

DEPARTMENT OF ELECTRONICS ENGINEERING

## About

Electronics Engineering Department, since its inception in 1995, has achieved great recognition in the field of technical education. The department offer B.E. in Electronics Engineering, a four-year degree program with an intake of 60 students. The National Board of Accreditation accredited the department in 2004 and for two years in 2013. This year department applied for reaccreditation to NBA. Department adopted the philosophy of 'Outcome Based Education.' It comprises highly qualified and professionally skilled faculty members with an impressive record of the published work. Department faculties are rigorously involved in R&D activities. Their research work is published in reputed international journals like IEEE, IET, AIP, ASP, Elsevier, Wiley, IETE etc. and also in international conferences. The faculty members conduct training programs in the various areas of engineering such as embedded systems, VLSI and networking.

Department has made conscious and concerted efforts to develop the department as a centre of excellence. The Department has an exclusive library with 1000+ books and access to services like NPTEL. The Laboratories are equipped with standard equipments & accessories from best manufacturers and industry grade tools like LabView, Coventorware, COMSOL, PSIM, Mentor Graphics, Tanner Tools, Xilinx, Active

HDL, KEIL Professional Licenses, DSP Application software etc. Some of the laboratories have advanced hardware and demonstration setups like NI-ELVIS, PLC's, SCADA, Smart Camera, Mechatronics Toolkit, Biomedical Instrumentation Toolkit, Robot Models, Trainers, Microcontroller/FPGA/CPLD prototype boards etc. The department has signed MoU with several companies like TCS, Infosys, Eduvance, Wiksate, Starcom, Edgate technologies etc. and reputed institutes like IIT Bombay, VNIT etc. to train and significantly improve technical knowledge and skills of students. Department also encourages entrepreneur activities for students to learn fundamentals of business to build their own startups. Faculties of our department are exclusively involved with IEDC, NEN, Incubation Centre and E-Cell activities.

The department keeps up to date with the continuous changes in the field of technology and encourages the students to keep track of the constantly changing world. The faculty members and students are involved in organizations like the IEEE, IETE and college body ESA. Projects done by department students are appreciated by corporate, at various national level competitions and exhibitions like Elekrama, Robocon, Texas Instruments and IEDC.

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### Editors:

Dr. S. S. Rathod

Prof. Priya Deshpande

## Vision:

To create professionally **competent engineers, researchers and entrepreneurs** in the field of **electronics engineering** for the **benefit of society**

## Mission:

- To impart **quality engineering education** as per the industry need
- To motivate students to undertake **research** on next generation technologies
- To create an **environment** that shall foster growth of professionals capable of effectively using the **scientific and technical knowledge** for the **betterment of mankind**



## Programme Educational Objectives:

- **PEO1:** Graduates will have **successful career** in the chosen path utilizing **technical and professional skills**, while complying with **ethical standards**
- **PEO2:** Graduates undertake **research activities** on next generation technologies in electronics engineering
- **PEO3:** Graduates **pursue higher studies** in internationally recognized institutes/universities

## Programme Outcomes:

Engineering Graduates will be able to:

**PO1: Engineering Knowledge:** apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

**PO2: Problem Analysis:** identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3: Design & Development of Solutions:** design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4: Conduct Investigation of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

**PO5: Modern Tools Usage:** create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6: The Engineer and Society:** apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7: Environment & Sustainability:** understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8: Ethics:** apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

**PO9: Individual & Team work:** function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings

**PO10: Communication:** communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11: Project management & Finance:** demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12: Life-long Learning:** recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## Programme Specific Outcomes:

Apart from Programme Outcomes given by NBA, Electronics Engineering Department has decided following Programme Specific Outcome (PSO). Engineering Graduates will be able to:

- **PSO1: troubleshoot** electronic circuits, systems and products
- **PSO2: use open source tools** for engineering practice
- **PSO3: draft patent and research paper** as per the publication standards

## Board of Studies (BOS) & Department Advisory Board (DAB)

**Dr. Surendra S. Rathod (Chairman)**  
Professor and Head of Department,  
Sardar Patel Institute of Technology,  
Mumbai

**Dr. Mahesh B. Patil (Domain Expert)**  
Professor, Department of Electrical  
Engineering,  
Indian Institute of Technology Bombay,  
Mumbai

**Dr. Baylon G. Fernandes (Domain Expert)**  
Professor, Department of Electrical  
Engineering, Indian Institute of Technology  
Bombay, Mumbai

**Academician (University Nominee)**

**Dr. Ravi Todi (Alumni)**  
Ph.D., Past IEEE Chair Region 1, Foundry  
Engineering Manager, Qualcomm  
Technologies Inc.  
San Diego, CA – 92121



**Mr. Abhishek Sharma, (Alumni)**  
Ph.D. Researcher, Carnegie Mellon  
University, USA

**Mr. Nandish Avalani**  
(Alumni & Industry Representative)  
MS-North Carolina State University,  
Engineer, Staff I- Electronic Design Central  
Engineering,  
Broadcom Comm. Pvt. Ltd. Mumbai

**Mr. Viral Hingarh (Alumni)**  
MBA IIM Indore,  
Senior Manager, Axis Bank

**Mr. S Ranganathan**  
(Employer Representative)  
GM – Defence & Aerospace SBG, Larsen &  
Toubro– Heavy Engineering, Mumbai

**Prof. K. T. Talele**  
(Senior Faculty from Department)  
Associate Professor, Sardar Patel Institute of  
Technology, Mumbai

**Dr. Deepak Karia**  
(Senior Faculty from Department)  
Associate Professor, Sardar Patel Institute of  
Technology, Mumbai

**Dr. Rajendra Sutar**  
(Senior Faculty from Department)  
Associate Professor, Sardar Patel Institute of  
Technology, Mumbai

## Salient Features of the Department:

- Department is provisionally accredited by National Board of Accreditation (NBA) with effective 8/11/2013 and applied for reaccreditation. Department adopted outcome based education system as per the NBA norms
- Now institute has applied for the academic autonomy to UGC and University of Mumbai. Department has also applied for Ph.D. Research Center in Electronics Engineering.
- This year department received 100 professional Keil licenses and Lab in Box hardware from ARM for the Center of Excellence in 'Embedded System' under ARM University Program.
- To encourage students for the research work, department reimburses registration money for publications to the students.
- Institute has allocated Rs. 50,000/-- per year to the department for the purchase of books in the department library. These books are available to the students for immediate reference.
- Department also encourage students to develop various mini-projects. Every mini-project gets maximum Rs. 1000/-- as reimbursement. Department also funds the final year projects as per the need.
- Department has vibrant mentoring system to help students at individual levels.
- Department has various schemes/programmes like SPES and SDP for skill development of students.

## Alumni Testimonials:

### Mr. Rohit Bhat

**Year of Graduation : 2008**

**Higher Education: North Carolina State University**

**Present Employment : Staff Engineer at Qualcomm**

"Studying in the electronics department of S.P.I.T., under the tutelage of professors like Dr. Rathod, Dr. Rao, Parmar Sir, Bhagat Sir, Dr. Gharpure, proved to be a great stepping stone for me in the field of electronics. The coursework in VLSI, digital design and computer architecture, coupled with the invaluable hands-on experience gained while working on interesting projects, solidified my fundamentals and helped me smoothly transition into the Master's of Science program in VLSI Design at North Carolina State University, Raleigh, USA. I currently work in the industry, in the field of ASIC verification wherein I have to put to use, all that I have learned in both, my undergraduate and graduate studies, and it wouldn't have been possible without the excellent start to the journey at S.P.I.T."

### Mr. Ninad Jadhav



**Year of Graduation : 2014**

**Higher Education: M.Tech in Electronic Systems Engineering from IISc Bengaluru in 2016**

**Present Employment : Hardware Engineer, Nvidia Graphics Pvt Ltd, Bangalore**

"It was an honor to have studied in Electronics Department, S.P.I.T. Studying here helped me develop academically, professionally and socially. My professors mentored me to build a strong base of knowledge which was helpful in all walks of life. Technologically updated labs helped me to practically verify my knowledge and apply it to my projects. Activities like Robocon gave me a platform to apply my knowledge on practical systems and further improve my understanding of concepts in fields of circuit design, embedded programming, industrial design, control systems and many more. Working in Robocon also taught team work, time and financial management, which is useful in today's competitive industry. Innovation and Entrepreneurship Development Centre (IEDC) in S.P.I.T helped in understanding concept of company formation, patenting and various start-up related issues, I am sure this will be helpful in my future. Regular talks and seminars from academicians and industry experts kept me motivated through out my course. The time I spend in S.P.I.T. were some of the golden years of my life."

### Mr. Henil Langalia



**Year of Graduation : 2012**

**Higher Education: University of Minnesota-Twin Cities**

**Previous Employment : Cadence Design Systems**

**Present Employment : Digital IC Design Engineer at Analog Devices, San Diego, California**

"Sardar Patel Institute of technology is an excellent platform for budding engineers. It offers everything that is required for an all round development of a student. My final year project in VLSI and publication in conference ICCICT2012 which was held at S.P.I.T. had given me an opportunity to become IC design engineer."



**Ms. Brinda N. Sevak****Year of Graduation : 2015****Present Employment : Mitsubishi Electric India Pvt. Ltd.**

"I would like to start by saying that it was great studying at Electronics Department of S.P.I.T. We got innumerable opportunities to show our talents and versatility at the college, be it technical or cultural. The competitions and workshops held for us, helped us in learning Electronics practically as well as implementing the theoretical concepts, thus making us technically sound. Being part of the different organising committees also helped in the overall development as an individual. These different opportunities i.e. Projects, Seminars, Workshops, Events have helped in shaping the way we work today in the industry."

**Mr. Virendra Prarab****Year of Graduation : 2013****Higher Education: Ph.D. research scholar at Flexible Electronics Lab at IISc Bengaluru**

"I had a wonderful life in this alma mater that I cherish life long. The exposure I had is really fantastic. The interaction with the well -experienced faculties will be helpful to understand subjects. Professors are encouraging students to think and implement new technology. The personal as well as the academic life which I had with my colleagues, seniors and juniors are good memories now. Because of learning I got at S.P.I.T. it was possible for me to get direct admission into integrated Ph.D. at IISc Begaluru after B.E."

