

St. Ann's College for Women

(Autonomous), Affiliated to Osmania University
Accredited by NAAC with A⁺ Grade (3rd cycle), CPE by UGC

Mehdipatnam, Hyderabad.



CRITERION – VII

Institutional Values and Best Practices

7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures



7.12 Additional Info Supporting Document

Nowadays, it's more crucial than ever to conserve energy as we work to lessen our carbon footprint and protect our natural resources.

Biogas Plant

A biogas plant is located in the rear of the college campus. It was implemented in 2005. The gas produced is used in the Nutrition area on the bottom floor. The Department of Biotechnology receives assistance from Gardner and a lab assistant in maintaining and monitoring the system. The word "biogas" is used to designate a number of gases that are produced when organic material decomposes without oxygen. Some of the raw materials that can be utilised to create biogas are food waste, manure, municipal waste, plant matter, sewage, and agricultural waste.



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Biogas typically refers to a mixture of different gases produced by the breakdown of organic matter in the absence of oxygen. Biogas can be produced from raw materials such as agricultural waste, manure, municipal waste, plant material, sewage, green waste or food waste.

Biogas is a renewable energy source. It can be produced by anaerobic digestion with methanogenic or anaerobic microorganisms organisms, which digest material inside a closed system called anaerobic digester, biodigester or a bioreactor.

Biogas is primarily methane and carbon dioxide and may have small amounts of hydrogen sulphide, moisture and siloxanes. The gases methane, hydrogen, and carbon monoxide can be combusted or oxidized with oxygen.

This energy release allows biogas to be used as a fuel; it can be used for any heating purpose, such as cooking. It can also be used in a gas engine to convert the energy in the gas into electricity and heat.

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Biogas plant can be fed with energy crops such as maize silage or biodegradable wastes including sewage sludge and food waste. During the process, the micro-organisms transform biomass waste into biogas (mainly methane and carbon dioxide) and digestate.



Training students on Biogas preparation



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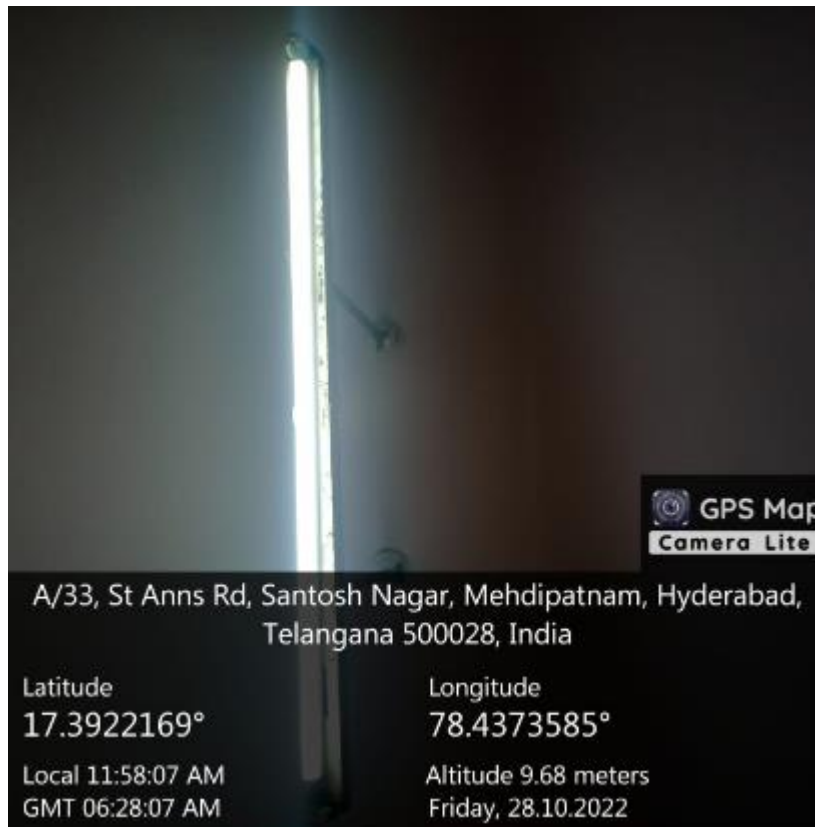
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Energy efficient Measures @St. Ann's

- Use Energy Star certified equipment for the AC and refrigerators.
- Replace incandescent bulbs with LED ones.
- Install motion-detecting LED lights in strategic positions around the campus.

When compared to traditional incandescent lamps, LED lights are up to 80% more energy-efficient. They can also live up to 25 times longer, requiring fewer replacements and producing less waste.



