Faculty of Mechanical Engineering

M.E. Energy Engineering

(R 2021) Semester – I

Course Code: EY 4111	Course Title: Renewable Energy Laboratory	
Sl.No.	**Description of Equipment**	**Required Numbers (for batch of 25 students)**
1.	a. Pyranometer	1
	b. Pyrhelio meter	1
	c. Sunshine recorder	1
2.	Solar Flat Plate Collector Training System	1
3.	Solar Photovoltaic Training kit	1
4.	a. Box type cooker	1
	b. Parabolic Dish Collector with cooker	1
5.	a. Conventional cook stove (chulha)	1
	b. Energy efficient cook stove	1
6.	a. Gasifier test rig capable of operating under updraught and downdraught mode	1
	b. Cut section model of Fixed dome biogas plant	1
	c. Cut section model of Floating drum biogas plant	1
7.	a. Precision Industrial Balance	1
	b. Muffle furnace with control unit	1
	c. Ceramic crucibles, tongs, desiccator	1
8.	Bomb Calorimeter test set up	1
9.	Junker's Calorimeter test set up	1
10.	Lab-scale biodiesel production unit with accessories	1
11.	Diesel engine test rig with two fuel tanks	1
12.	a. Flue gas analyser	1
	b. Smoke meter	1
	c. In-cylinder pressure measurement and crank angle encoder for determination of P-0,PV diagram, HRR and CHRR	1

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Course Code: EY 4112	Course Title: Applied Thermal Engineering Laboratory	
Sl.No.	**Description of Equipment**	**Required Numbers (for batch of 25 students)**
1.	Boundary layer investigation apparatus	1
2.	Temperature Calibrator provided with thermocouple, RTD and thermistors	1
3.	Pressure Calibrator	1
4.	Rankine cycle Test setup	1
5.	• Hydrometer • Viscometer • Flash point and fire point apparatus • Thermal Analyzer • Surface tension measuring kit	1 1 1 1 1
6.	Pool boiling apparatus with flow visualization	1
7.	Wind tunnel test rig with accessories	1
8.	Fluidized bed characteristics apparatus	1
9.	Absorption Refrigeration system test setup	1
10.	Agro product dryer with hygrometer & digital weigh balance	1
11.	A single cylinder IC engine with in-cylinder pressure measurement coupled with crank angle encoder for determining PV plots	1