**Ms. Deepa Kalelkar****Year of Graduation : 2012****Higher Education: Pursuing Master of Science (M.S.), Operations Research at University of California, Berkeley****Previous Employment : Siemens**

"The learning environment is excellent at electronics engineering department. Teachers teach fundamental concepts very well. The concepts learned during undergraduate studies are still helpful during Masters studies at Berkley."

**Mr. Nimish Agashiwala****Year of Graduation : 2013****Higher Education: University of Minnesota Twin Cities, Minneapolis, Minnesota****Present Employment : Graphics Hardware Engineer at Intel Corporation, Folsom, California**

"The Electronics department regularly organized training workshops and competitions during my study. One of the notable was Texas Instruments Analog Design Contest which has helped me a lot during my internship and M.S. program."

**Mr. Manish Jain****Year of Graduation : 2014****Present Employment : Mitsubishi Electric Automation**

"To become a professional engineer, We need to have practical experience of theoretical concepts and I think SPIT-electronics department provided me with those facilities which are currently helping me to excel in my professional life. The faculty is very supportive and provides a constant encouragement for pushing ourselves beyond the limits. Even the infrastructural facilities in the department provided me exposure to industrial tools. I am proud to be associated with such institute. I thank my department whole heartedly for guiding me to build a successful professional career. I have received the admit from TU Darmstadt in Germany for Information & Communication Engineering major. Thanks for your support and word of encouragement."

**Ms. Ipsita Bhattacharya****Year of Graduation : 2015****Present Employment : Credit Suisse**

"My experience as a student in the Electronics Engineering Department of Sardar Patel Institute of Technology was really good. All the professors and staff are very helpful and supportive. I didn't go for any external classes throughout my engineering career, primarily because all my doubts were solved by the professors. As a result, I saved on time and utilized it to study more which helped me pass all the examinations with flying colours. Also, the department is very supportive in co-curricular activities like inter-college & intra-college project competition, technical paper presentation, internship and much more."

**Mr. Jayesh Bali****Year of Graduation : 2013****Present Employment : Technology Analyst , Credit Suisse**

"S.P.I.T. Electronics gave me an experience that I will never forget. Here, I had the opportunity to do everything that I could ever dream of and more. I got to challenge myself by working on different projects and competitions outside the curriculum, participating in college festivals, and participating in various sports activities. This helped me develop my time management and leadership skills and I felt well prepared when I entered the corporate world. All of this would not have been possible without the support and guidance of the wonderful and experienced faculty at the college who always encouraged me."

**Ms. Sanskruti Naik****Year of Graduation : 2013****Higher Education: Master of Science, Computer Systems and Networking, North Carolina State University, Class of 2016****Present Employment : Systems Design Engineer, Qualcomm, San Diego, CA**

"Being a student of Electronics Engineering Dept. at S.P.I.T. has stimulated my scholastic endeavors. The Department offered an excellent academic environment with a number of co-curricular opportunities which helped me make a smooth transition to graduate curriculum in the United States. It was an absolute honor to learn along with such a great blend of brilliant minds who shall continue to inspire."

**Ms. Aditi Samant****Year of Graduation : 2013****Higher Education: University of Southern California, Electrical Engineering, VLSI Design****Present Employment : CPU Design Engineer at Intel Corporation, Hudson, Massachusetts**

"Being in S.P.I.T. in Electronics Department was a wonderful experience to be cherished for a lifelong. Fundamentals learned during the study at S.P.I.T. helped me a lot for my Masters at University of Southern California. I am confident that with the new subjects like Analog CMOS VLSI Design, ASIC Verification and MEMS introduced in the syllabus, electronics department students will achieve greater heights in future."

**Mr. Mukund Jadhav****Year of Graduation : 2014****Present Employment : Engineer at Johnson Controls (India) Private Limited**

"I think the facilities, environment and the resources herein Electronics Department are much better than other Institutes. The faculty is always there to help. It is also a better learning environment. Apart from Academics, we are also encouraged to participate in different events and competitions. It all helped in augmenting my knowledge and made me a better person. Now I have received admit from Hochschule Darmstadt (Germany) in Automation major which I will be joining soon."

**Mr. Kartik Haria****Year of Graduation : 2014****Present Employment : Sr. Engineer at Johnson Controls**

"S.P.I.T. provides a great learning experience. Institute has experienced faculty and very good infrastructure. I still remember the days when we executed our project. We have worked late nights to complete the work and everyone in the department supported us. The environment in the institute is very competitive."

## Department Faculty



**Dr. S.S. Rathod**

**Designation:** Professor & Head  
**Qualification:** Ph.D. (IIT Roorkee)  
**Experience:** 18 Years  
**Expertise:** Semiconductor Device Modeling, VLSI Design, Radiation Effects  
**Email:** surendra\_rathod@spit.ac.in



**Dr. Deepak C Karia**

**Designation:** Associate Professor  
**Qualification:** Ph.D. Electronics (V.J.T.I., Mumbai)  
**Experience:** 15 Years  
**Expertise:** Wireless & Mobile Communication, Networking  
**Email:** deepak\_karia@spit.ac.in



**Dr. Rajendra Sutar**

**Designation:** Associate Professor  
**Qualification:** Ph.D. (VNIT Nagpur)  
**Experience:** 18 Years  
**Expertise:** Power Electronics, Instrumentation  
**Email:** rajendra\_sutar@spit.ac.in



**Prof. K. T. Talele**

**Designation:** Associate Professor  
**Qualification:** M.E. (Pursuing Ph.D.)  
**Experience:** 23 Years  
**Expertise:** Digital signal processing, Image, audio, video Processing, Machine Vision  
**Email:** ktvtalele@spit.ac.in



**Prof. N.A. Bhagat**

**Designation:** Associate Professor  
**Qualification:** M.E. (Pursuing Ph.D.)  
**Experience:** 17 Years  
**Expertise:** Digital Design, Network Analysis, Electronic Circuit Design, IP, VLSI  
**Email:** narendra\_bhagat@spit.ac.in



**Prof. P. V. Kasambe**

**Designation:** Assistant Professor  
**Qualification:** M.E. (Pursuing Ph.D.)  
**Experience:** 16 Years  
**Expertise:** Control Sys, Instrumentation, Linear IC, MEMS  
**Email:** prashant\_kasambe@spit.ac.in



**Prof. Payal Shah**

**Designation:** Assistant Professor  
**Experience:** 05 Years  
**Qualification:** ME.  
**Expertise:** BEE, Power Electronics, Control System, Signal Processing  
**Email:** payal\_shah@spit.ac.in



**Prof. Manisha Bansode**

**Designation:** Assistant Professor  
**Qualification:** M.E.  
**Experience:** 05 Years  
**Expertise:** Electronics Circuit Design, Communication Engineering  
**Email:** manisha\_bandose@spit.ac.in



**Prof. G. T. Haldankar**

**Designation:** Assistant Professor  
**Qualification:** M.E.  
**Experience:** 05 Years  
**Expertise:** BEE, Power Electronics, Electronic Circuit Design  
**Email:** g\_haldankar@spit.ac.in



**Prof. Priya Deshpande**

**Designation:** Assistant Professor  
**Qualification:** M.Tech.  
**Experience:** 02 Years  
**Expertise:** Signal and Image Processing, Circuit Theory, Microprocessors  
**Email:** [priya.chimurkar@spit.ac.in](mailto:priya.chimurkar@spit.ac.in)



**Prof. Vijaylaxmi Bhat**

**Designation:** Assistant Professor  
**Qualification:** M.E.  
**Experience:** 13 Years  
**Expertise:** Communication  
**Email:** [vbvlaxmi@gmail.com](mailto:vbvlaxmi@gmail.com)



**Prof. Jagdish Mali**

**Designation:** Assistant Professor  
**Qualification:** M.Tech  
**Experience:** 02 Years  
**Expertise:** Wireless Networks, Embedded Systems  
**Email:** jamalio505@gmail.com



**Prof. Manoj Gofane**

**Designation:** Assistant Professor  
**Qualification:** M.Tech.  
**Experience:** 01 Year  
**Expertise:** ADC  
**Email:** manojgfn92@gmail.com



**Prof. Shailesh Rokade**

**Designation:** Assistant Professor  
**Qualification:** M.Tech.  
**Experience:** 2.5 Year  
**Expertise:** DSPP, Biomedical Instrumentation  
**Email:** [shaileshrokaade11@rediffmail.com](mailto:shaileshrokaade11@rediffmail.com)



## Supporting Staff



**Mr. Vijay Patyani**  
**Designation:** Technical Assistant  
**Qualification:** Diploma in Electrical Engineering  
**Email:** vijayane05@yahoo.com



**Mr. Jitendra Dongre**  
**Designation:** System Support Electronics  
**Qualification:** Diploma (Industrial Electronics),  
 Pursuing B. Tech. (EXTC)  
**Email:** jitendra.d6g@gmail.com



**Mrs. Deepali Yamgar**  
**Designation:** Lab Support  
**Qualification:** Diploma (Industrial Electronics)  
 Pursuing B.Sc. (IT)  
**Email:** deepayamgar@gmail.com



**Mr. Chandrashekhar Gaikwad**  
**Designation:** Technical Assistant  
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**Designation:** Technical Assistant  
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**Mr. Mukund Pawar**  
**Designation:** Clerk  
**Qualification:** B.A.  
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**Mr. Sanjay Dharpawar**  
**Designation:** Peon  
**Qualification:** B.A  
**Email:** dharpawarsanjay@gmail.com



**Mr. Abhishek Mandavkar**  
**Designation:** Peon  
**Qualification:** 12<sup>th</sup>  
**Email:** abhishekmandavkar

## RECENT PUBLICATIONS BY FACULTY

### Recent Journal Publications (2015-2016):

1. **S. S. Rathod** and D. R. Kalbande "Improving Laboratory Experiences in Engineering Education," *Journal of Engineering Education Transformations, Special Issue, Jan 2016*, pp. 485-492, Jan 2016. (ISSN 2349-2473, eISSN 2394-1707)
2. D. R. Kalbande and **S. S. Rathod**, "Software Development for Course and Program Outcome Attainment," *Journal of Engineering Education Transformations, Special Issue, Jan 2016*, pp. 711-715, Jan 2016. (ISSN 2349-2473, eISSN 2394-1707).
3. **Deepak Chaturbhuj Karia**, Vaibhav Godbole, "ACO-based biology inspired routing protocol for ad hoc networks", *International Journal Of Swarm Intelligence*, Vol.1, No.4, 2015.
4. Sumit Jadhav, **S. S. Rathod** and **P. V. Kasambe**, "Data driven control topology for Industrial Process using PLC," *Int. Journal of Innovative and emerging Research in Engineering*, Vol. 3, Special Issue 1, ICSTSD 2016.