LED Lights

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All Departments exercise prudence by turning off all lights, fans, and other devices when not in use. Students studying genetics, microbiology, and biochemistry were instructed on how to use less electricity while conducting microscope experiments. In order to save electricity and avoid light hazards, students also adhered to and put into practise GLP practises, such as using natural light to focus microscopes.

LED lighting utilises less energy, is safer, and is more environmentally friendly than conventional lighting. The incandescent lighting in many of the college's classrooms and halls has been replaced with LED lights.

One effective way to lower energy use in our offices is to use LED lights with motion sensors. Motion sensor LED bulbs are very useful in areas of the office where people often forget to turn off the lights. Dark areas have been highlighted by St. Ann's, including hallways, restrooms, and corridors. The installation of these motion sensor LED Bulbs, which not only contribute to a safer environment but also save energy and money on electricity bills, has been planned.



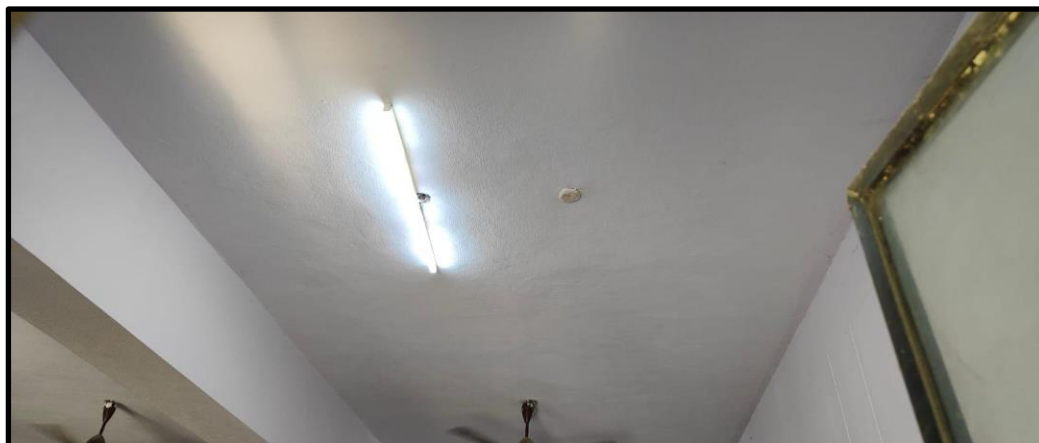
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15 Motion sensor bulbs were installed in dark areas of the campus. Motion sensor illumination is based on the detection of humans, animals, and objects in motion. Motion sensor lights can be turned ON or OFF without touching them. For kids, the elderly, and persons with disabilities, the system is tremendously helpful. To detect motion in such sensors, a variety of techniques are used. Passive infrared (PIR) sensors and microwave radar sensors are used in the two major approaches.



CFLs replaced with LED lights



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Installation of motion sensor taps:

