

## **SPARKS**

Energy is a crucial input for our economic as well as social development. As a result of the increase in agricultural, and industrial and domestic activities the demand for energy has increased remarkably, especially in emergent economies such as India.

The buildings where we live and work are one of the largest energy consumers because of heating, cooling, ventilation and lighting requirements that are necessary for our comfort. We often waste some amount of energy in the buildings and as a building warms up during the day, we often find that we need to remove some of this energy - in the form of excess heat – to make the building comfortable for the occupants. We can take air-conditioning as an example which is used to remove thermal energy from buildings, which while effective at cooling the air in buildings, is rather inefficient from the perspective of harvesting energy.

We need to design a system whose primary goal is collecting heat energy and all the other wasted energy in a building, and to optimize the collection of energy in the most energy-efficient and cost-efficient method possible.

### **Task:**

Develop a cost-efficient design of a building with minimum use of energy or with optimized energy.

### **Judging:**

The designs will be judged by a panel of experts. Following are the broad guidelines for

- Minimizes operational carbon emissions.
- Minimize usage and collecting all the wastage of energy.
- Minimizes construction cost.
- Satisfies the minimum day lighting requirement criteria.

### **Specifications:**

1. The weather of the outside area of the building is to be taken at Standard condition.
2. Participants should submit a CAD model or prototype of the building.
3. Participants should also submit a presentation explaining all the points for optimizing energy in the building.

### **General Rules:**

1. The teams must adhere to the spirit of healthy competition.
2. Organizers reserve the right to disqualify any team indulging in misbehavior or violating any rules.

3. Any team that is not ready at the specified time will be disqualified from the competition automatically.
4. In case of any disputes/discrepancies, the organizers' decision will be final and binding.
5. The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.
6. Note that at any point of time, the latest information will be that which is on the website. The information provided in the pdf downloaded earlier may not be the latest. However, the registered participants will be informed through mail about any such changes.

**Progress Report:**

Those who registered on or before 29th October were supposed to give the updates of their solution, the extent up to which they have designed the solutions and the difficulties being faced on or before 30th October. Those who missed the progress report submission are supposed to send a request mail to [sparks@techfest.org](mailto:sparks@techfest.org) with the subject 'Request to accept the 1st progress report - Team id'. Those who registered after 29th October can directly go for Final Submission.

**Team Specifications:**

A team may consist of a maximum of 4 participants. This competition is open for all. So, anyone can take part in this competition. Students from different educational institutes can form a team.

**Eligibility:**

All participants consisting of students, research scholars, company experts, etc. with a valid identity card of their respective educational institutes/company are eligible to participate in the event.

**Certificate Policy:**

Only those teams that are shortlisted by the judges would be awarded a Certificate of Participation. The top three entries would be provided with Certificate of Excellence. Apart from that, Certificates for Best Design, Best Idea and Best Presentation will also be given.

**Disclaimer:**

1. The design should not be copied from any source
2. We are not liable to any claims of copying the design, the team holds the liability for any such scenarios

**Timeline:**

1. Progress Report Submission
2. Those who registered on or before 29th October were supposed to give the updates of their solution, the extent up to which they have designed the solutions and the difficulties being faced on or before 30th October. Those who missed the progress report submission are supposed send a request mail to [sparks@techfest.org](mailto:sparks@techfest.org) with the subject 'Request to accept the 1st progress report - Team id'. Those who registered after 29th October can directly go for Final Submission.
3. Last date for registration- 30th November, 2015
4. Project Report Submission - 30th November, 2015
5. Result Declaration-13th December, 2015