



**ENGINEER<sup>∞</sup>**

energising india. energising the future

**Hurry!**

Entries close on  
**October 26, 2009**

**re-assembled bro's guitar amp at 13  
built a hamradio kit in class X  
setup a servo transformer for dad  
you say **electro technology** is  
in your blood..**

**are you really better than the best?**

**everyone refers to you as india's own edison. calculations and solutions  
come naturally to you. your skills and ideas could trigger a wave of  
change. just need that one chance to transmit it to the rest of the world.  
you are the engineer of the future, and we have been looking for you.**

**what are you waiting for?**

The next wave of India's growth is energy revolution. According to a McKinsey study 'Powering India: The Road to 2017', if India grows at 8% for the next ten years, its power requirement may rise from 120 GW to 315-335 GW, requiring an investment of \$600 billion.

**Welcome to the world of Electrotech engineers.**

This new age engineer will be global, versatile, quick, innovative and adaptable to the changing requirements of power industry.

an initiative by

**ieema**  
your link to electricity

## Engineer<sup>∞</sup>

Engineer<sup>∞</sup> (Engineer 'Infinite') is a pan India Competition organised by IEEMA to harness the unlimited Indian Electrotech engineering potential towards energising India. The competition is open to select Engineering colleges, technology institutions and polytechnics, covering electrical, mechanical, electronics and instrumentation engineering disciplines.

If you are an **Electrotech Engineer** and have an original idea, here is an opportunity to showcase your engineering capabilities to the world. If you are selected then you stand a chance to exhibit in **ELECRAMA-2010**, the world's largest E&E exhibition.

### Prizes

**1<sup>ST</sup> PRIZE OF RS 2,00,000**

**2<sup>ND</sup> PRIZE OF RS 1,00,000**

**3<sup>RD</sup> PRIZES OF RS 50,000 EACH**

(All prizes are common to Diploma, Undergraduate and Postgraduate participants)

## Why Engineer<sup>∞</sup>

To encourage students to think of practical applications in specified areas of Electro Technology.

As an incentive, some selected projects would be funded through a grant and the winning projects would be given attractive monetary prizes.

Engineer<sup>∞</sup> seeks to:

- Sensitise the students to the practical issues that cry for attention and solution in the Indian context
- Use their creativity to come up with relevant practical ideas to solve the issues
- Build a prototype and demonstrate so that your idea may be carried forward for commercialisation

## Competition Rules

### Description:

Engineer<sup>∞</sup> competition is organised by IEEMA as a part of Students' Pavilion activities during ELECRAMA-2010.

### Objective:

The participants would be required to build and demonstrate a working model in any Project Area specified by IEEMA, covering ONE Technology Area and ONE Result Area

### Eligibility:

#### Eligible Institutions:

Universities, Deemed Universities, and Colleges offering Graduate and Postgraduate Technology/Engineering Degrees, Postgraduate Engineering Diploma, Polytechnics offering Diploma Programs. The participating institutions must have commenced their Diploma/Graduate/Postgraduate Degree/Diploma Programmes during academic year 2000-01 or earlier.

The list published by AICTE for the year 2009-10 will be used as the main resource to identify eligible institutions. In addition, IEEMA may use other resources as well, including their own research.

Institutions like IITs, NITs and NPITs.

#### Eligible Students:

- Final and pre-final year students of Graduate and Postgraduate Programmes
- Final Year Students of Diploma/Postgraduate Diploma Programmes
- In all other cases, final or pre-final year students

#### Eligible Branches of Engineering:

The students pursuing Graduate Degree, Postgraduate Degree and Diploma Programmes in

- Electrical Engineering
- Electronics Engineering
- Mechanical Engineering
- Instrumentation Engineering

The degree/diploma may lead to any combination of these subjects.

Postgraduate Students of any specialisation in any of the above mentioned subjects.