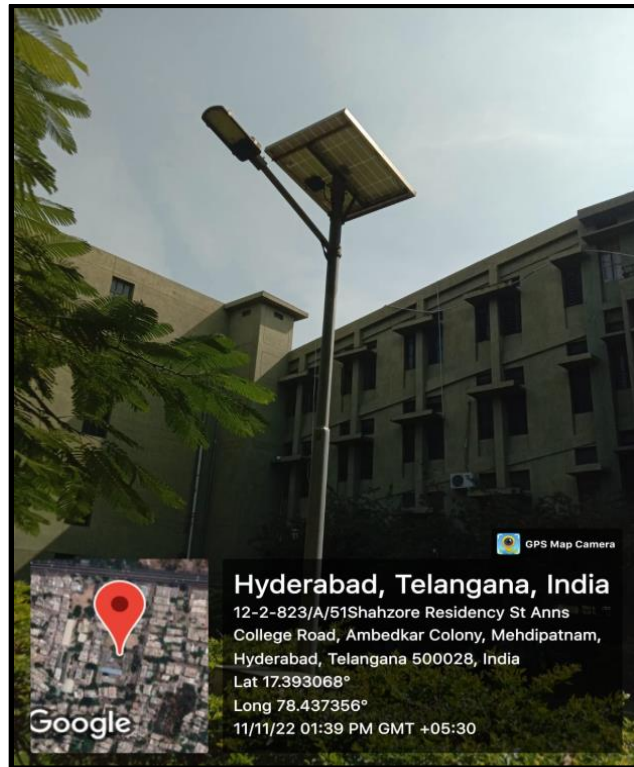
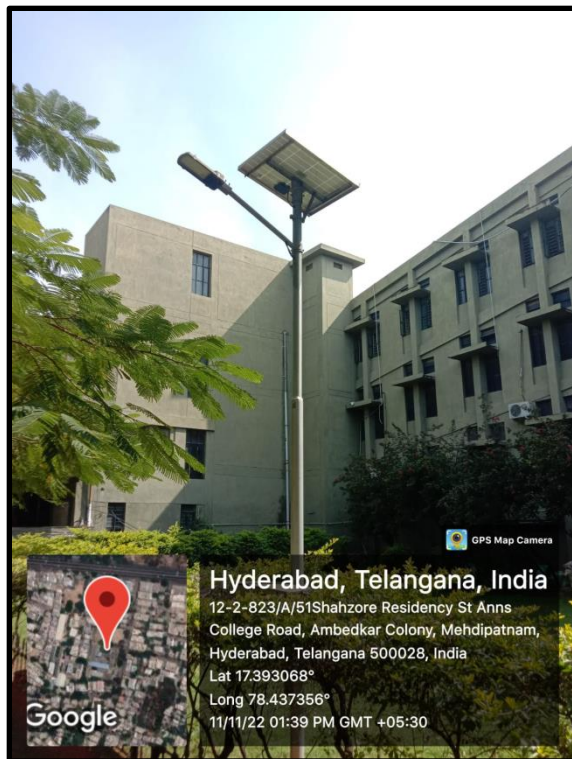
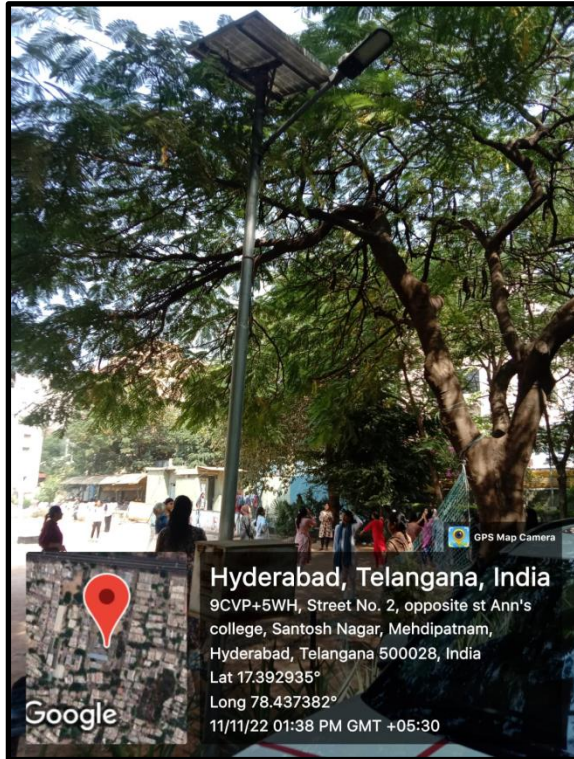
As we all know, conserving water is a vital life skill to adopt in order to preserve the ideal balance between a resource's availability and its usefulness in satiating human needs and desires. This motion-sensory accessory detects the moment and allows the flow of the water. The automatic water taps regulate the flow of water. It maintains the consistency of the water and minimizes unnecessary water wastage. An automatic sensor tap supports the least level of water consumption. Using an automatic sensor tap can help the user reduce up to 70% of water wastage.

Use of Solar energy in Campus:

Solar energy has been deemed one of the most efficient forms of clean, renewable energy in recent years, and many nations are already doing a wonderful job of encouraging individuals and businesses to purchase solar panels. Solar illumination is just one of the uses for the energy that solar panels may be utilised to collect. Essentially, it is a lighting system that generates and stores energy from a source of its own.

Solar Lamps

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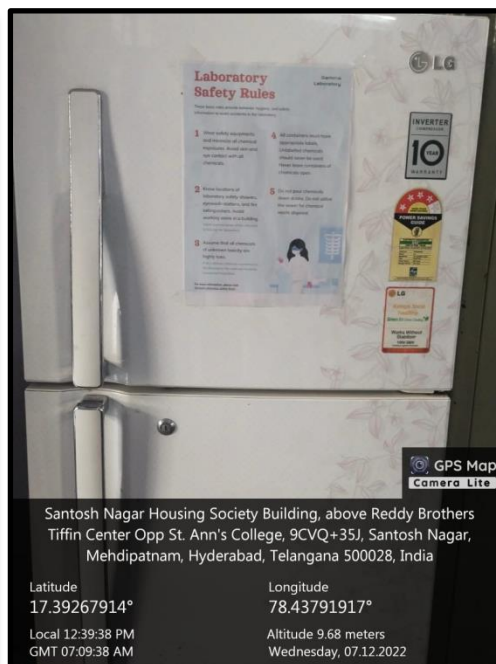
Power Efficient Equipment /Energy Star and the Environment

