



## 1<sup>st</sup> AICTE-ECI CHHATRA VISHWAKARMA AWARDS 2017

To be given away on the Vishwakarma Day, 17<sup>th</sup> September, 2017, NEW DELHI



**MsRajaswineePradhan**, 3<sup>rd</sup> year, Civil Engineering, has got shortlisted for the final round of 1<sup>st</sup> AICTE-ECI CHHATRA VISHWAKARMA AWARDS 2017

### 1. Abstract (In max. 300 words) :

#### **Management of Solar Energy&Rainwater for Sustainable Use**

There are many engineering institutes located in water scarce regions and it is a day-to-day challenge for them to manage water for optimum usage. Therefore it is the need of the hour to manage the water for sustainable use. Also the energy requirements for the institutes are very high, thus electricity bills are very high.

The idea is to use the roof tops of the institute for rainwater management as well as energy management simultaneously in such a way that the institutes may get other benefits apart from these. The roof of the institutional buildings should be converted into green roofs, so that it can help in getting subsidiary benefits like reducing air pollution, minimizing green-house gases and acting as a heat insulator to keep the upper structure cool. For this purpose the roof tops and outside of the south facing walls of the top floor can be completely covered by installing solar plates. On one hand the solar plates will meet the power requirements of the institute while as on the other hand the gap between the plates and structural element will act as heat insulator thus minimizing heat effects on top floor. This will reduce the necessity of cooling devices that use harmful gases like CFC. The plates will also minimize the storage of rainwater on undulated rooftops and will act as a guide for the rainwater for rapid flow towards the outlet on the roof top which would then be carried through the pipe mechanism to the underground storage tanks or the water may be used to recharge the groundwater table. Many institutes use tankers for transporting water for their requirements and if this idea is practiced the trips will reduce thus reducing fuel consumption as well as air pollution.

Note- No portable or non-portable equipment are required. It will be a model presentation.

### **2:For Mentor/Teacher- Incharge**

**Name:**Abhishek Kumar Choudhary

**Designation:**Assistant Professor

**Stream of Engineering:**Civil Engineering

**Qualification:**M.Tech

### **Contact Details**

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