### Project Areas:

IEEMA invites projects in the following Technology Areas given under:

- Electricity Generation & Transmission
- Electricity Distribution (Medium & Low Voltage)
- Switch Gear, Protection & Control
- Electro Mechanical Machines, Equipment & Accessories
- Manufacturing Technologies, Tooling & Industrial Application of Robotics including in manufacture
- Electrical & Electronics Instrumentation
- Power Electronics
- Automation in Power Engineering, Manufacturing, etc
- Renewable Electrical Energy Sources

The Projects need to address at least any one of the following Result Areas:

- Improving Energy Efficiency, including improvement through alternative material and processes
- Achieving Cost Reduction, including cost reduction through alternative material and processes
- Functional and/or Productivity enhancement of products and processes
- New Products/Processes resulting in any of the above

A project work already being pursued as a part of the Diploma, Under Graduate or Postgraduate course can also be presented for the competition, provided the subject matter is otherwise permissible.

### Project Team:

A project team may consist of:

- A maximum of three students, in the case of Undergraduate and Diploma courses
- Only one Student in case of Postgraduate course
- A project team cannot have a mix of Diploma, Undergraduate, Postgraduate students

The individual student members of a project team must hail from the same institution and may be from the same or different eligible branches.

Each project team needs to have one faculty guide from the same institution as of the student members of the project team. The faculty guide would be from any one of the eligible branches.

### **Maximum number of entries permissible from any institution:**

The maximum number of project entries permissible from any institution will be:

- TWO from Electrical Engineering Branch
- ONE from Mechanical Engineering Branch
- ONE from Electronics Engineering Branch
- ONE from Instrumentation Branch
- Altogether FIVE entries from any institution subject to the above ceiling per branch

Where the branches of study are a combination of the above subjects, the institution may classify a particular project in any one of the branches

- The institution or the intending participants may work out a suitable mechanism to adhere to the above limits and to ensure that the best possible entries are sent, in case of a larger number of intended entries.
- In case more entries are received than the above limits, IEEMA would accept or reject such excess number of entries based on their own criteria.

### **The Competition Process:**

The participating teams would first pre-register their entries with the following information (Use the **ENTRY FORM\*** given in this brochure):

- Details of the participants, branch, college name, and contact e-mail. Pre-registration can be done by sending a mail to [project@pashinindia.com](mailto:project@pashinindia.com), with subject line as **PRE-REGISTRATION FOR Engineer<sup>∞</sup>**
- After pre-registration, a proper entry must be done with the following details (Use the **CERTIFICATION FORM\*** given in the brochure):
  - # Names of project team members
  - # Name of the team leader from the members
  - # Name of the faculty guide
  - # Title of the project
  - # Project abstract describing the Technology Area and Result Area (abstract must conform to the prescribed format)
  - # Estimated cost of the project, i.e. making the working prototype
  - # Estimated time scheduling with milestones to complete the prototype, if the project abstract gets selected
  - # Required certification from the head of the institution

The registered entries would be validated and then their technical abstract would be scrutinised by an expert team constituted by IEEMA.

A certain proportion or a number of validated entries would be short-listed.

Short-listed projects would be taken up for further screening, if required, through one or more rounds of selection and then a final list of projects would be placed in the 'Grant List'.

- Projects placed in the 'Grant List' would be eligible for a financial grant of up to Rs 10,000 (Rupees Ten Thousand only) per project, as per rules to be specified.

*\*For multiple entries from the same institution, photocopies of the Entry Form/Certification Form may be used.*

The projects of the 'Grant List' would be followed up, and if any further support is required over and above the support and guidance given by the faculty guide, it may be provided at the discretion of IEEMA. Such help would be in the nature of additional inputs mainly for managing deadlines, satisfactory progress, completion of the project, and advice on critical resources.

The grant would be released in parts and the final part will be released after the completion of the demonstration at ELECRAMA-2010.

All the completed projects would participate in the final display and demonstration at the Students' Pavilion during the ELECRAMA-2010 for the entire duration of 5 days (Jan 20-24, 2010).

During ELECRAMA-2010, a duly constituted panel/panels of judges would assess each project on a set of common parameters, to be evolved and communicated to the 'Grant List' of projects. The prize winners would be decided by the judges.

