



Tejas pravin shah  
Energy Systems Engineering  
Indian Institute of Technology, Bombay  
Specialization: Energy Systems Engineering

09D17005  
UG Third Year(Dual Degree )  
Male  
DOB: 17/08/1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	8.80
Intermediate/+2	Maharashtra State Board	Kishinchand Chellaram college	2009	87.50
Matriculation	Maharashtra State board	Blossoms High School	2007	89.69

## EXPERIENCE

### Applied Materials

Nano materials manufacturing Company

(Mumbai, May 2011 to July 2011)

- Conducted a complete **energy audit** of the solar cell manufacturing research facility.
- Energy benchmarking** was done which lets the user know beforehand how much energy is going to be consumed in a month or year.
- Worked on the **energy optimization** of the main sources of Power consumption viz. vacuum pumps and air conditioning units (Variable frequency drives and other technologies to optimize performance of motors and pumps) and provided energy efficient solutions like installing Temperature sensors, pressure sensors, capacitor banks, thermally stable coating for Heaters, design changes for pipelines which were proposed to be implemented by the company in their plant.
- The suggested changes were expected to save **energy consumption worth lakhs of rupees**.
- The report has been submitted to the **President of Applied Materials, India**.

### P.B. Shah & Co.

Government authorized mechanical projects undertaking firm

(Mumbai, May 2010 to July 2010)

- Carried out business administration which includes making deals with clients, making **Comparative statement reports** and preparing **bids for tenders**.

## SCHOLASTIC ACHIEVEMENTS

- Department Rank 5** from a batch of **26 students**. (Semester performance index of Spring 2011 = **9.82**)
- Awarded certificate of merit in **National Talent search Exam (NTSE)** (awarded to top 1000 students in India).
- Was placed at the **4<sup>th</sup> position in inter school science quiz** with a team of four which included competitions like fastest finger first, treasure hunts, etc at the Nehru Science Centre, Mumbai from among 256 different schools in 2006.
- Was awarded certificate of Merit in Homi Bhabha Bal Vaigyanik exam in 2006.
- All India Rank 1022** in the JEE exam 2009 from among 3,84,000 students.
- Achieved an all **Maharashtra rank of 18** in the All India Mathematics open examination in 2006.
- Was awarded certificate of merit for being in **top 1%** in National Standard examination of Chemistry conducted by **Indian Association of Chemistry Teachers (IACT)** in 2006.

## POSITIONS OF RESPONSIBILITY

- Member of the **Academic council 2011-2012** of IIT Bombay as a **Special task force member** – Structuring of **course feedback review forms** and ways to get better response relevant to what is expected out of the reviews.
- Member of the **Energy Science Department Council 2011-2012** as a **Logistics cum Events Manager** – Managing and initiating new events for the department specially to initiate the **DEPARTMENT FESTIVAL**.

- **Co-ordinator** for Techfest 2011 (Annual Technical Festival of IIT Bombay) and Mood Indigo 2010 (Annual Cultural Festival of IIT Bombay) – Managing events which includes negotiations with artists, planning and execution of their performance as well as their Hospitality.
- School House **Vice Captain in 2006 and Captain in 2007** – Managing all Academic, Sports, Cultural and Social events of the house which includes all kinds of competitions as well as conducting sports and cultural events for the house.

## MAJOR COURSES COMPLETED

- Renewable energy technologies, Heat and Mass transfer, Fluid Mechanics, Equipment design and control, Power electronics, Analog and Digital Electronics, Numerical Analysis, Material Science, Thermodynamics, Psychology, Data analysis, Economics, Linear Algebra, Ordinary differential equations, C++ programming, Nuclear Engineering.

## PROJECTS

- **Design and model of an automated multi storeyed Car Parking System (Prof. Rajesh Gupta)**  
Designed and made a mini car parking system model with two floors which uses a motor to park the car automatically in the desired slot using Electronic IC's, photosensors and also interfacing the electronic circuit with ATMEGA microprocessor using Arduino.  
Adjudged as a new idea and to be proposed for a **PATENT**. (Spring 2011)
- **Dye sensitized solar cell (Prof. Rangan Banerjee, Dean R&D, IIT Bombay)**  
Fabricated a dye sensitized solar cell using N3 dye, Titanium dioxide coated conductive glasses and other chemicals and not traditional silicon, the cell being almost 1/20 in cost compared to silicon cells and having an efficiency of about 2% which is comparable to that of Silicon cells (13-15%). (Spring 2010)
- **Pulse width and Pulse position modulation (Prof. Maryam Shojaei Baghini)**  
Designed circuits for Pulse width and position modulation techniques which are signal receiving techniques in telecommunication industry. (Autumn 2010)
- **Mini National Unique ID development project (Prof. Deepak B. Phatak)**  
Project on maintaining Databases of all citizens of India including their thumb impressions and other details using C++ language. (Autumn 2009)

## ELECTIVES AND AUTHORITY SKILLS

Electives (Additional courses)	<b>Accounts and Finance, Human Resource Management, Advanced course on Analog Electronics.</b>
Software skills	Adobe Photoshop, Pagemaker, Coreldraw, Matlab, LT spice.
Programming Skills	C++, Visual Basic, 8051, 8085 and 8086 microcontroller, HTML, ATMEGA.
Languages	English, Hindi, Marathi, Gujarati

## CO-CURRICULAR ACTIVITIES

- Case study on all DTH services vs Cable TV in India under Prof. Haripriya Gundimeda.
- Visited and analyzed **Tata Power plant** at Trombay, Mumbai under the guidance of Prof. Rangan Banerjee.
- Studied the entire IIT Bombay electricity and Water **distribution networks** and proposed ways to optimize them.
- Made a study of the complete working of all types of **Infrared Remote Controls** as a part of a course project.

## Extra- Curricular Activities

- Proficient in Carrom and Chess (have won inter school carom championship with schools from all over India).
- Member of National Service Scheme, IIT Bombay, worked for social causes like teaching the unprivileged around the Campus and making village trips to help villagers solve their difficulties.
- Have Interest in Cycling and playing indoor games.