**CONSTRUCTION OF PARABOLIC TROUGH SOLAR COLLECTOR CONNECTED TO LATENT HEAT STORAGE SYSTEM**

**Members**:

YELLAPU VENU BHARGAV(320126520L35)

GOTTIPALLI JAYASHEEL SALMON(320126520L43)

ADDURI TARUN(320126520L37)

ANNEPU SANDEEP KUMAR(319126520171)

YAMAKA AVINASH(320126520L44)

**UNDER THE GUIDANCE OF**

Dr. M.V.N.V SATYANARAYANA

ASSISTANT PROFFESOR

**(DEPARTMENT OF MECHANICAL ENGINEERING ANITS)**

**INTRODUCTION:**

* Concentrated solar power plants are one of the most promising and mature renewable options for electric generation.
* Parabolic trough collectors (PTC) are the most proven, widespread and commercially tested technology available for utilizing solar power effectively.
* Latent Heat Storage System is connected to PTC in order to store the energy and use when ever the changes occurs in weather conditions.

**PROBLEM STATEMENT:**

* As Solar Energy is widely available in nature and it is a renewable energy source but it is not being effectively used in industries for power generation.
* To operate Boilers fossil fuels are required as fossil fuel are depleting and to reduce the operational cost, Parabolic Solar Trough collectors need to be used in industries.

**PROPOSED APPROACH:**

* First we construct a Parobilc Trough solar collector by considering necessary dimesions.
* Then an absorber tube is fitted at the exact position where entire solar energy is concentrated.
* Then by passing necessary Working fluid required output is generated.
* Connecting the latent heat storage system to it makes use when there are changes in weather conditions.
* Latent Heat Storage system consists of phase change material.

**EXPECTED OUTCOME:**

* To generate steam using solar energy and reduce the usage of boilers in industries.
* To use solar energy irrespective of weather conditions.

**FABRICATION MODEL:**

* The parabolic Trough Solar collector is constructed and its performance is analysed.

**TIME PLAN AND FACILITIES REQUIRED:**

* One month: For design and gathering of required material
* Three Months: For construction and performing analysis
* One Month: For Submitting Project report

**APPROXIMATE COST OF THE PROJECT:**

* Approximately around 20,000Rs