### Recent International Conference Publications (2015-16):

1. Tushar Shingade, **P. V. Kasambe**, Reena Sonkusare and **S. S. Rathod**, "Design & Development of Flow Control System Using Labview," Satellite Conf. Int. Conf. on Science and Technology for Sustainable Development, India, May 24-26, 2016.
2. Ajay T. Prajapati, **S. S. Rathod** and Sashidharan P.T., "Biomimicing the Excitatory and Inhibitory Synapse," IEEE Int. conf. on Recent Trends in Electronics Information Communication Technology, India, pp. 1-4, May 20-21, 2016.
3. Sushma Srivastava and **S. S. Rathod**, "Silicon Neuron-Analog CMOS VLSI Implementation and Analysis at 180nm," International Conference on Devices, Circuits and Systems (ICDCS), Coimbatore, March 3-5, 2016.

4. **Kiran Talele**, Ayesha Hakim "Determinatiopn of Patient Setup Error in Radiotherapy using Feature-Based Multimodal Rigid Image Registration", IETE Bombay Section Signature Symposium (IBSS2015), Sep. 10-11, 2015.
5. Pawankumar Fakatkar, Uday Pandit Khot, **N.A. Bhagat**, "Low Power Current-mode Frequency Shift Keying (FSK) Transmitter" in proceedings of the Sixth Int. Conf. on Computer and Communication Technology 2015 (ICCCT15), pp. 394-397, 2015.
6. Praful Prajapati, Anand Dhuriya, Priyanka Shelar, **Payal Shah**, "Atmosphere Tracking System Using AVR Controller", 3rd Int. Conf. on Electronics & Computing Technologies'16, (ICONECT '16), March 10-11, 2016.
7. Pooja Gupte, **Payal Shah**, Raymond Pinto, "Range Doppler Algorithm for Ground Based FMCW X-band Synthetic Aperture Radar", IEEE 3rd Int. Conf. on Innovations in Information, Embedded and Communication Systems, (ICIIECS'16), March 17-18, 2016.
8. Ashish Mohanan, Sheryl Tuscano, Raj Shah, **Manisha Bansode**, "Smart Attendance System", 3rd Int. Conf. on Electronics & Computing Technologies'16, (ICONECT '16), March 10-11, 2016.
9. **G. T. Haldankar**, Y. S. Rao, Harshal Vashi, "Reduction of Fuel Consumption in Engine using HHO Gas", in Int. conf. on Recent Innovations in Science, Engineering and Management on 27<sup>th</sup> Feb. 2016. ISSN 978-81-932074-1-3
10. **G. T. Haldankar**, Harshal Vashi, Jagdish Sarode "Audio Frequency Analyser using Expeyes and Raspberry Pi", in Int. conf. on Recent Innovations in Science, Engineering and Management on 27<sup>th</sup> Feb. 2016. ISSN 978-81-932074-1-3
11. **D. C. Karia**, ; B. B. Dhengale ; S. A. Goswami, "A 1??2 array circularly polarised Microstrip antenna with a high Gain for RFID applications", Int. Conf. on Computing and Network Communications (CoCoNet) 16-19 Dec. 2015.
12. **D. C. Karia**, ; B. B. Dhengale ; S. A. Goswami, "A compact wideband antenna for wireless applications using rectangular ring", 1st International Conference on Next Generation Computing Technologies (NGCT), 2015, 4-5 Sept. 2015.
13. **D. C. Karia**, ; B. B. Dhengale ; S. A. Goswami, "A compact wideband antenna for wireless applications using rectangular ring", 1st Int. Con. on Next Generation Computing Technologies (NGCT), 2015, 4-5 Sept. 2015.
14. R. M. Pandurang, **D. C. Karia**, "A mapping-based podel for preventing Cross site scripting and sql injection attacks on web application and its impact analysis", 1st Int. Conf. on Next Generation Computing Technologies (NGCT), 4-5 Sept. 2015.
15. B. B. Dhengale, **D. C. Karia**, "A high gain 2-element Microstrip array antenna with Circular Polarisation for RFID Applications", Advances in Computing, Communications and Informatics (ICACCI), 10-13 Aug. 2015.

## Recent National Conference Publications (2015-16):

1. Karan Shah, Gauri Dalvi, Samiksha Gupta, Prashant Kasambe and Surendra Rathod, "Performance Analysis of MEMS microheater by optimizing coil design using CoventorWare, National Conference on Advances in Engineering, Technology and Applied Science, SPANDAN 2016 at Yashwantrao Chavan College of Engineering, Nagpur during 17<sup>th</sup>-18<sup>th</sup> March 2016. (Best Paper Award)
2. Karan Shah, Gauri Dalvi, Samiksha Gupta, Prashant Kasambe and Surendra Rathod, "Simulative study of a novel MEMS cantilever design using CoventorWare, National Conference on Advanced Trends in Engineering, NCATE2K16 at Datta Meghe College of Engineering, Mumbai during 12<sup>th</sup>-13<sup>th</sup> March 2016. (Best Paper Award)

## Recent Patents Publications:

- [1] **Patent Title:** DETECTION OF BLOOD ALCOHOL LEVEL BY BREATH ANALYSIS USING SEMICONDUCTOR SENSOR  
**Inventor:** Mane Dhanashree, Shaikh Banafsha Nikhat, Avanish Balaji and **Talele Kiran**  
**Application No.** 1405/MUM/2013 A INDIA **Date of filing of Application:** 15/04/2013 **Publication Date:** 10/07/2015
- [2] **Patent Title:** SYSTEM AND METHODS FOR GSM BASED SOIL MONITORING  
**Inventor:** Patil Tushar, Gedam Mrunal, Gharat Adwait and **Talele Kiran**  
**Application No.** 1409/MUM/2013 A INDIA **Date of filing of Application:** 15/04/2013 **Publication Date:** 10/07/2015
- [3] **Patent Title:** A SYSTEM AND METHOD FOR HUMAN FACE IDENTIFICATION  
**Inventor:** **Talele Kiran**, Bairathi Neha, Daga Rahul, Darji Jignesh, Panda, Rekha  
**Application No.** 1408/MUM/2013 A INDIA **Date of filing of Application:** 15/04/2013 **Publication Date:** 10/07/2015

## Guest Lectures/ Invited Talks Delivered by Faculty and Achievements in 2015-16:

- Dr.S.S. Rathod has organised a Five Week FDP on various models at SPIT from 23<sup>rd</sup> November to 26<sup>th</sup> December 2015.
- Dr. S. S. Rathod was resource person for One Week STTP on "Outcome Based Education-Innovative Teaching Learning Practices and Evaluation" from 2<sup>nd</sup> May to 6<sup>th</sup> May 2016 organised by Electronics Engineering Department of S.P.I.T.
- Dr. S. S. Rathod was resource person for Two Week FDP on "Analog CMOS VLSI Design" from 7<sup>th</sup> Dec to 12<sup>th</sup> Dec. 2015 organised by Electronics Engineering Department of S.P.I.T.
- Dr. S. S. Rathod was resource person for Two Week FDP on "ASIC verification with System Verilog" from 21<sup>st</sup> to 26<sup>th</sup> Dec. 2015 organised by Electronics Engineering Department of S.P.I.T.
- Dr. S. S. Rathod has worked as a Judge for IET PATW Competition on 12<sup>th</sup> March 2016.
- Prof. K. T. Talele was resource person for ISTE approved workshop on Real Time Digital Signal Processing Using DSP Processor on 25<sup>th</sup> June, 2016.
- Dr. Deepak Karia has worked as a Judge for IET PATW Competition on 12<sup>th</sup> March 2016.
- Dr. Deepak Karia was resource person for one -week ISTE approved Short Term Training Programme (STTP) on "Network and Cyber Security with Hands-on Lab" from 29<sup>th</sup> Juneto 3<sup>rd</sup> July 2015 organised by S.P.I.T.
- Prof. P. V. Kasambe has worked as a Judge for IET PATW Competition on 12<sup>th</sup> March 2016.
- Prof. P.V. kasambe was resource person for one day workshop on "MATLAB" at Electrical Dept. SPCE, on 12<sup>th</sup> September 2015.
- Prof. P.V. kasambe was resource person for one day workshop on "MATLAB" at Mechanical Dept. SPCE, on 22<sup>nd</sup> Oct 2015
- Prof. P.V. Kasambe has organized a "Trouble Shooting Event (TSE 2015) during 14<sup>th</sup> September to 16<sup>th</sup> September 2015 at S.P.I.T.
- Prof. G. T. Haldankar has given interview on "Vedic Maths" on FM radio which was broadcasted on 12<sup>th</sup> May 2016.
- Prof. G. T. Haldankar conducted workshop on "Expeyes, open source hardware" for Industrial Electronics students of VPM Polytechnics, Thane. on 19<sup>th</sup> Sep. 2015.
- Prof. G. T. Haldankar was resource person for ISTE approved "Skill Development workshop" on 6<sup>th</sup> July 2015.
- Prof. G. T. Haldankar was resource person for ISTE approved "Basic Electrical, Electronics and Electrical Machine" on 13<sup>th</sup> July 2015.
- Prof. G. T. Haldankar has worked as a Judge for IET PATW Competition on 12<sup>th</sup> March 2016.
- Prof. G. T. Haldankar was a resource person for four week FDP organized by IITB on "Use of ICT in Education for Online and Blended Learning" at S.P.I.T. from 2<sup>nd</sup> May 2016 to 26<sup>th</sup> June 2016.
- Dr. R. G. Sutar was resource person for ISTE approved "Basic Electrical, Electronics and Electrical Machine" on 13<sup>th</sup> July 2015.
- Prof. Payal Shah was resource person for ISTE approved "Basic Electrical, Electronics and Electrical Machine" on 13<sup>th</sup> July 2015
- Dr. S. S. Rathod was resource person for two days workshop on accreditation at S.S.P.M. College of Engineering at Kankavli on 14<sup>th</sup>-15<sup>th</sup> June 2016.
- Prof. N. A. Bhagat was resource person for FDP on CMOS Analog VLSI Design on Dec 2015.
- Dr. S. S. Rathod was appointed as Local Inquiry Committee member for UG as well as PG courses by Mumbai University for several colleges.
- Dr. S. S. Rathod and Prof. Shailesh Rokade attended

