

## Specifications of approved MODROB items of Electrical Engineering Department

SI No	Proposed Equipments	Specification
1.	<b>Chopper fed DC motor drive</b>	3-ph input IGBT 4 quadrant chopper drive for DC motor with closed loop control arrangement. The setup will comprise of (a) 3 hp Power module (b) Digital controller with programming interface (c) 1 HP DC Shunt motor (d) Spring balance load system (e) QEP speed sensor
2.	<b>AC Motor drive</b>	3-phase PWM Inverter fed AC motor drive (1 HP) with closed loop control arrangement. The setup consists of (a) IPM power module (b) Digital controller with programming interface (c) AC Induction motor with load equipped with necessary feedback sensors and transducers
3.	<b>Digital Storage Oscilloscope</b>	70 MHz, 2 Ch, 2 Mega point record length
4.	<b>Hand-Held Power and Harmonic Analyzer</b>	Measurement of Volt, Amps, Watt, VAR, VA, Hz, kWh, Harmonics up to 24th order, THD etc.
5.	<b>Parallel operation of 3-phase Transformer</b>	3 KVA, 230/110-0-110V, Transformer with necessary measuring instruments
6.	<b>Parallel operation of Alternator</b>	3 KVA, 415V, star connected Salient pole Alternator (2 nos) coupled with 5HP, 220V, 1500rpm DC motor including control panel and synchronizing panel and load. The Alternator can be also connected to the utility grid.
7	<b>PSIM Software</b>	PSIM Software consisting of: PSIM Pro & Motor Drive modules