ENERGY STAR contributes to reducing greenhouse gas emissions, enhancing air quality, and preserving public health. Energy Star gives states and local governments more options and lower costs for achieving their climate, air quality, and public health goals by lowering emissions of greenhouse gases and other air pollutants. We can maximise our energy and expense savings with an ENERGY STAR certified refrigerator or cooler without sacrificing the features we want. Refrigerators with the Energy Star certification have energy efficiency ratings that are around 9% higher than those required to meet federal minimum standards. We might possibly save even more money if we properly recycle our old refrigerator and replace it with a new, ENERGY STAR certified refrigerator.

At St. Ann's, we installed Energy Star versions of the previous freezers. Every lab for the physical and life sciences has refrigerators that have earned the Energy Star certification. In comparison to comparable models of the same size or capacity, energy-efficient appliances function at a lower level by using less electricity. A model will use less energy and cost less to operate the more energy-efficient it is. An appliance is more energy-efficient if it has more stars on the Energy Rating Label.

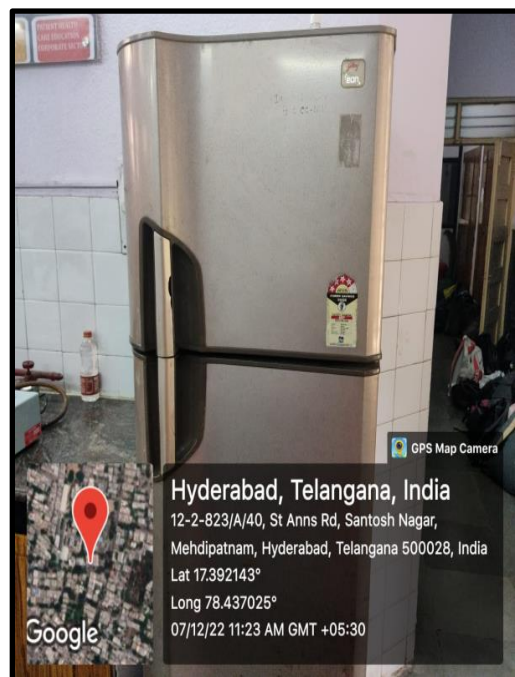


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Chemistry Lab

Biochemistry Lab



Nutrition Lab

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GPS Map
Camera Lite

12-2-823/A/35, Santosh Nagar, Mehdiapatnam, Hyderabad, Telangana 500028, India

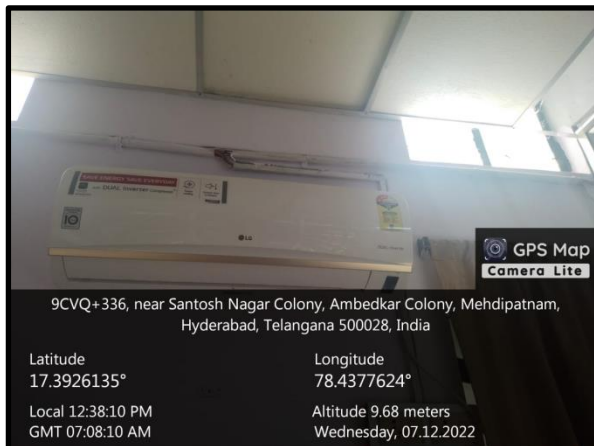
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GPS Map
Camera Lite

12-2-823/A/35, Santosh Nagar, Mehdiapatnam, Hyderabad, Telangana 500028, India

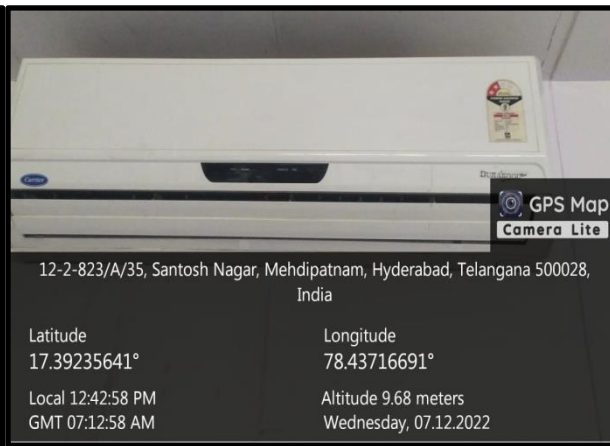
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GPS Map
Camera Lite

