

## Instruments/Equipments/Devices at Renewable Energy Engineering Laboratory

### Solar Laboratory



**Hot Air Oven used for determining the moisture content and drying purpose**



**Muffle furnace used for determining the volatile matter and ash content**



**Digital wind speed and direction sensor**



**Box type solar cooker used for baking and boiling type of cooking**



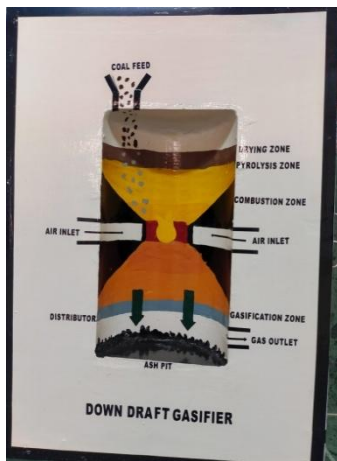





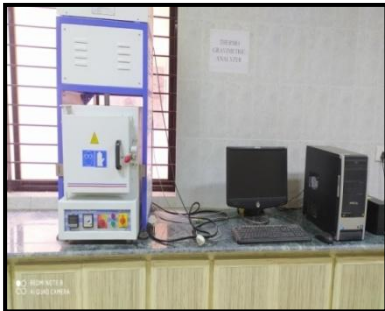

**Solar parabolic concentrator cooker used for cooking (boiling and frying type)**





**Cabinet solar dryer used for drying of agro products**



Solar thermal trainer for demonstrtaion purpose and indoor testing of solar collector	Table top FPC based Solar Water Heater model for demonstration purpose	Table top ETC based Solar Water Heater model for demonstration purpose
		
ETC based Solar Hot Water System used for generating hot water	FPC based Solar Hot Water System used for generating hot water	
Biomass Laboratory		
		
Improved biomass cookstove used for cooking purpose	Digital bomb calorimeter used for measuring the calorific value of fuel	Cut section model of down draft gasifier for practical and demonstration purpose
		

<p><b>Cut section model of Floating dome biogas plant for practical and demonstration purpose</b></p>	<p><b>Cut section model of up draft gasifier for practical and demonstration purpose</b></p>	<p><b>Improved biomass cookstove used for cooking purpose</b></p>
		
<p><b>Abel flash point appertus used for determining the close cup flash point of Petroleum</b></p>	<p><b>Thermo gravimetric analyzer used for determining a material's thermal stability and its fraction of volatile components</b></p>	<p><b>Briquetting machine to produce white coal (small size briquettes)</b></p>

### Instruments/Equipments/Devices at Renewable Energy Engineering Laboratory

	
<p><b>Wind Mill for generation of electricity using wind energy</b></p>	<p><b>Cut section model of fixed dome biogas plat for practical and demonstration purpose</b></p>
	

**Abel flash point appertus used for determining the close cup flash point of Petroleum**



**Solar powered temperature scanner used for temperature measurement**



**Improved biomass cookstove used for community cooking purpose**

**SPV powered baby solar dryer for drying of agro products**

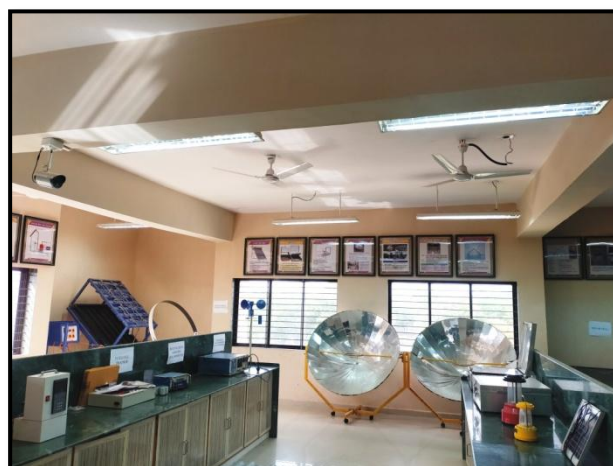
### **Laboratories under Department of Renewable Energy Engineering**



**Biomass Laboratory**



**Biomass Laboratory**



**Instruments/Equipments/Devices at Soil & Water Conservation Engineering Laboratory**



**Laboratory View**



**Different types of Dam Model**



**Laboratory View**



**Orifice and Venturi Meter**



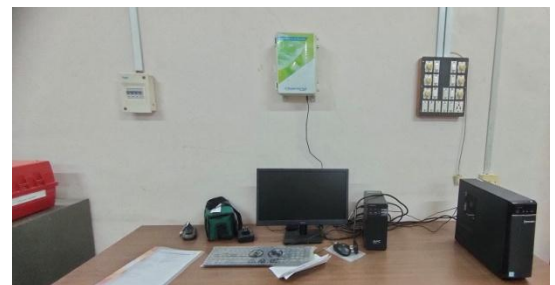
**Different types of fumes**



**Laboratory View**



**Different types of submersible pump rotors**



**Water Level recorder**

## Instruments at Soil & Water Conservation Engineering Laboratory



### HYDROSTATIC BENCH

For Demonstration Of Various Manometers,  
Pressure Gauge, Humidity Measurement And  
Temperature Measurement



### FLOAT TYPE RAIN GAUGE

For Recording Rainfall Data



### RAPID MOISTURE METER

For Determining Soil Elastic Limit



### LIQUID LIMIT APPARATUS

To Determine Soil Plasticity

## Instruments/Equipments/Devices at Processing and Food Engineering Laboratory-1



**De-stoner**  
**Use of De-stoner**

Destoner is a processing technique machine for removing stones and broken grains to improve the quality of rice by de-chaffing and separation of broken rice particles.



