

# INDIAN SOCIETY FOR TECHNICAL EDUCATION

## KERALA GOVERNMENT ENGINEERING DESIGN NATIONAL AWARD FOR ENGINEERING DEGREE STUDENTS

### PROFORMA FOR NOMINATION

**Year of Award : 2014**

Name of the Student Nominee(s) :  
(not more than TWO Students)

Discipline, Branch and  
Semester/ Year of study :

Membership  
(Professional Societies) :

Email and Mobile No. :

Address of the Institution :

Name of Guide(s)  
and his address :

Title of the Project  
(in capital letters) :

Significance of the Project : 1.  
(Indicate two specific applications,  
outcomes or overall impact of  
this Project)

2.

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(The detailed Project Report may please be enclosed).

I recommend the above Project for the ***Kerala Government Engineering Design National Award of 2014.***

Place : Signature :

Date : Name & Address of :  
Head of Institution

(Office seal)

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FOR ENGINEERING DEGREE STUDENTS**

**Year of Award : 2014**

**RESUME OF THE PROJECT**

(Please indicate in the following space the significance of the Project to industry/community, possible applications, applications already made and their impact, how the project work is different from similar work/studies already done by others, how the work can be further improved, possible limitations of the work, etc.)

Date : Signature :

(Student or Guide)

Name of Student :  
or Guide

# KERALA GOVERNMENT ENGINEERING DESIGN NATIONAL AWARD

## ANNOUNCEMENT

### ABOUT THE AWARD

In order to promote and encourage design capabilities among the engineering student community, the ISTE has instituted an annual award known as **Kerala Government Engineering Design National Award**. These awards are presented every year during the Annual Convention of ISTE.

The Awards consists of :

- i) A Cash Prize (I Prize Rs.3000/-, II Prize Rs.2000/-, III Prize Rs.1500/-)
- ii) A Medallion
- iii) A Citation

For the competition, the term **Engineering Design** is used in a broad sense, not confined to any particular discipline or branch (like civil, mechanical, electrical, chemical, etc.) of engineering. Students are free to choose or identify on their own any design problem in any branch of Engineering. The problem chosen should be relevant to the Indian context and not trivial. The solution to the design problem can be hardware or software oriented. As examples, some design problems are indicated below :

(These are only indicative and your design problem need not confine to this list only)

- Conversion of a three-wheeler (auto rickshaw) as a small family car;
- Redesign of a three-wheeler (auto rickshaw) for more passenger comfort, including all weather comfort;
- Semi-automatic traffic signal for a busy intersection having mixed traffic;
- Methods to reduce traffic accidents;
- Slide Projector for use in rural areas with no electricity;
- Novel burglar alarm and safety device;
- Proper mass transportation system for a metropolitan town like Delhi, Bombay, Calcutta, Bangalore, etc;
- A novel system for treating and recycling used water;
- A simple desalination system to get enough drinking water for a family;
- A mobile hospital/health care system to visit rural areas;
- Design of robots for specific functions;
- Low cost sanitary system for domestic or rural use;
- Low cost techniques in house construction;
- Design of fuel-efficient choolas for domestic use;
- Novel designs in solar energy use;
- Novel designs in measuring instruments;
- A machine to separate fertile seed from infertile seed;
- A two-stage air-water toy rocket;
- Design of a vehicle for a handicapped person.

## **ELIGIBILITY**

Any student in any branch of engineering/technology, who is on the rolls of the institution at present or who has completed the course during this year can compete for this award.

**ONLY ENGINEERING FIRST DEGREE STUDENTS ARE ELIGIBLE TO COMPETE.**  
Post-graduate course students are not eligible.

## **HOW TO PROCEED**

- Identify a problem or task.
- List out various possible solutions.
- Determine solution constraints.
- Examine technical feasibility based on constraints and other factors and arrive at the best possible solution.
- Make detailed engineering analysis.
- Develop a model and test its performance.
- Write a good report and submit.

Note that a good final year project with some sophistication can be made use of for this competition.

Students can work on a design problem either individually or in a group of not more than **TWO STUDENTS**. They can also work independently or with the assistance of a faculty member or an adviser. Due weightages will be given to these factors at the time of selection.

In case two students work on a project and get the award, the cash prize will be shared between the two, certificates will be given to both, but the medallion will be given to the leader of the group only.

The design problem chosen should be such as to require about ten weeks of good work. Work should be submitted in the form of a Report, typed on A-4 size sheets, neatly bound. Only one copy of the Report is required. The Report should contain:

- Problem identification
- Need for a solution
- Possible solutions
- Constraints and restrictions on the solution (like materials, production processes, manpower, cost, pollution, etc.)
- Best solution
- Detailed engineering analysis
- Test results of model fabricated

The points mentioned above need not necessarily be covered in the order written. Ability to identify a problem, constraints and restrictions under which solutions are to be obtained, creativity, novelty of the solution presented, etc., are some of the points that will be taken into account during evaluation.

**Note :** For your guidance, we are also enclosing two examples indicating how to proceed with a design problem. This is meant as a guideline only.

## **SELECTION PROCEDURE**

Selection for the awards will be based on a two-stage process. In the first stage, a few best reports will be identified from among the reports submitted. The students who have submitted these reports along with the associated faculty members (if any), will be invited to the Students Annual Convention of the ISTE, where they will be asked to present the reports. They can bring and demonstrate any device or equipment fabricated by them based on the design. The three winners will be identified immediately by a committee of experts and the awards presented to them. The first, second and third prizes will consist of cash awards (Rs.3000, Rs.2000 and Rs.1500), Citations and Medallions. All those whose entries are accepted will receive a certificate of participation.

### **T.A. FOR STUDENTS/FACULTY MEMBERS**

Students invited to present the design at the ISTE Students Annual Convention will be paid SECOND CLASS to-and-fro train fare. Arrangements for their boarding & lodging will also be made.

### **LAST DATE FOR SUBMISSION**

The last date for receiving the nominations with the reports at the office of the Executive Secretary : **August 31, 2014**

Reports should be sent to :

**The Executive Secretary**  
Indian Society for Technical Education  
Shaheed Jeet Singh Marg, New Delhi – 110 016

(THE NAME OF THE AWARD MAY BE SUPERSCRIBED ON THE ENVELOPE)