## Faculty Roles and Responsibilities

Dr. S. S. Rathod	Head of Department
Prof. K. T. Talele	MCA Coordinator
	SPTBI Coordinator
	IEDC Coordinator
	IEEE Bombay Section Student Activities Chair
	ESA Coordinator
Prof. D. C. Karia	DSP Lab In-charge
	Exam COE
	Program Coordinator
Dr. R. G. Sutar	Member of Student Welfare Committee
	Project Coordinator
	Department Exam COE
Prof. N. A Bhagat	Power Electronics Lab In-charge
	Gymkhana Chairman
	Head of Student Welfare Committee
Prof. P. V Kasambe	Digital Design Lab In-charge
	ROBOCON Coordinator
Prof. Payal Shah	Instrumentation Lab Incharge
	Department Library In-charge
Prof Manisha Bansode	In-charge of Electronic Workshop
	Timetable In-charge
Prof. G. T. Haldankar	Electronic Devices & Circuits Lab In-charge
	Remote Center Coordinator
Prof. Priya Deshpande	In-charge of Analog Design Lab
	R & D Committee Member
	Microprocessor Lab In-charge

## Training Programmes Attended by Faculty in the Academic Year 2015-16:

Sr. No	Name of the staff	Subject of the workshop	Organizer	Date	Duration
1	Dr. S. S. Rathod	COMSOL Multiphysics Simulation Tool	COMSOL Mumbai	10 <sup>th</sup> June 2016	One day
2	Dr. Deepak Karia	Use of ICT in Education for Online and Blended Learning	IIT Bombay	2 <sup>nd</sup> May- 26 <sup>th</sup> June2016	Four week
		TEQIP program on Recent Trends in Power Systems	VJTI	16 <sup>th</sup> - 21 <sup>st</sup> May 2016	One week
3	Prof. N.A. Bhagat	Analog CMOS VLSI Design	S.P.I.T.	7 <sup>th</sup> - 12 <sup>th</sup> Dec. 2015	One week
4	Prof. P.V. Kasambe	Internet of Things	Sardar Patel College of Engineering	6 <sup>th</sup> May 2016	One day
		TEQIP-II program on Micro Electromechanical Systems (MEMS)	Sardar Patel College of Engineering	4 <sup>th</sup> -8 <sup>th</sup> Jan 2016	One week
		National Conference on Advances in Engineering, Technology and Applied Science	Yashwantrao Chavan College of Engineering, Nagpur	17-18 <sup>th</sup> Mar 2016	Two days
		INUP Hands on Training workshop on fabrication of MEMS Sensor	IIT Bombay, Mumbai	11-15 <sup>th</sup> Apr 2016	One week
		BioMEMS and BioSensors	IIT Bombay, Mumbai	Jan – Apr 2016	One sem
5	Prof. G T Haldankar	International Conference on “Inner Strength & Stability in a Ever changing World”	Spiritual Application and Research Center, Mount Abu	11 <sup>th</sup> -15 <sup>th</sup> Sep 2015	One week
		LabVIEW: Graphical System Design in Engineering Applications	Sandip Foundation	21-22 Aug, 2015	Two days
		Teaching Power Electronics with MATLAB/Simulink	R.A.I.T. Navi Mumbai	31 <sup>st</sup> July-1 <sup>st</sup> Aug. 2015	Two days
6	Prof. Payal Shah	Use of ICT in Education for Online and Blended Learning	IIT Bombay	2 <sup>nd</sup> May- 26 <sup>th</sup> June2016	Four week
		Educational Technology for Engineering Teachers	IIT Bombay	7 <sup>th</sup> Jan- 7 <sup>th</sup> Mar 2016	One week
7	Prof. Shailesh Rokade	Outcome Based Education- Innovative Teaching Learning Practices and Evaluation	S.P.I.T.	2 <sup>nd</sup> - 6 <sup>th</sup> May 2016	One week
		COMSOL Multiphysics Simulation Tool	COMSOL Mumbai	10 <sup>th</sup> June 2016	One day
8	Prof. Priya Deshpande	Internet of Things	CRCE Bandra	27 <sup>th</sup> June-1 <sup>st</sup> July 2016	One week
9	Prof. Manisha Bansode	Technical Communication for Scientist and Engineers	IIT Bombay	8 <sup>th</sup> Oct- 18 <sup>th</sup> Nov 2015	Two week
		Educational Technology for Engineering Teachers	IIT Bombay	7 <sup>th</sup> Jan- 7 <sup>th</sup> Mar 2016	One week



## Scheme of Syllabus Offered By Department and Expected Primary Outcome:

Course code	Course Name	Primary Outcome
<b>SEM-I</b>		
FEC101	Applied Mathematics-I	Ability to apply mathematics to solve engineering problems
FEC102	Applied Physics-I	Ability to demonstrate knowledge of principles of physics
FEC103	Applied Chemistry-I	Ability to demonstrate knowledge of principles of physics
FEC104	Engineering Mechanics	Ability to demonstrate engineering knowledge in mechanics
FEC105	Basic Electrical & Electronics	Ability to demonstrate engineering knowledge of basic principles of electrical and electronics
FEC106	Environmental studies	Ability to understand the environmental issues, impact of engineering solutions on environment and its sustainability
FEL101	Basic Workshop Practice-I	Ability to demonstrate knowledge of engineering skills in using workshop tools
<b>SEM-II</b>		
FEC201	Applied Mathematics-II	Ability to apply mathematics to solve engineering problems
FEC202	Applied Physics-II	Ability to demonstrate knowledge of principles of physics
FEC203	Applied Chemistry-II	Ability to demonstrate knowledge of principles of physics
FEC204	Engineering Drawing	Ability to demonstrate knowledge in engineering drawing
FEC205	Structured Programming Approach	Ability to demonstrate structured programming skills
FEC206	Communication Skills	Ability to demonstrate communication skills
FEL201	Basic Workshop Practice-II	Ability to demonstrate knowledge of engineering skills in using workshop tools
<b>SEM-III</b>		
EXS301	Applied Mathematics-III	Ability to identify, formulate and solve engineering problems with mathematics
EXC302	Electronics Devices	Ability to demonstrate knowledge of physics of semiconductor devices
EXC303	Digital Circuits and Design	Ability to analyse and design digital logic circuits
EXC304	Circuit Theory	Ability to evaluate time and frequency response of electronic circuits and transmission lines
EXC305	Electronic Instruments and Measurements	Ability to demonstrate knowledge of instrument design
EXL301	Electronic Devices Laboratory	Ability to simulate electronic devices and demonstrate understanding of device characteristics
EXL302	Digital Circuits and Design Laboratory	Ability to implement digital logic circuits
EXL303	Circuit Theory and Measurements Laboratory	Ability to demonstrate conduct experiments, record and interpret data with electronic instruments
EXL304	Object Oriented Programming Methodology Laboratory	Ability to write a JAVA code and implement object oriented programming concepts
<b>SEM-IV</b>		
EXS401	Applied Mathematics IV	Ability to identify, formulate and solve engineering problems with mathematics
EXC402	Discrete Electronic Circuits	Ability to analyse and design discrete electronic circuits
EXC403	Microprocessor and Peripherals	Ability to demonstrate understanding of microprocessor systems
EXC404	Principles of Control Systems	Ability to derive models, analyse and apply control theory to design of controllers
EXC405	Fundamentals of Communication Engineering	Ability to demonstrate understanding of principles of communication systems

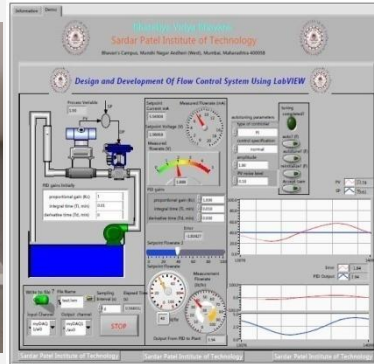
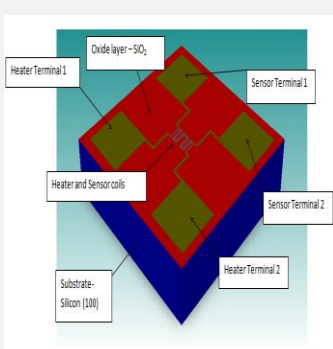
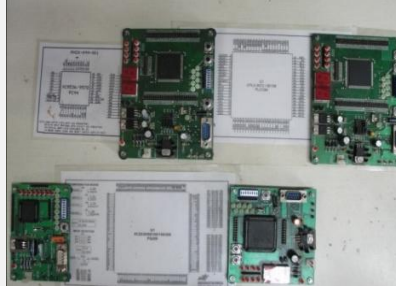
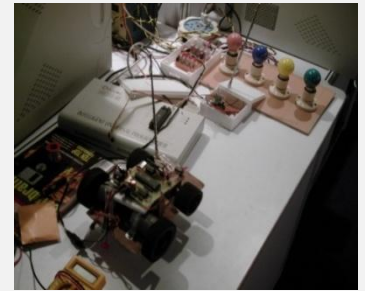
EXC406	Electrical Machines	Ability to demonstrate understanding of working principles of various types of motors
EXL401	Discrete Electronics Laboratory	Ability to simulate and implement discrete electronic systems
EXL402	Microprocessor and Peripherals Lab	Ability to execute assembly language programme and interface peripheral devices
EXL403	Control Systems and Electrical Machines Laboratory	Ability to perform experiments, collect data and interpret results for control systems and electrical machines
EXL404	Communication Engineering Lab	Ability to use modern tools in communication engineering
<b>SEM-V</b>		
EXC501	Microcontrollers and Applications	Ability to design microcontroller based electronic systems
EXC502	Design with Linear Integrated Circuits	Ability to design electronic circuits with the use of linear integrated circuits
EXC503	Electromagnetic Engineering	Ability to solve complex problems with theory of electromagnetic engineering
EXC504	Signals and Systems	Ability to analyse signals and systems in time as well as frequency domain
EXC505	Digital Communication	Ability to demonstrate understanding of digital communication systems
EXS506	Business Communication and Ethics	Ability to demonstrate knowledge of business communication with ethical standards
EXL501	Microcontrollers and Applications Lab	Ability to program and implement microcontroller based real life applications
EXL502	Design with Linear Integrated Circuits Laboratory	Ability to implement linear integrated circuits in laboratory
EXL503	Digital Communication Laboratory	Ability to demonstrate working of digital communication systems
EXL504	Mini Project	Ability to design and execute project in a team with effective communication to solve multidisciplinary societal/environmental/ health related real life problems by applying principles of project management and finance
<b>SEM- VI</b>		
EXC601	Basic VLSI Design	Ability to analyse and design MOSFET based digital VLSI circuits
EXC602	Advanced Instrumentation Systems	Ability to demonstrate knowledge of principles of advanced instrumentation system
EXC603	Computer Organization	Ability to demonstrate knowledge of computer organization
EXC604	Power Electronics I	Ability to demonstrate knowledge of power devices and principles of power electronics systems
EXC605	Digital Signal Processing and Processors	Ability to use knowledge of signals and systems for digital signal processing and demonstrate knowledge of architecture of DSP processors
EXC606	Modern Information Technology for Management	Ability to use principles of management
EXL601	VLSI Design Laboratory	Ability to use modern circuit simulation tools in VLSI
EXL602	Advance Instrumentation and Power Electronics Laboratory	Ability to effectively use instrumentation system and implement power electronic circuits
EXL603	Mini Project II	Ability to design and execute project in a team with effective communication to solve multidisciplinary societal/environmental/ health related real life problems by applying principles of project management and finance
EXL605	Digital Signal Processing and Processors Laboratory	Ability to write, simulate and implement a program by applying principles of digital signal processing to solve engineering complex problems with the use of modern tools
<b>SEM VII</b>		
EXC701	Embedded System Design	Ability to design embedded system
EXC702	IC Technology	Ability to demonstrate knowledge of state of the art VLSI technology
EXC703	Power Electronics-II	Ability to analyse and apply principles of advance power electronics systems

