

Supporting Documents

Criteria: 7.1.2

Index

SL No.	Name of the Documents	Page No.
1	Facilities for alternate sources of energy and energy conservation measures	1 - 2

Narula Institute of Technology

Facilities for alternate sources of energy and energy conservation measures

1. Solar Power

Solar technologies convert sunlight into electrical energy either through photovoltaic (PV) panels or through mirrors that concentrate solar radiation. This energy can be used to generate electricity or be stored in batteries or thermal storage.

1.1. Solar Energy

The answer to pervading question about a clean source of steady energy is simple: solar energy. Solar energy is simply the light and heat that come from the sun. People can harness the sun's energy in a few different ways: Photovoltaic cells, which convert sunlight into electricity. Solar thermal technology is used where heat from the sun is used to make hot water or steam.



Saving energy and its utilization in the most effective way is of prime concern to the Institute. In view of that the Institute has installed four solar power light in different places around the Institute premises.

There is also a fully solarized power electronics lab where different power electronics trainer kits are fed from solar energy.


Principal
Narula Institute of Technology
81, NHGurj Road, Agarpara
Kolkata-700 109

Narula Institute of Technology

Specification of Solar Light at the Institute :

Street Light 50 Watt, Solar Inverter, Battery (Lead Acid/Lithium Ion), DC cable 100 mtr, Flexi pipe, China Clip, Screw etc.

Specification of solar power for power Electronics Laboratory:

PV Module , Battery , Off grid solar MPPT PCU , Mounting Array , Inverter , D C Cable , A C Cable, Earthing etc.

2) Bio gas plant:

A small scale portable Biogas Plant having FRP Digester of 2.0 M³/Day and biogas holding capacity of 1.2M Diameter X 1.4M Height has been set up in the institute campus. Cow dung collected from the adjoining dairy farm is used as a feedstock for production of biogas.

3) Sensor Based Lights in Toilets

The Institute is retrofitted with toilets that are equipped with sensor based lighting systems which makes it even more eco-friendly. It has the capability to sense whether there is anyone in the toilet or not. Based on that feedback, the system turns the light on or off. The sensors that make the whole system work are the PIR sensors installed inside the toilets. PIR sensors detect warm bodies like a human and trigger the lighting system on or off. By this automation technique the Institute has put itself one step ahead for the future greener world. It is not a feasible solution that every time anyone enters the restroom lights will be on manually and whenever the room is empty the lights will be again turned off manually. So previously all the restroom lights were turned on at the starting of the office hour and were turned off when the Institute closed. It badly affected the power consumption of the Institute. So the new technology of smarter light which automatically turn on and off based on necessity will significantly reduce the power consumption and in turn create a new horizon towards the eco-friendly movement of the Institute.

4) Uses of Led bulbs/power efficient equipment:

The Institute emphasis on the uses of energy saving electrical gadgets to reduce uses of conventional energy .In this regard led bulbs are used most of the class rooms, faculty rooms, common rooms , waiting rooms, seminar rooms, office rooms are enlighten with Led bulbs .


Principal
Narula Institute of Technology
81, Nitgunj Road, Agar - 700
Kolkata-700 109