



VINAYAKA MISSION'S RESEARCH FOUNDATION
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY, PAIYANOOR



ELECTRICAL MACHINES LABORATORY

STANDARD OPERATING PROCEDURE

Name of the Lab./facility	Electrical Machines Laboratory
Name of the equipment	Single Phase Induction Motor
Purpose	To provide experimental verification for students about Single Phase Induction Motor
Scope	Experimental training to obtain Efficiency
Responsibility	Faculty i/c of the facility, HOD/EEE

STANDARD OPERATING PROCEDURE

- Before starting the Single Phase Induction Motor, Ensure that no loose Connections.
- Check for correct fuse rating.
- The connections should be given as per the experiment to be performed referring to the lab. Manual.
(Electrical Machines – II Lab Manual - Experiment No : 11, 12)
- Connections thus given shall be verified by the course instructor or lab in-charge
- To perform the experiment supply mains have to be switched on.
- Supply is given to the motor by closing the SPST switch, motor is started using a DOL starter.
- Experimental procedure to be followed as given in the manual
- Upon completion of experiment, the supply to the motor is switched off by opening the DPST switch.

PRECAUTIONS TO BE FOLLOWED

- Initially all switches kept at open condition
- Ensure that there is no load on the brake drum initially.
- The motor should be cooled by circulating water in the brake drum throughout the experiment.

RECORD TO BE MAINTAINED

- Laboratory Manual containing the experiments that can be performed with the equipment
- Maintenance Record

S. Theerth
Prepared by

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Neelam
Principal
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ELECTRICAL MACHINES LABORATORY



STANDARD OPERATING PROCEDURE

Name of the Lab./facility	Electrical Machines Laboratory
Name of the equipment	Alternator
Purpose	To provide experimental verification for students about Alternator
Scope	Experimental training to obtain Voltage regulation of the machine as to maintain voltage within specified limits
Responsibility	Faculty i/c of the facility, HOD/EEE

STANDARD OPERATING PROCEDURE

- Before starting the Alternator, Ensure that no loose Connections.
- Check for correct fuse rating.
- The connections should be given as per the experiment to be performed referring to the lab. Manual. (Electrical Machines – II Lab Manual - Experiment No : 1,2,3,4)
- Connections thus given shall be verified by the course instructor or lab in-charge
- To perform the experiment supply mains have to be switched on.
- Supply is given to the motor by closing the DPST switch, motor is started using a three point starter.
- DC Shunt motor act as a Prime mover.
- Experimental procedure to be followed as given in the manual
- Upon completion of experiment, the supply to the motor is switched off by opening the DPST switch.

PRECAUTIONS TO BE FOLLOWED

- Initially all switches kept at open condition
- The Alternator field rheostat is kept in minimum voltage position and motor field Rheostat is minimum resistive position.

RECORD TO BE MAINTAINED

- Laboratory Manual containing the experiments that can be performed with the equipment
- Maintenance Record

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ELECTRICAL MACHINES LABORATORY
STANDARD OPERATING PROCEDURE

Name of the Lab./facility	Electrical Machines Laboratory
Name of the equipment	Synchronous Motor
Purpose	To provide experimental verification for students about Synchronous Motor
Scope	Experimental training for power factor control, precise speed and position control
Responsibility	Faculty i/c of the facility, HOD/EEE

STANDARD OPERATING PROCEDURE

- Before starting the Synchronous Motor, Ensure that no loose Connections.
- Check for correct fuse rating.
- The connections should be given as per the experiment to be performed referring to the lab. Manual.
(Electrical Machines – II Lab Manual - Experiment No : 5)
- Connections thus given shall be verified by the course instructor or lab in-charge
- To perform the experiment supply mains have to be switched on.
- Supply is given to the motor by closing the DPDT switch,
- Experimental procedure to be followed as given in the manual
- Upon completion of experiment, the supply to the motor is switched off by opening the DPDT switch.

PRECAUTIONS TO BE FOLLOWED

- Initially all switches kept at open condition
- The motor should be started without any load.
- The potential divider should be in the maximum position.

RECORD TO BE MAINTAINED

- Laboratory Manual containing the experiments that can be performed with the equipment
- Maintenance Record

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ELECTRICAL MACHINES LABORATORY
STANDARD OPERATING PROCEDURE

Name of the Lab./facility	Electrical Machines Laboratory
Name of the equipment	DC Shunt Motor
Purpose	To provide experimental verification for students about DC Shunt Motor.
Scope	Experimental training to obtain Efficiency of the DC Shunt Motor.
Responsibility	Faculty i/c of the facility, HOD/EEE

STANDARD OPERATING PROCEDURE

- Before starting the DC shunt Motor, Ensure that no loose Connections.
- Check for correct fuse rating.
- The connections should be given as per the experiment to be performed referring to the lab. Manual.
(Electrical Machines – I Lab Manual - Experiment No : 1, 3, 9)
- Connections thus given shall be verified by the course instructor or lab in-charge
- To perform the experiment supply mains have to be switched on.
- Supply is given to the motor by closing the DPST switch, motor is started using a three point starter.
- Experimental procedure to be followed as given in the manual
- Upon completion of experiment, the supply to the motor is switched off by opening the DPST switch.

PRECAUTIONS TO BE FOLLOWED

- Ensure that there is no load on the brake drum initially.
- The motor should be cooled by circulating water in the brake drum throughout the experiment.
- It is ensured that the MC (Moving Coil) meters are connected with proper polarities.

RECORD TO BE MAINTAINED

- Laboratory Manual containing the experiments that can be performed with the equipment
- Maintenance Record

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ELECTRICAL MACHINES LABORATORY
STANDARD OPERATING PROCEDURE

Name of the Lab./facility	Electrical Machines Laboratory
Name of the equipment	Three Phase Induction Motor
Purpose	To provide experimental verification for students about Three Phase Induction Motor
Scope	Experimental training to obtain Efficiency
Responsibility	Faculty i/c of the facility, HOD/EEE

STANDARD OPERATING PROCEDURE

- Before starting the Three Phase Induction Motor, Ensure that no loose Connections.
- Check for correct fuse rating.
- The connections should be given as per the experiment to be performed referring to the lab. Manual.
(Electrical Machines – II Lab Manual - Experiment No : 6, 7)
- Connections thus given shall be verified by the course instructor or lab in-charge
- To perform the experiment supply mains have to be switched on.
- Supply is given to the motor by closing the TPST switch, motor is started using a DOL starter.
- Experimental procedure to be followed as given in the manual
- Upon completion of experiment, the supply to the motor is switched off by opening the DPST switch.

PRECAUTIONS TO BE FOLLOWED

- Initially all switches kept at open condition
- Ensure that there is no load on the brake drum initially.
- The motor should be cooled by circulating water in the brake drum throughout the experiment.

RECORD TO BE MAINTAINED

- Laboratory Manual containing the experiments that can be performed with the equipment
- Maintenance Record

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