Evaluation of the abstract for selection will be done under anonymity. The project entries must follow the given instructions and avoid their identities to be mentioned in the abstract itself. Anyone identifying himself/herself will run the risk of the project entry getting disqualified.

The relevant forms/processes for pre-registration, project entry certification, abstract format, etc would be available on [www.elecrama.com/engineerinfinite](http://www.elecrama.com/engineerinfinite).

### **What Constitutes a Project?**

An acceptable project will constitute a working model that can be described as per the Technology Areas and Result Areas mentioned above. Designed with the use of engineering principles, based on theoretical concepts that can be demonstrated through a working prototype, the results are to be supported by test data, where applicable, that can be repeated if required.

### **Additional Support provided for completed Projects:**

The student members and the faculty guides of the participating teams at ELECRAMA-2010 will be provided with financial assistance towards travel, board, lodge and local conveyance, to the extent possible.

Registration for the participants of ELECRAMA would be complimentary from IEEMA for students and the faculty guides.

**Separate certificates of merit** would be distributed to the institution of the prize winning teams.

For all the project teams who are in the display, **a certificate of recognition** would be presented to the teams and their institutions.

### **Major Criteria for judging the Project Abstracts:**

Conceptualisation of the Project:

- Fitment of the project to the Technology & Result Areas
- Content of the Project in terms of originality of thought and innovation of ideas
- Brevity & Clarity of presentation of the abstract

Evidence of application of knowledge:

- Fundamental knowledge of energy
- Knowledge of engineering principles
- Knowledge of relevant theory, formulae, etc.

Technological and Economic Benefits arising from the project concept.

Impact of the project on Environmental Issues of the country.

### **Major Criteria for judging the Final Project and the Prototype:**

The parameters for judging the final projects and prototypes would be evolved by the panel of judges, once the selection of the abstracts for the Grant List is finalised. However, the following aspects should be kept in mind by the participants right at the project entry stage:

- Originality of thought
- Quality of engineering of the prototype
- Performance at the presentation and viva voce
- Thoroughness of understanding of all aspects of the project by all members
- Performance at the demonstration and display

### **Instructions for preparing the Project Abstract:**

- Specify the Technology Area
- Specify the Result Area
- Title of the Project
- Category of the Project: PG/UG/Diploma
- Prepare the abstract in a word processor, preferably in Microsoft Word
- Alternately the abstract can be in the form of a Powerpoint presentation
- In either case use of visual aids like diagrams, charts, flow charts and tables are encouraged.
- The total length of the abstract should not exceed 300 words. In addition, the visual aid mentioned above should not exceed FIVE in number
- The itemised cost estimate and the time-table for project completion along with the deadlines mentioned in this brochures should not exceed ONE page. Word count on this page is not counted.

The project abstract will be accompanied by a Certification form. The abstract itself should not contain any detail of identification of the student/institution.

The abstract, along with a scanned pdf of the duly filled certification form, needs to be sent by e-mail to [project@pashinindia.com](mailto:project@pashinindia.com) or uploaded on the website of IEEMA/ELECAMA.

In addition, a hard copy of the abstract and the certification form needs to be sent to Pashin Consultancy at the address mentioned on the back cover.

### **IMPORTANT DATES:**

Last date to receive entries: **October 26, 2009**

Announcement of Short-listed Projects to be announced: **November 10, 2009**

Announcement of 'Grant List' of projects: **November 15, 2009**

Last date for receipt of revised project progress plan (if revised): **November 22, 2009**

Project progress reports to be received by: **December 05, December 20, December 30 & January 10, 2010**

Last date for prototype to be ready: **January 15, 2010**

Arrival for final display: **January 19, 2010**

Final display & evaluation at Elecrama: **January 20-24, 2010**

Announcement of Winners and Prize distribution: **January 22, 2010**

### **CONTACT:**

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Log on to [www.elecrama.com/engineerinfinite](http://www.elecrama.com/engineerinfinite) for more information on participation.