EXC704	Computer Communication Networks	Ability to demonstrate knowledge of computer communication networks
EXC705-I	Digital Image Processing (Elective)	Ability to demonstrate knowledge of image processing techniques and algorithms
EXC705-II	Artificial Intelligence (Elective)	Ability to demonstrate knowledge of neural network and fuzzy logic
EXC705-III	ASIC Verification (Elective)	Ability to apply knowledge of object oriented programming, verilog and digital design for ASIC verification
EXC705-IV	Optical Fiber Communication (Elective)	Ability to demonstrate knowledge of optical fiber communication
EXC706	Project-I	Ability to search the literature, design and execute project in a team with effective communication to solve multidisciplinary societal/environmental/ health related real life problems by applying principles of project management and finance
EXL701	Embedded System Design Laboratory	Ability to program and implement embedded system
EXL702	IC Technology Laboratory	Ability to do process and layout simulations of VLSI devices and circuits
EXL703	Power Electronics-II Laboratory	Ability to analyse and apply principles of advance power electronics systems
EXL704	Computer Communication Networks Lab	Ability to solve issues in computer communication networks
EXL705-I	Digital Image Processing (Elective) Lab	Ability to simulate various image processing algorithms
EXL705-II	Artificial Intelligence (Elective) Lab	Ability to solve complex engineering problems with the use of modern tools by applying principles of neural network and fuzzy logic
EXL705-III	ASIC Verification (Elective) Lab	Ability to write system verilog code and simulate it with modern tool for ASIC verification
EXL705-IV	Optical Fiber Communication (Elective) Lab	Ability to demonstrate understanding of implementation of optical fiber communication
<b>SEM-VIII</b>		
EXC801	Analog CMOS VLSI Design	Ability to analyse and design analog CMOS VLSI circuits
EXC802	Advance Networking Technologies	Ability to demonstrate knowledge of networking technologies
EXC803	MEMS	Ability to demonstrate knowledge of MEMS processes, devices and their applications
EXC804-I	Robotics	Ability to demonstrate knowledge of robotic systems
EXC804-II	Mobile Communication Technology	Ability to demonstrate knowledge of networking technologies
EXC804-III	Digital Control System	Ability to analyse and design digital control system
EXC804-IV	Biomedical Electronics	Ability to analyse and design biomedical instrumentation system
EXC806	Project-II	Ability to search the literature, design and execute project in a team with effective communication to solve multidisciplinary societal/environmental/ health related real life problems by applying principles of project management and finance
EXL801	Analog CMOS VLSI Design Lab	Ability to use modern circuit simulation tools for analog CMOS VLSI design
EXL802	Advance Networking Technologies Laboratory	Ability to solve issues in advance networking technologies
EXL803	MEMS Laboratory	Ability to simulate MEMS devices with modern tools
EXL804-I	Robotics Laboratory	Ability to demonstrate implementation of principles of robotics
EXL804-II	Mobile Communication Technology Lab	Ability to demonstrate knowledge of issues in implementation of mobile communication technologies
EXL804-III	Digital Control System Laboratory	Ability to implement digital control system in laboratory
EXL804-IV	Biomedical Electronics Laboratory	Ability to implement biomedical instrumentation systems and thereby understand issues related to design of medical instruments

## Laboratories:

### Sponsored Labs:

1. Texas Instruments Analog Design Lab
2. Texas Instruments MSP Lab
3. ARM University Programme
4. PSoC by Cypress Semiconductor





S.N.	Laboratory	Major Inventory
1	Power Electronics and Basic Electricity & Electronics Lab	Inverter's, John's chopper, Morgan's chopper, Step up chopper, Cyclo-converter, PWM inverter, Fully controlled converter, Half controlled converter, Lamp loads, Autotransformers, IGBT stack from Semicron Maxwell's bridge, Wein's bridge, PSIM
2	Electronic Devices & Circuits Lab	DSOs, CROs, Function Generators, Multimeters, Bread-boards,,Decade resistance/capacitance Box and Inductance Box, EDA tools like PSPICE
3	Digital Circuits Lab	40 MHz DSO, 25 MHz CRO, 2MHz Function Generator, Regulated Variable Power Supply 5V/1A, Digital System Designer, Digital IC Tester, DMM Benchtop, BOSSTEK Make, Wipro Desktop-Intel core IS 530 processor
4	Analog Circuits Lab	DSOs, CROs, Function Generators, Multimeters, Bread-boards, Decade resistance/capacitance Box and Inductance Box, EDA tools like PSPICE
5	Microprocessor Lab	8085 Trainer Kits, 8051 Kits, PIC controller Kits, 8086 Trainer Kits, Microchip DV164136 PIC18F Developers Kit, Single Board Comp/Eval board Phillips LPC 214x Series, Model-ESA Keil MCB2140, Labtool 48XP, Desktops
6	Electronics Workshop Lab	PCB etching machine, PCB drilling machine, Bench type drilling Machine, SMD rework station & Desoldering station, 40 MHz DSO, 25 MHz CRO, 2MHz Function Generator, Regulated Variable Power Supply 5V/1A, DMM Benchtop
7	Electronics Instrumentation and Robotics Lab	Labview, myRIO, Smart Camera Interface, Mechatronics Interface, Robotic Arm, PLC Trainer, NI ELVIS and NI MyDaq, SCADA, Temperature controlled trainer, Flow controlled trainer, Speed and liquid level measurement trainers, Single phase induction motor, Trainer kits for Robotics, Computers, Transducer based systems like LVDT, strain gauge, magnetic flow meter, Inductive pick up, Capacitive pickup, Photoelectric pick up, Rotameter
8	Digital Signal processing Lab	DSP Board TMS 320F, DSPStarter Kit (DSK JMS 320C6713 with CCS), DSP Starter kit TMS 320C5416, DSP Starter kit TMS320C5402, DSK-50 DSP Trainer, Xilinx VLSI Design Software, DSP-IN-VLSI-MXSFK-DSP-003 Trainer Kit, DSP Application Software, TDS 2CMA - Communication Module, Intel Web Camera, Hameg 150 MHz D.S.O. , Arbitrary Function Generator, Computers,
9	VLSI and Embedded Systems Lab	COMSOL, Coventorware, Sensimer, Arbitrary Function Generator, Mentor Graphics Tool Set, MSP 430 Development Boards, C2000 Development Boards, Android Development Board for Sitara Processors, PSoC Development Boards, ARM Development Boards, PIC Development Board, Aruino Yun Boards, 8051, 8952 series board, Labtool's, AVR ISP, KEIL with hardware, SoC development board (CGCorel), Tanner Tool Set, Open Source Tools, Computers
10	Project and R&D Lab	Project specific inventory

## Center for Research in Neuromorphic Engineering (CRINE):

Sardar Patel Institute of Technology started CRINE with the mission of driving innovation through learning from neurons. The objective of this center is to promote research in neuromorphic engineering, to promote collaboration between colleges and disciplines and to enhance industry institute interaction. The institute has also signed MOU with Eduvance and the center is supported by Cypress Semiconductors University Alliance Program.

## Department Library:

Department Library is an essential and valuable component of the Electronics Engineering Department. It supports outstanding research carried out in the department. Library provides easy access of books and references to the students and faculties to enable learning and advancement of knowledge. These references are proved as immediate available valuable resource during practical and project sessions.

The mission of the Department Library is to facilitate creation of new knowledge through acquisition and to provide value added services. The Departmental library has an open access and is managed by a teacher in charge with the help of student's team. Department library committee manages issue/collection and all other related tasks of departmental library. Department library has more than 1000 books. Every year books worth Rs. 50000/-- are added to the department library.



## Teacher Performance Appraisal and Development System (TPADS):

Today teachers have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, teachers need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, develop expertise for the effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real life problems in industry. SWAT analysis, academic audit and appraisal system are the mechanisms used in the department to give feedback/suggestions to the teachers on their contribution to the development of the institution.

