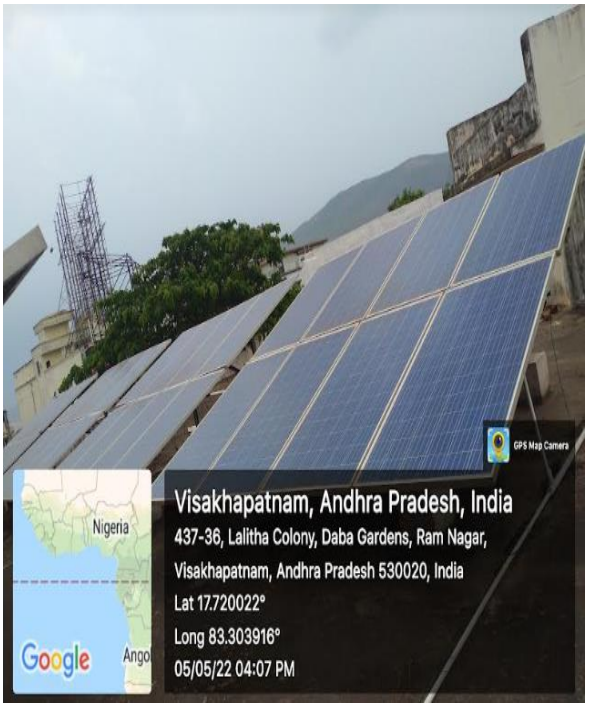
7.1.2 ALTERNATE ENERGY SOURCES AND ENERGY CONSERVATION MEASURES

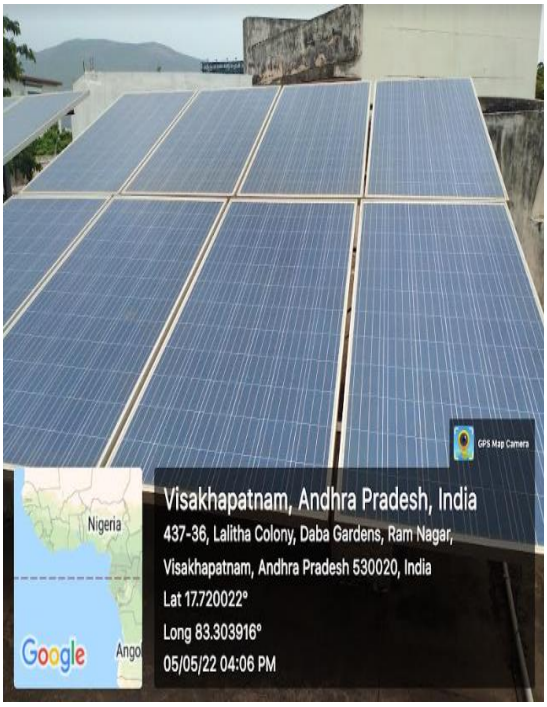
Alternate energy sources and energy conservation methods available in the institution are

1. **Solar Energy**
2. **Bio Gas plant**
3. **Wheeling to the grid**
4. **Sensor based energy conservation**
5. **Use of LED bulbs/Power efficient equipment**