9CVQ+336, near Santosh Nagar Colony, Ambedkar Colony, Mehdiapatnam, Hyderabad, Telangana 500028, India

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GPS Map
Camera Lite

12-2-823/A/35, Santosh Nagar, Mehdiapatnam, Hyderabad, Telangana 500028, India

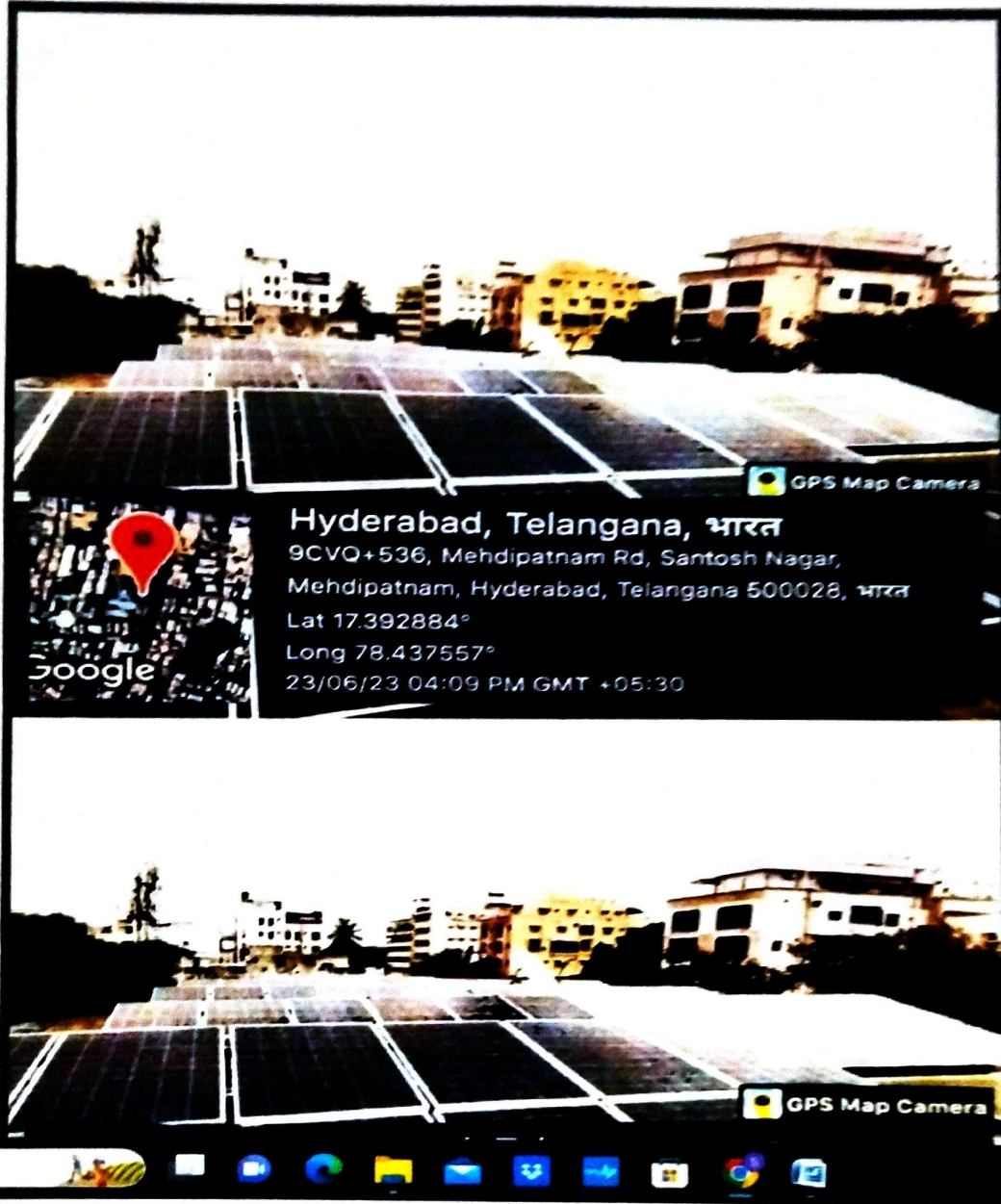
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Star rated AC

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Installation of Solar Panel



[Signature]
Principal
St. Ann's College For Women
(Autonomous)
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