### I. Appraisal System:

An effective performance appraisal system for teachers is vital for optimizing the contribution of individual teachers to institutional performance. Institute has a well defined appraisal system and it is effectively implemented in the department. Every teacher submits self-appraisal forms via head of the department to the principal. Self-appraisal forms are as per the cadre of the teacher. In presence of head of department principal conducts one to one meeting with all the teachers gives feedback/suggestions/comments on the performance. Also institute has a policy of sending one faculty every semester to Indian Institute of Technology Bombay for self up gradation. Under this policy in every semester one teacher is sponsored to undertake at least one M.Tech level credit course at IIT Bombay.

- Prof. Prashant Kasambe completed credit course on 'Bio-MEMS' from IIT Bombay Jan-May 2016.

### II. Development System:

Another role relates to the shouldering of administrative responsibilities to co-operation with other teachers, heads-of-departments and the Head of Institute. To inculcate the leadership qualities, positive thinking skills and motivation to achieve goals, institute has instituted faculty development programme (FDP) which is scheduled on every Friday between 4.00 pm to 6.00 pm for all the teachers of the institute. The various activities conducted under this programme are as follows:

### III. Academic Audit:



Academic audit of teaching as well as non-teaching staff is done at the end of every academic year. For non-teaching staff, the department faculty conducts the academic audit. While for the academic audit of teaching faculty an academic expert from other eminent institution is invited.

Dr. Shaila Subbaraman, Professor Walchand College of Engineering, Sangali was invited in May 2014 as well as May 2015 for the academic audit. During the academic audit articulation of the course outcomes, their mapping and assessment is evaluated by the auditor for all the courses. One-to-one feedback by auditor to teachers helps in the revision of the course outcomes and their attainment.

## Faculty Development Program:

### AICTE Funded Two Week Faculty Development Programme (FDP) on “Electronic System Design: From Devices to Applications”



Electronics Engineering Department of Sardar Patel Institute of Technology organized AICTE Funded Two Week Faculty Development Programme (FDP) on “Electronic System Design: From Devices to Applications” (4th May 2015 to 15th May 2015). Sixty six teachers from AICTE recognized institutes teaching in the area of Electronic Devices, VLSI Design and Embedded Systems across the country participated in the programme. Function was inaugurated in presence of chief guest Dr. S. S. Mantha, Ex-chairman AICTE, guest of honour Dr. Ramgopal Rao, Professor IIT Bombay, Dr. Prachi Gharpure, Principal S.P.I.T., Dr. Y.S. Rao, Vice-Principal S.P.I.T. and Dr. S. S. Rathod, Co-ordinator of the FDP. In two week, twenty three resource persons delivered expert lectures on various topics of electronic system design. The resource persons are Dr. Ramgopal Rao (IIT Bombay) Dr. Maryam Shojaei Baghini (IIT Bombay), Dr. Sudeb Dasgupta (IIT Roorkee), Dr. Santosh Vishwakarma (IIT Indore), Dr. Naushad Alam (AMU Aligarh), Dr. D. V. Bhoir (CRCE Mumbai), Dr. S. S. Mande (DBIT Mumbai), Dr. Shaila Subbaraman (WCE Sangali), Dr. Nisha Sarwade (VJTI Mumbai), Dr. Uday Pandit Khot (SFIT Mumbai), Dr. Jonathan Joshi (CEO Eduvance Mumbai), Dr. Nitin Kale (Nanosniff Tech. Pvt. Ltd. Mumbai), Mr. Amit Saini (Cadre Design Systems, Delhi), Mr. Sumit Patil (Trident Technologies, Pune), Mr. Kartik Sharma (Trident Tech., Hyderabad), Mr. Mayur Deshmukh (COREEL Technologies, Pune), Mr. D. V. Ranade (Embedded Consultant, Mumbai), Mr Premkumar Vadapalli (Texas Instruments, Bangalore), Mr Rohit Prajapati (Edgate Tech. Pvt Ltd. Bangalore), Prof. Shrikant Velankar (VIT, Mumbai), Dr. Y. S.Rao (S.P.I.T. Mumbai) and Dr. S. S. Rathod (S.P.I.T. Mumbai).

Laboratory sessions are conducted by industry experts from Texas Instruments (Bangalore), Cypress semiconductor University Programme, ARM University Programme, Cadre Design Systems (Delhi), Techlab Pvt. Ltd (Pune) and Corel Technologies Pune.

As a part of FDP a visit to nanofabrication facility at Indian Institute of Technology Bombay was organized where participants learned about the fabrication of VLSI devices. As a part of the course material each participant received One Texas Instruments MSP 430 launch pad, One Embedded Board, Wafer sample from IIT Bombay, Evaluation license for Cogenda TCAD simulator, Code composer studio, Xilinx Vivaldo, 8 GB pen drive and lot of other learning material.

## Faculty Development Program on “MEMS Devices”



One week Faculty development program on 'MEMS Devices' is organized by Electronics Engineering Department of Sardar Patel Institute of Technology from 16<sup>th</sup> Nov to 21<sup>st</sup> Nov. 2015. The objective of this course was to train the manpower in the area of MEMS.

Micro-Electro-Mechanical Systems, or MEMS, is a technology that in its most general form can be defined as miniaturized mechanical and electro-mechanical elements that are made using the techniques of microfabrication. MEMS has been one of the thrust areas for the laboratory for the last ten years in India. Particularly; design and fabrication of sensors, actuators, switches, resonators, microfluidics and stiction in surface micromachined devices are the areas of study for researchers all around the globe. This research tends to be interdisciplinary that encourages collaborations in biology, chemical engineering, bioengineering, computer science, mechanical engineering and other departments. The applications of this technology are far wider than any single technology ever known in the human history.

Dr. Nitin Kale, Chief Technology Officer, Nanosniff Technologies and his team conducted two days session with hands-on practice on microcantilevers designed and fabricated at IIT Bombay. Ms. Deepali Chandratre and Mr. Prashant Nayyar delivered session on 'Introduction to MEMS Instruments and Sugar Simulation Tool'. A talk on 'MEMS-Instrumentation and BioMEMS' was delivered by Ms. Sumona Dhara, Training was provided on industry grades tools like CoventorWare and COMSOL from the industry experts. These are worldwide used industry standard software for the design and analysis of MEMS devices. Mr. Swapnil Badgujar from COMSOL, Pune took hands-on session on 'MEMS modeling with COMSOL and Fabrication of capacitive MEMS sensor'. Mr. Rajesh from FTD Infocom Bangalore took three days hands-on session on CoventorWare and his session was appreciated by all the participants.



## Faculty Development Program on “LabVIEW and Application Hardware Integration”



One week Faculty development program on 'LabVIEW and Application Hardware Integration' is organized by Electronics Engineering Department of Sardar Patel Institute of Technology from 30<sup>th</sup> Nov. to 5<sup>th</sup> Dec. 2015. Mr. Shantanu Sarkar and Mr. Sumit Patil from Trident Techlabs Pune were the resource persons for the workshop.

LabVIEW software is an ideal for any measurement or control system and the heart of the NI design platform. It integrates all the tools that engineers and scientists need to build a wide range of applications in dramatically less time. LabVIEW is a development environment for problem solving, accelerated productivity and continual innovation. LabVIEW provides a single graphical design tool for algorithm development, embedded system design, prototyping and interfacing with real-world hardware. The hands-on training on labview programming along with the real time interface to biomedical sensors, mechatronics sensors, DC motor control, ELVIS-II and smart camera is imparted.

## One week ISTE approved STTP on “Real Time Digital Signal Processing Using DSP Processor”



## Faculty Development Program on “Analog CMOS VLSI Design”



One week Faculty development program on 'Analog CMOS VLSI Design' is organized by Electronics Engineering Department of Sardar Patel Institute of Technology from 7<sup>th</sup> Dec. to 12<sup>th</sup> Dec. 2015. Dr. S. S. Mande, Professor, Don Bosco Institute of Technology, Prof. Narendra Bhagat and Dr. S. S. Rathod were the resource persons for the rest of the modules of the workshop.

## One week ISTE approved STTP on “Basic Electrical, Electronics and Electrical Machines”



## One week ISTE approved STTP on “Network and Cyber security with hands-on labs”





## Faculty Development Program on “ASIC Verification with SystemVerilog”



One week Faculty development program on 'ASIC Verification with SystemVerilog' is organized by Electronics Engineering Department of Sardar Patel Institute of Technology from 21<sup>st</sup> Dec to 26<sup>th</sup> Dec. 2015. Dr. Prachi Gharpure, Principal, S.P.I.T. started the workshop with her session on 'Object Oriented Programming.' Dr. D. R. Kalbande, Professor Computer Engineering Department conducted hands-on session on 'Object Oriented Programming'. Mr. Pawan Fakatkar from Jubilent Technologies conducted one day session on Verilog Programming. Other four days were on SystemVerilog which were taken by Dr. S. S. Rathod.

The SystemVerilog language includes features for design, verification, assertions, and more. Some of the typical features of an hardware verification language that distinguish it from a Hardware Description Language such as Verilog or VHDL are Constrained-random stimulus generation, Functional coverage, Higher-level structures, especially object-oriented programming, Multithreading and interprocess communication, Support for HDL types such as Verilog's 4-state values and Tight integration with event-simulator for control of the design. There are many other useful features that allow verification engineer to create testbenches at a higher level of abstraction than one is able to achieve with an HDL or a programming language such as C. This course was first of its kind on the advanced concepts of verification organized in Mumbai University.

## One week ISTE approved STTP on “Skill Development” for non-teaching staff



## ISTE Approved One week STTP on "Outcome Based Education- Innovative Teaching Learning Practices and Evaluation" (2nd May to 6th May, 2016)



One week ISTE approved STTP on Outcome Based Education- Innovative Teaching Learning Practices and Evaluation was successfully organized by Electronics Engineering Department of Sardar Patel Institute of Technology from 2<sup>nd</sup> May to 6<sup>th</sup> May 2016. Forty four participants from various engineering colleges participated in the course. Dr. Surendra Rathod Head of Electronics Engineering Department was the coordinator of the workshop.