**Potato slicing Machine**  
**Use of Potato slicing Machine**

Potato Slicing Machine can process potatoes in different thickness and shapes to meet various demands of the project work analyze the effect of sliced potatoes.

## Instruments at Processing and Food Engineering Laboratory-2



**Specific gravity separator**



**Tray Dryer**



**Oil Expeller**



**Air screen grain cleaner**

## Instruments at Processing and Food Engineering Laboratory-2



**Ball Mill**

### Use of ball mill

A ball mill is a type of grinder used to grind and blend bulk material into nanosize using different sized balls commonly used for crushing and grinding materials into an extremely fine form.



**Millet pulverizer**

### Use of millet pulverizer

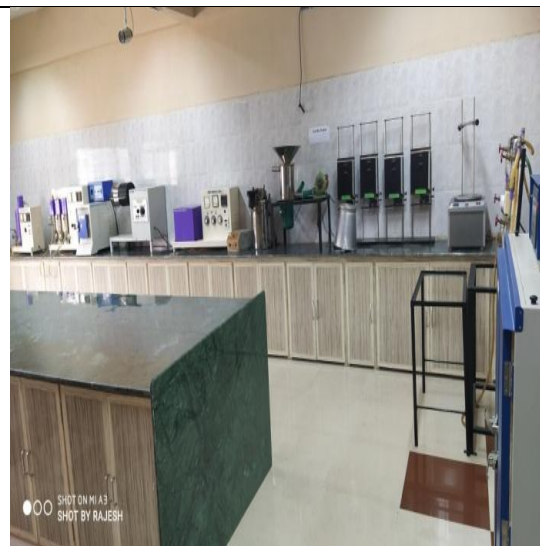
The secondary process of millet processing includes pulverizing or grinding millets into powder form for converting it into a flour for human consumption.



### **Grain processing and structure Lab**

The labs are utilised for to conduct the practicals of Polytechnic, B. Tech, M. Tech and Ph. D students

Grain processing includes dry and wet milling, air scsreen grain clauers, diggerent types of separators, dryers for the processing of primary and secondaryagricultural produce.



### **Food process engineering Lab**

Food process engineering includes boiling, cooking, steaming, baking, frying, extrusion, flaking, roasting, fermentation, malting or sprouting,brewing drying and other important unit operatios to prepare goog qyality process products.



### **Food analysis Lab**

Food analysis lab is used to determine the nutritional and organoleptic qualities of the processed food materials at optimum level



### **Post Harvest Technology Lab**

Post Harvest Technology Lab All the unit operations of agricultural proccsing carrid out.

## Instrument at Irrigation and Drainage Engineering laboratory



**Bernoulli's theorem Apparatus**  
It is used to verify Bernoulli's theorem of fluid flow



**Centrifugal pump test rig**  
It is used to demonstrate working principle of centrifugal pump



**Flow measurement device**  
It is used to study the fluid flow properties



**Darcy's law apparatus**  
It is used to validate Darcy's law for flow through porous media



**Laboratory view of IDE lab**



**Laboratory view of IDE lab**

**Department of Basic Engineering and Applied Sciences Laboratories**  
**Instrument/ Equipments at Mechanical Engineering laboratory**



**Refrigeration Test Rig**  
 It is used to find actual and theritcal  
 coefficient of performance



**Window Air Conditioner Test Rig**  
 It is used to find actual and theritcal  
 coefficient of performance

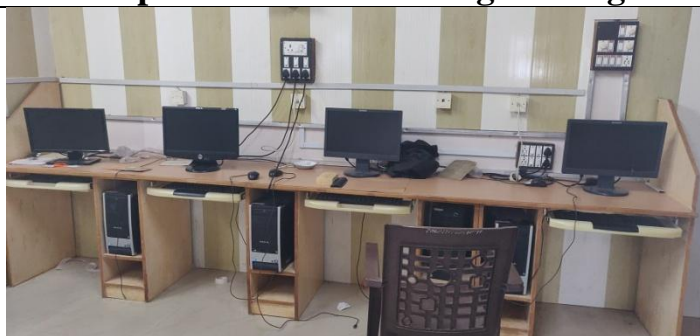


**Water Cooler Test Rig**



**Vapour Absorption Refrigeration System**

**Department of Basic Engineering and Applied Sciences Laboratories**



**Computer Laboratory Polytech Agril Engg.**



**Chemistry Laboratory**

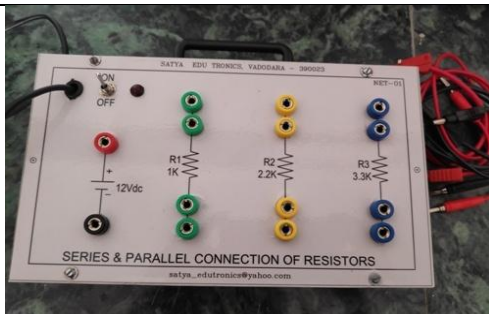
## Instruments/Equipments at Electrical and Electronics Engineering laboratory



**Name :- Single Phase Resistive Load**



**Name :- Energy Meter & Watt Meter**



**Name:- Series and Parallel Connection of Resistors Kit**



**Name:- Single Phase AC Power control using DIAC & TRIAC Kit**



**Name:- Verification of Kirchhoff's laws Kit**  
**Use:-** By using this practical kit students can easily verify Kirchhoff's laws



**Name:- LABORATORY View**



**Equipments of Physics Laboratory**

**Farm Field**



**Farm Field**



**Class Room**



**Drawing Hall**



**Boys Hostel**



## **Girls' Hostel**