

DHIRAJLAL GANDHI COLLEGE OF TECHNOLOGY, SALEM

Department of Agricultural Engineering

List of Laboratory in Agricultural Engineering

B.Tech. AGRICULTURAL ENGINEERING

Lab Title: UNIT OPERATION IN AGRICULTURAL PROCESSING (III Semester)

| S. No | Description of Equipment |
|--------------|---------------------------------|
| 1 | Evaporator |
| 2 | Centrifugal Separator |
| 3 | Cyclone Separator |
| 4 | Filter |
| 5 | Packing Tower |
| 6 | Motorised Sieve shaker |
| 7 | Burr Mill |
| 8 | Mixing index for solids |
| 9 | Rotary flash evaporator |
| 10 | Concentration of juice |
| 11 | Steam distillation process |

Lab Title: SOIL SCIENCE LABORATORY (III Semester)

| S. No | Description of Equipment |
|--------------|------------------------------------------------------------------------|
| 1 | Identification of rocks and minerals |
| 2 | Collection and processing of soil samples |
| 3 | Determination of soil moisture, EC and pH |
| 4 | Field density determination by Core Cutter and Sand Replacement method |
| 5 | Specific gravity determination by Pycnometer |
| 6 | Grain size analysis by using Mechanical shaker |
| 7 | Determination of Organic carbon |
| 8 | Estimation of Gypsum requirements |

Lab Title: FLUID MECHANICS LABORATORY (III Semester)

| S. No | Description of Equipment |
|--------------|---------------------------------|
| 1 | Centrifugal pump |
| 2 | Reciprocating pump |
| 3 | Submersible pump |
| 4 | Major losses |
| 5 | Minor losses |
| 6 | Rotameter |
| 7 | Venturimeter |
| 8 | Orificemeter |
| 9 | Pitot tube |
| 10 | Triangular Notch |
| 11 | Rectangular Notch |

Lab Title: SURVEY AND LEVELLING LABORATORY (III Semester)

| S. No | Description of Equipment |
|--------------|---------------------------------|
| 1 | Total station |
| 2 | Theodolites |
| 3 | Dumpy level / filling level |
| 4 | Pocket stereoscope |
| 5 | Ranging rods |
| 6 | Levelling staff |
| 7 | Cross staff |
| 8 | chains |
| 9 | Tapes |
| 10 | arrows |
| 11 | Prismatic compass |
| 12 | Surveyor compass |
| 13 | Survey grade or Hand held GPS |

Lab Title: STRENGTH OF MATERIALS LABORATORY (IV Semester)

| Sl. No. | Description of Equipment |
|----------------|------------------------------------------------------|
| 1 | UTM of minimum 400KN capacity |
| 2 | Torsion testing machine |
| 3 | Izod impact testing machine |
| 4 | Hardness testing machine Rockwell Vicker's & Brinell |
| 5 | Beam deflection test apparatus |
| 6 | Extensometer |
| 7 | Compressometer |
| 8 | Dial gauges |
| 9 | Le Chatelier's apparatus |
| 10 | Vicat's apparatus |
| 11 | Mortar cube moulds |

Lab Title: TRACTORS AND FARM ENGINES LABORATORY (IV Semester)

| Sl. No. | Description of Equipment |
|----------------|----------------------------------|
| 1 | Working model of diesel engine |
| 2 | Working model of petrol engine |
| 3 | Working model of clutch |
| 4 | Working model of gear box |
| 5 | Working model of differential |
| 6 | Working model of final drive |
| 7 | Working model of brake system |
| 8 | Working model of steering system |
| 9 | Condemned tractor |
| 10 | Condemned diesel engine |
| 11 | Condemned petrol engine |