Dr. Shaila Subbaraman, Professor at Walchand College of Engineering inaugurated the STTP and delivered invited talk on 'Accreditation: OBE and Pedagogy' on 2<sup>nd</sup> May 2016. Dr. Prachi Gharpure Principal, S.P.I.T. conducted session on 'Implementation of teaching strategies based on course outcomes'. She has explained the innovative practices in a course on 'System Programming Approach'. Dr. Ramesh G. Karandikar, Professor KJSCE Vidyavihar delivered talk on 'Live with NBA' and explained the necessity of data management. The detail articulation and evaluation of course outcome was explained by Dr. D. R. Kalbande, Professor, S.P.I.T. Dr. D. V. Bhoir, Professor CRCE Bandra explain the various innovative practices in teaching & learning which teacher can use during the delivery of the course.

Mr. Nilesh Gadre, Wiksate, Pune delivered invited talk on 'Positive impact of social learning and active mentoring networks on learning outcomes'. He has explained the various strategies which can be used for student engagement. Articulation, Assessment of Program outcomes and various accreditation processes were explained by Dr. S. S. Rathod, Professor, S.P.I.T. He has also taken the participants to the visit of Electronics Engineering Department which was appreciated a lot by participants.

Self learning session on Embedded Systems and FPGA Programming were conducted by Dr. Jonathan Joshi, CEO Eduvance and Mr. Ganesh Gore, CTO Eduvance in which they have demonstrated the concept of Remote Lab. Innovative method of assessment in the course VLSI Design, Embedded Systems and DTSP was conducted as hands-on session in the laboratories. Detail discussion on Self Assessment Report and an interactive session on how to fill Self Assessment Report was conducted by Dr. S. S. Rathod, Professor, S.P.I.T. Dr. Y. S. Rao, Vice-Principal, S.P.I.T. given the concluding remarks and distributed certificates to the participants.



## **Panel Discussion on “Industry Institute Interaction”:**



Panel discussion on “Industry Institute Interaction” was organized by Electronics Engineering Department of Sardar Patel Institute of Technology on 4<sup>th</sup> Mar 2016 at 4.00 pm. The eminent panelist from Electronics and Electrical Engineering related industries were present for the discussion. The objectives of panel discussion were:

- To get the industry perspective on curriculum for electronics engineering
- To discuss value of student internships and assist S.P.I.T. to create process for getting student internships.
- To discuss views about Industry aligned course for students / Industry personal talks which can be conducted at institute.
- Importance of projects in the curricula, their positioning and role of industry for the same.
- To discuss views about hands on experimentation as a part of curriculum and hence laboratory infrastructure to be developed.

Mr. Sandeep Kharate, Deputy General Manager, Larsen & Toubro Ltd, Mr. Milind Dalvi, General Manager, Schneider Electric Co. Ltd, Mr. Amit Shah, Director Mohul Solar Pvt. Ltd, Mr. Ganesh Gore, Chief Technology Officer, Vanmat TechnoOlogies Pvt. Ltd, Mr. Parag Shah, Director Microcraft Corp, Mr. Rasesh Shah, Sr. Vice President, Fractal Analytics and Dr. Prachi Gharpure shared their views on various aspects of teaching learning process and industry collaboration.

## **Industry visit of students at Jaipur Dairy:**



The picnic to Rajasthan was organized by SPIT IEEE- IETE collaboration from 28 December 2015 to 4 January 2016. The industrial visit to Jaipur Dairy was scheduled on 29<sup>th</sup> Dec. It was a huge dairy industry on a vast stretch of land and with trucks and containers used for transportation. Students interacted with the dairy staff and they learned various industrial processes of milk production.

### Technical Paper Presentation Contest:



A Competition was conducted at departmental level between the students of B.E, T.E and S.E. The objective of this competition was to provide a platform for students so that they can explore and develop their presentation and technical paper writing skills. For this competition 21 groups were participated from B.E(ETRX) with 66 number of students. Faculties of Electronics and telecommunication Department were judges for the respective groups in all the three rooms. Prof. Manish Parmar & Prof. G. T. Haldankar, Prof. Anand Mane & Prof. P. V. Kasambe, Prof. Milind

Paraye & Prof. N. A. Bhagat were Judges for Room No. 305, 303 and 301 respectively. Evaluation of Presentation was done using assessment sheet given to them by R & D Committee. Also parallel assessment was done on technical paper written by students and suggestions were given to them. From this presentation 3 groups were selected as winners.

### Troubleshooting Competition:

A troubleshooting competition was conducted at departmental level between the students of S.E and T.E. The objective of the competition was to provide a common platform for the students to exhibit and develop trouble shooting skills in the field of electronic circuits. The competition was organized in three different phases as quiz paper, simulation and hardware. Each phase was an elimination phase having weightage of few marks. All the students of S. E and T. E had participated in this event. Three groups were selected as winners from each class.

### Industry visit at hospital:



A visit to Kokilaben Dhirubhai Ambani Hospital and Medical Research Institute was arranged on date 6,7,8,9, March 2016 for understanding the working principle of various biomedical equipments and patient safety. This visit was arranged by Dr. R. G. Sutar and Asst. Prof. S. D. Rokade for the students of final year (ETRX) and subject Biomedical Electronics. Total 28 students have participated in this visit in the group of seven. During this visit students got a chance to interact with the staff of the Medical Electronics Department of the hospital. This helped students in understanding the role of a biomedical

engineer in ensuring proper and most importantly safe operation of all medical instruments of the hospital. Two engineers of Medical Electronics department from hospital demonstrated the working of biomedical instruments walking through different departments of hospital and explained the dependency of an accurate diagnosis on accurate functioning of these instruments.

### Mini-Project Competition:

A mini-project competition/exhibition was held in the department of Electronics engineering in every semester. The competition was organized on 30<sup>th</sup> oct 2015 and 22<sup>nd</sup> April 2016. This competition was arranged by the department to demonstrate the projects developed by third year students. In every semester three winners are declared for this contest and they get total Rs. 10000/-- prize money.

## ROBOCON:



ABU Robocon is a robotics competition organized each year by Asia Broadcasting Union to give budding engineers a platform to show their engineering skills in the field of robotics. Students from Sardar Patel Institute of Technology have been participating in this competition every year and have always raised the bar of its performance.

## Guest lectures arranged in the department in 2015-16:

Topic	Speaker	Date	Relevance of POs, PSOs
"Importance of Economics in Engineering"	Mr. Ronak Chokshi and Ms. Debleena Mukhopadhyay Student, SPJMR, Mumbai	4 <sup>th</sup> Sept. 2015	PO11
"Management of Intellectual Wealth"	Dr. B. B. Singh IPR Attorney & Scientific Advisor and Advocate, High Court, Mumbai	14 <sup>th</sup> Sept. 2015	PSO3
"Transmission Lines and Power Line Carrier Communications (PLCC)"	Mr. Dipak Warade Dy. Executive Engineer, Maharashtra State Electricity Transmission Comp. Ltd. EHV Testing Unit, Panvel	21 <sup>st</sup> Sept. 2015	PSO1
"Fabrication of micro-Electro-Mechanical Devices"	Prof. Subhash Lokre, IITB	Sept 2015	PO4
"Use of Electronic Equipments"	Prof. G. T. Haldankar Asst Prof, S.P.I.T.	9 <sup>th</sup> Oct. 2015	PSO1
"State Variable Models and State Transmission Equation"	Prof. Dattatreya Sawant Assistant Professor, M.P.S.T.M.E, Mumbai	16 <sup>th</sup> March 2016	PSO2
"Finite Element Method (FEM)"	Prof. Mrs. Megha Janbandhu Associate Professor, Mechanical Engg. Department, Sardar Patel College of Engineering, Andheri (west)	21 <sup>st</sup> March 2016	PSO1
"Bulk Lithography and MEMS Device Characterization"	Dr. Kiran Bhole Associate Professor, Mechanical Engg. Department, Sardar Patel College of Engineering, Andheri (west)	23 <sup>rd</sup> March 2016	PO5
"Environmental Studies: E- Waste Management"	Dr. Hansa Jeswani Associate Professor, Sardar Patel College of Engineering, Andheri (west)	23 <sup>rd</sup> March 2016	PO7
"Biomedical Electronics- Medical equipments, Physiology of Brain, Safety aspects"	Dr. Manali Godse Professor & HOD, D.J.Sanghvi College of Engineering, Mumbai	28 <sup>th</sup> March 2016	PO6

## Skill Development Programme (SDP):

Department has skill development programme for electronics engineering students. Every student is asked to submit a plan about 'what they are going to do' after engineering or what is their area of interest or their goal in life. This SWOT analysis was very helpful in understanding student's perspective about their future. Depending on this various groups among students are formed and they have been allocated mentors/experts to achieve their goal. The motto of the programme is 'Do it yourself'.

**Primary Outcome Emphasized:** *Student will be able to acquire the value added skills and make themselves ready for the future endeavors*

### SDP Groups:

- MBA
- Civil Services
- Programming
- Embedded Systems
- Raspberry Pi
- Circuit Simulation
- Telecommunication
- VHDL
- Labview
- Signal Processing
- Visual TCAD
- Entrepreneurship

### The Benefits of Skill Development Programme:

- ✓ Enhanced focus for future endeavors
- ✓ Developments of soft skills, communication skills, presentation skills
- ✓ Skill set development in technology
- ✓ Motivation towards invention or innovation
- ✓ Ready for placement, research etc.
- ✓ Increase interaction with teachers
- ✓ Development of laboratories and their increased utilization
- ✓ Improvement in quality of Projects in Final Year

## Final Year Placement/Internship/Scholarship Statistics in 2015-16 (till date):

Placement of Students Passed in May 2015	
Key	Number
Dream	18
Core	5
Accepted (Normal)	38
Total Placed	61
Total Students	67
Placement %	91%

Placement of Students Passed in May 2016	
Key	Number
Dream	28
Core	4
Accepted (Normal)	27
Total Placed	65
Total Students	69
Placement %	94.20%

Profile of Students Passed in May 2015		
M.S.	25.71%	Stanford Univ., Univ. of Michigan, Stevan's Inst. of Tech., Univ. of Colorado, Univ. of Pittsburgh, North Eastern, Univ. of Minnesota, S.P. Jain Inst., Univ. of Houston, ESSEC Business School, Georgia Tech., Univ. of Florida, Corneig Mellon Univ., Univ. of South California
Jobs	54.28%	98% Placed (22% Dream Placements)
Life Long Learning	65.71%	Students appeared for various competitive exams like GATE, GRE, TOFEL, CAT, CET, AFCAT, CMAT and NCFM
Professional Membership	14.28%	Students who were members of professional bodies like IEEE, IETE and ESA

