4. Service manuals provided by manufacturers.
5. Relevant BIS codes.

Digital Learning Resources:

https://www.researchgate.net/publication/275642288_Guide_to_Agricultural_Machinery_Maintenance_and_Operation

<https://agrimoon.com/wp-content/uploads/Field-Operation-and-Maintenance-of-Tractors-and-Farm-Machinery-II.pdf>