

# AMAG16 TRACTOR SYSTEMS AND CONTROLS

## UNIT-1 STUDY OF TRANSMISSION SYSTEMS

- 1.1 Clutches: functioning, parts and design problem on clutch system,
- 1.2 Gear box: different types of gear box, calculation of speed ratios, design problems on gear box,
- 1.3 Study on differential and final drive and planetary gears,
- 1.4 Differential and final drive mechanism.

## UNIT-2 FAMILIARIZATION OF BRAKE MECHANISM

- 2.1 Design problems.
- 2.2 Steering geometry and adjustments Ackerman and hydraulic steering and hydraulic systems.

## UNIT-3 TRACTOR POWER OUTLETS

- 3.1 P.T.O., belt pulley, drawbar, etc.
- 3.2 Tractor chassis mechanics and design for tractor stability.
- 3.3 Methods of finding CG of the tractor,
- 3.4 Methods for finding moment of inertia of the tractor.

## UNIT-4 ERGONOMIC CONSIDERATIONS AND OPERATIONAL SAFETY

- 4.1 Importance of anthropometric requirements in design.
- 4.2 Power Tiller: Construction and working, Power transmission system.

## UNIT-5 BALANCING OF FRONT AND REAR ATTACHED MACHINERY

- 5.1 Importance of balancing,
- 5.2 Techniques in balancing.

### Reference Book:

1. Mehta, M.L., Verma, S.R., Misra, S.K., and Sharma, V.K. (1995). Testing and evaluation of Agricultural Machinery. National Agricultural Technology Information Centre, Ludhiana.