7.1.2

The Institution has the Facilities and Initiatives for Alternate Sources of Energy and Energy Conservation Measures

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BIO GAS PLANT
Capacity: 1.5 cum Plant

CONTENT
1. DESIGN BASIS
2. TECHNICAL NOTE
3. FIBER COATING SPECIFICATIONS
4. ADVANTAGES OF KVIC MODEL
5. LIST OF EXCLUSIONS

The Waste Treatment Plant has been designed based on the following parameters.

Waste generated from	:	College
Type of waste	:	Food waste
Quantity of waste generated	:	5 kg

TECHNICAL DETAILS

1	Process	Anaerobic Digester
2	Reactor	Vertical Reactor Portable made
3	Reactor Type	Double Partitioned
4	Design	Water Sealed Jacketed Column
5	Extraction System	Flooding Type Automatic With Respect To Fresh Feed
6	Capacity	1.5 Cum
7	Treatment Capacity per Day	5 kg
8	Gas Production	0.7 kg Of Equivalent LPG GAS
9	Structure	Digester above ground or partially below ground
10	10 Holder Movements	Horizontal Type
11	Feed	Food waste

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The plant can treat 5 kg Food waste per day with a capacity of 1.5 m3. The main part of the biogas plant is digester, which has got two chambers. One is solid waste chamber and the other is liquid waste chamber. The waste directly goes to thesolid waste chamber inside the digester. In the first chamber food waste remains for70 to 80 days, then it converted in to semi liquid form. After that it moves to thesecond chamber where it remains for 20 to 25days.Then it purely converted in toslightly viscous blackish liquid which automatically pumps out from the slurry pipe.

Fiber Coating specification

1. Polyester ISO Resin
2. Polyester ISO Resin Gel coat
3. Glass fiber mat 600E
4. G.I pipe with Gas holder B-CLASS 3” pipe.

ADVANTAGES OF KVIC Model

Stable under large load variations
· Tolerant to disturbances
· Recovery very quickly after major upsets
No Clogging of reactors
· No risk of Sludge Bulking
· Excellent Strength to retain high pressure of Gas
· Expert Fabrication
· Customized Design & Fabrication
· Long Life
· Cost Effective
· Easy Maintenance

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Generator

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LED Bulbs

Solar Based Lights

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Solar Energy:

7.1.2.1 Table of Solar Power Plant Specifications and Energy Consumption

No of Photo Voltaic Cells	Each Cell Energy Produced	Total Power Produced	Inverter Specifications
45	335 WP	P= (45*335) = 15,075 W 15 KW	DC-AC Converter – 15KW Max I/P: 1000 V DC Rated Vtg: 600 V DC Rated Power: 15,000 Watts
Transformer	Technical Specifications	Standard Value	Difference
11KV / 433V	Type : Out door Rated KVA: 63 Rated Voltage: HV 11KV LV 433V Rated Current: HV 3.306A LV 84.00A	Power Factor: 0.8 Transformer: 11KV / 433 V Solar Inverter: 1000V / 600V 15,000 Watts	Transformer PV KVA – KVA 18750 KVA – 11000 KVA = 7750 KVA/0.8KW Total Full Load Power Saved = 6200 Watts

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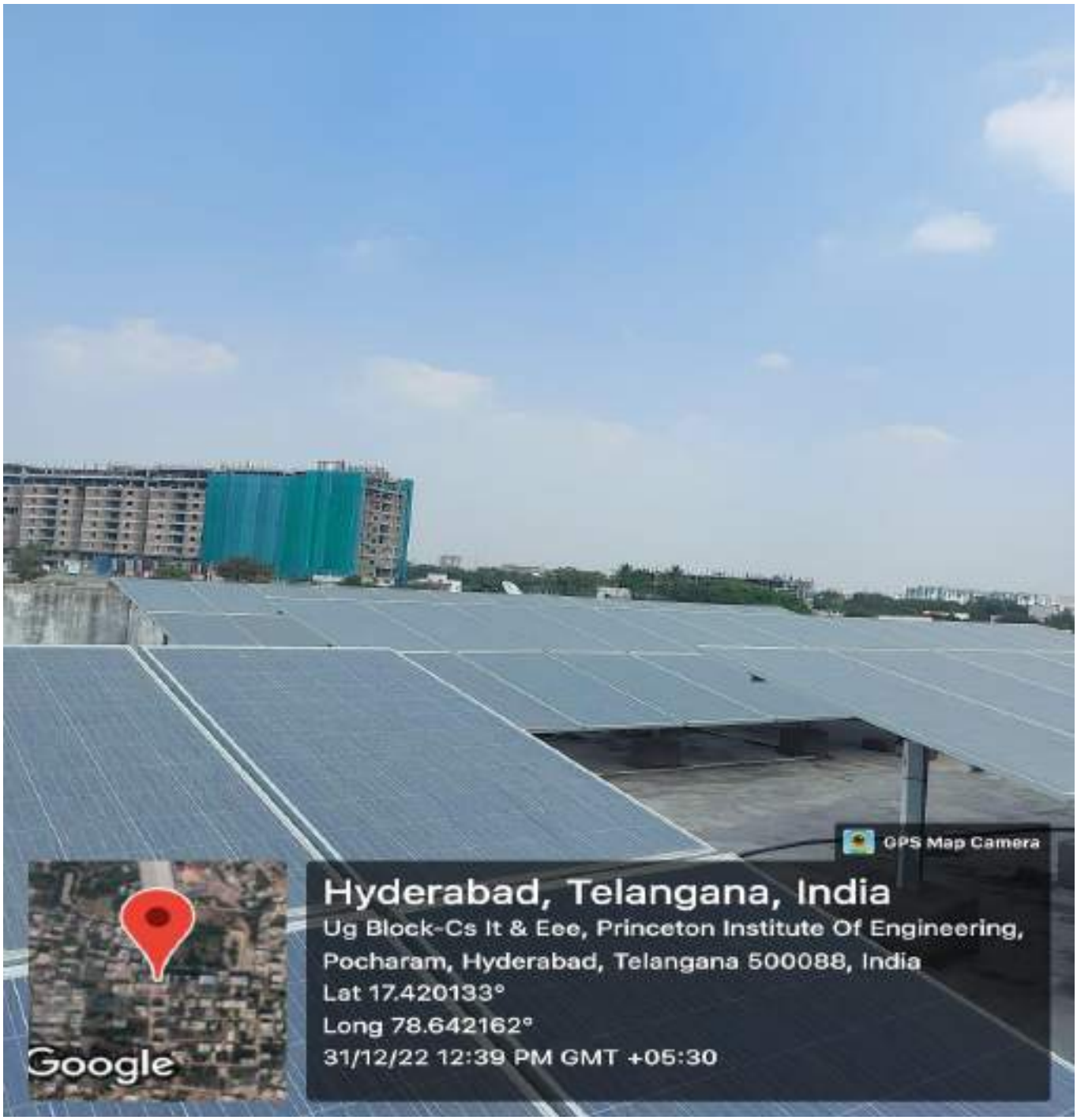
Photos



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