1. GEOTAGGED PHOTOGRAPHS

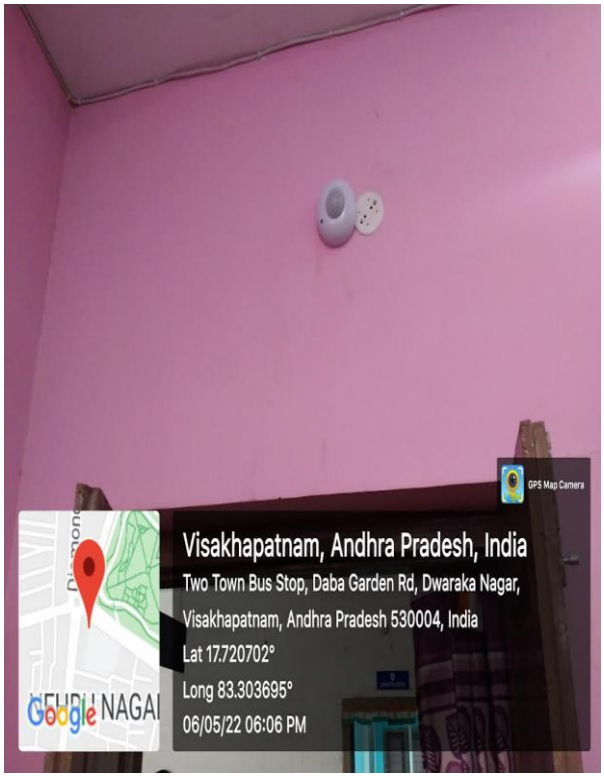
1. SOLAR PANELS





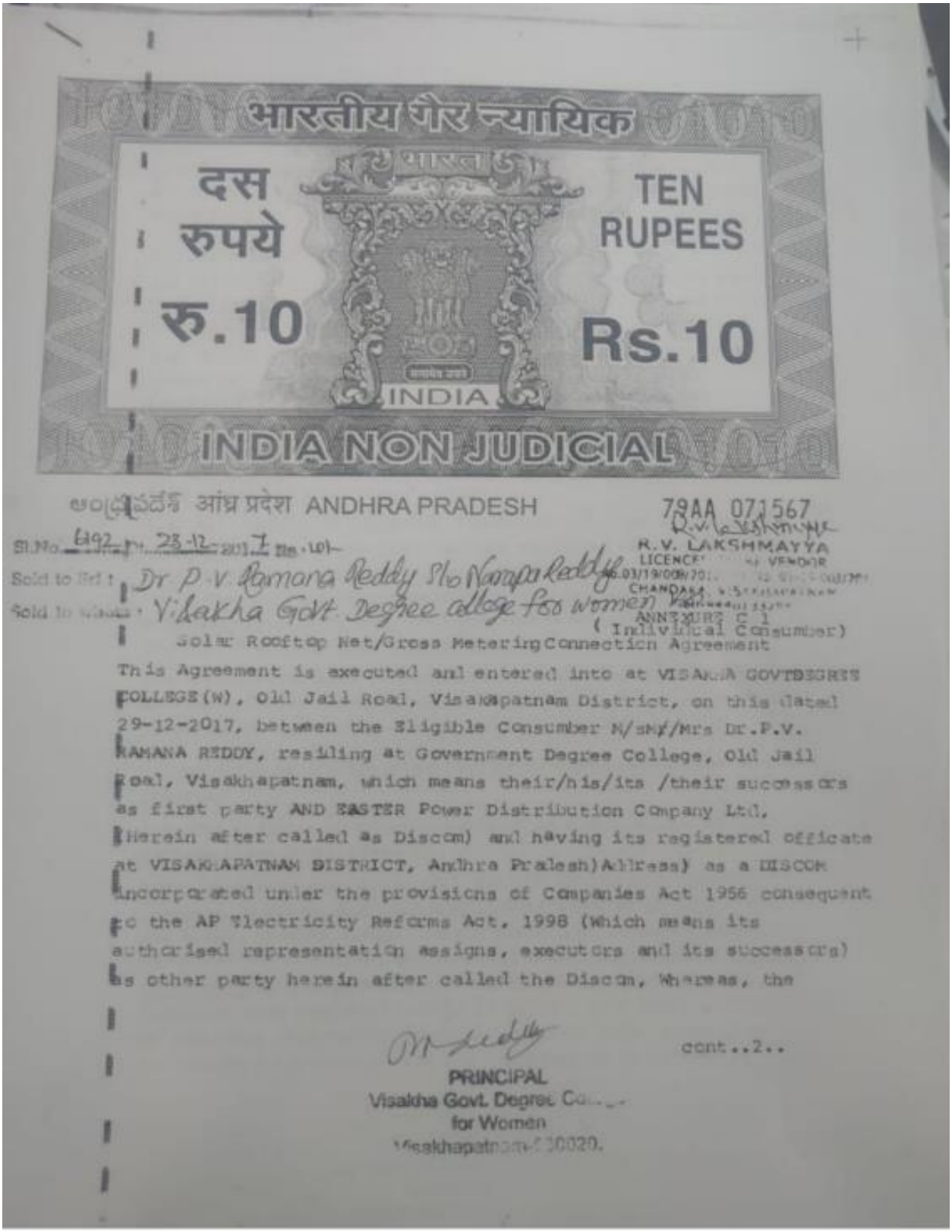
2. Biogas Plant

3. WHEELING TO THE GRID

4. LED BULBS	5. Motion sensor lights
	

2. **VIDEO link for sensor-based energy (Motion sensor lights):**
   https://drive.google.com/file/d/1PfKOBvIWk_WmYWIRQo-uYPiFxvpaSzVm/view?usp=sharing

3. WHEELING TO THE GRID



eligible consumber has taken the responsibility to set up or facilitate the requisite Photovoltaic system and injection of Power into the Discom's grid and whereas, the Discom agrees to benefit the eleigible consumber for the electricity generated and as per conditions of this agreement and Solar rooftop guidelines Both the party hereby agrees to as follows:-

1. Eligibility

1.1 Eligibility consumber is required to be aware, in advance of the standard and conditions his system has to meet for being integrated into grid/distribution system.

1.2 Eligible consumber agrees that connection of Photovoltaic system to Discom's distribution system shall be bound by requirements of State Distribution Code and/or Discom's ~~Conditions of system~~ service, The grid shall continue to perform with specified reliability, Security and quality as per the Central Electricity Authority (Grid Standard) Regulations 2019 as amended from time to time.

1.3. All registered companies, Government entities Partnership companies/Firms, Individuals and all consu,ner of APDiscom(s) will be eligible for setting up of Solar Power Projects within the state for sale of electricity by captive use, in accordance with the electricity act, 2003 and Andhra Pradesh, Solar Power Policy, as amended from time to time.

1.4 Group of Persons by societies will also be eligible for setting up solar roof top projects (GRP) for sale of electricity to DISCOM by captive use or for self consumption.

2. Capacity of the SPV Plant and Maximum Contracted load of the premises

2.1 The Eligible Developer/Consumber is proposing to install rooftop solar power plant of

5 kWp capacity under Solar ROOF TOP SPV (Net/Gross) metering facility at Street Old Jail Road, VISAKHA DEGREE COLLEGE(GOVT) FOR WOMAN, Visakhapatnam. having electrical service connection no. , Category VII, 3 Phase, Distribution _____ _____for a contracted loan on29 Kw/HPKVA. The Eligible Developer have requested DISCOM to provide grid contectvivity by necessary permissions to connect rooftop solar power plant and supply solar energy into the distribution of NETWORK of

cnt..3..

DISCOM at _____Oltage level which shall be extended for a period of 25 years.

3. Governing Provisions:

The Eligible developer hereby undertake to comply with all the requirements of the Electricity Act, 2003 the Rules and Regulations framed under, Provisions of the Tariffs, applicable charges and General Terms and Conditions of Supply prescribed by the Discom with the approval of the Andhra Pradesh Electricity Regulatory Commission herein after called as "Commission" from the time to time and agree not to dispute the same.

4. Technical and interconnection Requirements

4.1. Eligible consumber agrees that he will install, prior to connection of Photovoltaic system to Discom's distribution system, an isolation device and agrees for the Discom to have access to and operation of this, if required, for repair and maintenance of the distribution system.

4.2 Eligible Consumber agrees that in case of a power outage on Discom's system, Photovoltaic system will shut down, unless special transfer and isolating capabilities have been installed on photovoltaic system. The Discom shall not be obligayed to accept and may require the Eligible Developer to interrupt or reduce deliveries when neccessary with a reasonable notice to the Eligible Developer.

4.3 The Eligible Developer shall strictly adhere to the standards specified by CEA/MNRE and installations of electrical equipment must comply with Indian Electricity rules, 1956, 4.4. The Eligible Developer can install SPV on building walls also 4.5 Prior approval of Chief Electrical inspectorate General (CEIG) is required in case of an SRP connected at LT level of distribution network with more than 10KW capacities.

4.6. Eligible consumber agrees that Discom will specify the interface/ inter connection point and metering point.

4.7 Eligible consumber agrees to adhere to following power quality measures as per International or Indian standards and/or other such measures provided by Commission/Discom.

a. Harmonic current: Harmonic current injections from a generating station shall not exceed the limits specified in IEEE 519.

b. Synchronization , Photovoltaic system must be equipped with a grid frequency synchronization device.

4.9 Grid Connectivity and Evacuation facility:

The Power generated from a solar power project shall be injected at an appropriate voltage at the sub-station and/or interconnection point of the APTransco/Discom(s) . The Eligible Developer shall bear the entire cost of construction of power evacuation facilities, from the project up to the interconnection point and/or up to APTransco/Discom(s) substation. The Eligible Developer shall abide by the orders, rules, regulations and terms and conditions as approved by the commission from time to time for operation of Solar power Projects, Power evacuation, Transmission and wheeling of energy. Solar Power Projects will be exempted from paying the supervision charge to APTransco/Discom(s) towards the internal evacuation infrastructure within the project site and up to inter-connection point. Any upstream system strenghthering requirement shall be born by ~~RKX~~ APTransco/Discom(s) on a priority basis.

4.10 It is imperative to seek the technical details of the installation infrasturture from the supplier at the time of system installation and retain with the Eligible developer/consumber.

5. Implementation Process:

Implementation of solar rooftop net/gross metering facility will be as per the following guidelines:-

I) Under Net metering, Power is first sent to the applicances and lights in the house, and if excess remains, it is exported to the outsie electricity network and its quantum records, i) Under Gross Metering, all solar electricity generated is exported to the outside electricity network through an indempendent meter.

PRINCIPAL
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for Women
Visakhapatnam-530020.

1. Well-ventilated Rooms

Institute is utilizing the natural light to its maximum. The classroom and offices are designed in such a way that it allows maximum sunlight and reduces the requirement of artificial lights.