Profile of Students Passed in May 2016		
M.S.	28.98%	Stanford Univ., Univ. of Michigan, Stevan's Inst. of Tech., Univ. of Colorado, Univ. of Pittsburgh, North Eastern, Univ. of Minnesota, S.P. Jain Inst., Univ. of Houston, ESSEC Business School, Georgia Tech., Univ. of Florida, Corneig Mellon Univ., Univ. of South California
Jobs	79.71%	98% Placed (22% Dream Placements)
Life Long Learning	52.17%	Students appeared for various competitive exams like GATE, GRE, TOFEL, CAT, CET, AFCAT, CMAT and NCFM
Professional Membership	11.59%	Students who were members of professional bodies like IEEE, IETE and ESA



## Placement of Students Passed in May 2015

Company	Key	Number of Offers
Siemens	Core	01
L&T Core	Core	02
Mitsubishi	Core	02
Cognizant	Normal	28
Infosys	Normal	32
L&T InfoTech	Normal	30
Credit Suisse	Dream	01
Infibeam	Dream	01
MuSigma	Dream	03
Deloitte	Dream	01
Diebold	Dream	02
KPMG	Dream	01
Aspiring Minds	Dream	01
Kotak	Dream	01
Iksula	Normal	01
TIME	Dream	02

## Placement of Students Passed in May 2016

Company	Key	Number of Offers
Citius Tech	Dream	08
MuSigma	Dream	04
KPMG	Dream	03
Dolat Capital	Dream	03
Fractal Analytics	Dream	02
Indus Valley Partners	Dream	02
Oracle	Dream	01
Deloitte	Dream	01
Credit Suisse	Dream	01
Icon Resources	Dream	01
Ariston Capital	Dream	01
Seclore	Dream	01
Siemens	Core	03
L&T Core	Core	01
Infosys	Normal	21
Cognizant	Normal	19
Accenture	Normal	10
Colgate	Normal	01

Student Name	Intern at Company
Aniket Pendse	Air India
Heenal Shah	Air India
Namrata Sukhani	Air India
Kanchi Poddar	Reliance General Insurance
Sanyogeeta Dhulgunde	MSETCL
Archita Goyal	KELVOLT
Samiksha Gupta	ONGC
Harshal Umakant Patil	Sportz Interactive for sports and data analysis
Vaibhav Pulyani	N.A. Sportz Interactive pvt. Ltd.
Amit Dhamne	TIFR
Niharika Sarode	Champion Trading Company Lights Limited
Hrishikesh Tawade	BARC- DRHR
Sakinala Vivek Vijaykumar	BARC
Junghare Akshay Dnyandeo	BARC
Patil Aniket Ashok	BARC

## List of Topper in May 2014-2015:

Rank	Name of Students	Class	Avg CGPA/ Percentage
1	Shri. Ghaisas Pranav Sharad	Second Year	9.78
2	Shri. Prajapati Praful Ramesh	Second Year	9.75
3	Kum. Kaur Jaskirat Gurmeet	Second Year	9.49
1	Shri. Shah Karan Shailesh	Third Year	9.86
2	Kum. Poddar Kanchi Prabhat	Third Year	9.77
3	Kum. Dalvi Gauri Milind	Third Year	9.43
1	Kum. Bhattacharya Ipsita Gautam Mousumi	Final Year	79.16 %
2	Kum. Kadam Surbhi Pratap Purva	Final Year	78.45 %
3	Shri Tiwari Biteshnath Raviprakash Vinita	Final Year	77.23 %

## Student's Representation in Various College Level Committees:

### Representation in the Students' council

**Mr. Ayush Patial (General Secretary)**



**Mr. Vaishnav Dandge (Sports Secretary)**



Committee	Student Name
<b>Students Council</b>	Ms. Aayush Patial (General Secretary), Mr. Vaishnav Dandge (Sports Secretary)
<b>IETE coordinators</b>	Mr. Devanshi Bhatt
<b>IEEE coordinators</b>	Ms. Gauri Jojode , Ms. Amisha Khimani, Ms. Saniya Santosh, Mr. Ankesh Patil, Mr. Saish Desai
<b>ESA coordinators</b>	Mr. Manas Sardar, Mr. Somesh Shrivastav, Ms. Tanvi Joshi, Ms. Komal Adeshra Ms. Vaibhavi Dichwalkar, Mr. Amol Golwankar, Ms. Aditi Kajrekar
<b>E-Club (Entrepreneurs Club)</b>	Mr. Keshvi Srivastava
<b>Spark Magazine</b>	Mr. Soumyaa Passari, Mr. Manas Sardar, Mr. Alwin Babu
<b>Rotract Club of S.P.I.T.</b>	Ms. Tejashree Gore, Mr. Hrishikesh Tawade, Shrvari Deshpande, Mr. Kapil Rawal,, Ms. Cristina Varghese, Mr. Aditya Jha

## Student's Achievements in 2015 -16:



**Mr. Karan Shah received corporate sponsored award for the outgoing student with the highest CGPI at S.P.I.T. The award was sponsored by Citius Tech Inc. (Rs. 25,000/--)**



**Best Project Award Winners Mr. Karan Shah, Ms. Gauri Dalvi and Ms. Samiksha Gupta**



**Winners of College level Texas Instruments Analog Maker Contest (Winner received Cronos Watches)**



**Winners of Seventh Prof. S.M. Parekh Memorial Debate Competition**

1. Gauri Dalvi, Samiksha gupta and Karan Shah got 1<sup>st</sup> position in Technomania'16 – IEEE (Bombay Section)
2. Shashank Rane and Kritika Sabharwal stood 5<sup>th</sup> in Wolf of Chalk Street by Chalk Street in Marketing Maestro.
3. Kritika Sabharwal stood 1<sup>st</sup> in Inter – college Debate competition in fever college clash – fever 104 FM.
4. Shreyas Palande represents Mumbai University in All India Inter – University Yoga Tournament at Choudhary Ranbir Singh University, Jind.
5. Ashish Mohanan and Raj Shah won Football Tournament at Inter college sport tournament SPIRIT'15.
6. Prasad Gaikwad, Sagar Shelke, Pradnya Bhangale and Jugal Gala stood 1<sup>st</sup> in Avishkar National Level TPP 2016.
7. Karan shah & Gauri Dalvi got best Paper Award at two conferences NCATE & SPANDAN 2016.
8. Karan Shah, Gauri Dalvi and Samiksha Gupta got Best Final year Project Award at SPIT 2015.
9. Jugal Gala stood 2<sup>nd</sup> prize at National level Street Competition at IIM Bengalury 2015.
10. Gaurang Alat, Viraj Malia and Jay Trivedi stood 1<sup>st</sup> at Departmental TPP Competition.
11. Prasad Gaikwad, Hrishikesh Tawade & Amit Dhamne stood 1<sup>st</sup> at Departmental Project Competition 2015.
12. Praful Prajapati and Anand Dhuriya participated in Quiz competition at Technomania ' 16.
13. Seema Bhoir, Trishala patkar and Apurva Harane participated in paper Presentation at national Level Paper Presentation in Technomania ' 16.

### Photographs of Events



Dr. S. S. Mantha (Ex-AICTE Chairman) and Dr. Ramgopal Rao (Professor IITB) during FDP



Visit of participants to IITB Nanofabrication Facility



Seminar on how to assess social learning skills of students with Wiksate by Mr. Nilesh Gadre



Demonstration of PCB making Machine



Workshop by Techlab on Biomedical Instrumentation with Labview



Seminar on "Bringing Machine Vision to Life" by Dr. Khemraj Emrith, University of the West of England.



Participants during hands on training of workshop on Embedded Systems



Event during technical festival MATRIX



## IEEE Activities in Electronics Engineering Department:

Sr. No.	Event Organized	Event Date	Event Description	Usage	No of Student Attended
1	Workshop on Cloud Computing	24 <sup>th</sup> Sep. 2015	This workshop covered a wide area of the mentioned topic i.e. Hypervisor, Virtualization Technologies and Virtual Machine Technology. It gave the students an opportunity to learn more about the Virtual Networking world. Mr. Vaibhav Sarmalkar who is currently an employee at FirstRand Bank was speaker.	Knowledge about cloud computing	40
2	Patent Drafting Workshop	25 <sup>th</sup> -26 <sup>th</sup> Sep. 2015	Esteemed Speakers:-Abhishek Pandurangi: Partner & Attorney-at-law at Khurana & Khurana Advocates & IP Attorneys Parvez Kudrolli: Senior Associate at Khurana & Khurana, Advocates and IP Attorneys, Registered Patent Agent IEEE SPCE-SPIT in collaboration with Innovation and Entrepreneurship Development Center (IEDC) organized "Patent Drafting Workshop"- an event that focused towards learning and drafting patent on the Innovative product developed by them at IEDC Centre.	A total of 7 patents were completely drafted to the extent that they can be submitted to the Indian Patent Office (IPO).	100
3	Proteus workshop	5th Oct. 2015	IEEE SPCE-SPIT in collaboration with Electronics Student Association (ESA) organized a workshop "Proteus":- an event that focused on teaching students how to successfully build circuits so that they can Mount circuits on the PCB. This workshop was an opportunity for the students to learn Proteus so that they can use this while making their own projects.	Students were successfully able to make their own circuit and run with zero errors	35
4	IEEE Bombay Section Meeting - 2015  An Enthusiastic Start to a new IEEE year	28 <sup>th</sup> Aug. 2015	Colossal event spanning participants from more than 17 colleges from Mumbai Thane, Nashik and Pune region gathered to exchange their ideas at Sardar Patel Institute of Technology, Andheri (w). The purpose of the meeting was to share the past experiences and discuss the positives of IEEE membership for students.	IEEE Student committees from different colleges summed up their activities through presentations.	30
5	Treasure Hunt Competition	31 <sup>st</sup> Aug. 2015	It was the event organized by the committee with the motive of socializing FE and to learn about their college and to broaden their network.	Encourage networking among students.	40 teams
6	IEEE Monsoon Trek	15 <sup>th</sup> Aug. 2015	IEEE SPCE-SPIT went for a trek to Mahuligadh. It is located near Asangaon in Thane district. The peak was two thousand eight hundred meters above the sea-level.	Students learned team work during the event	123



## ESA Activities in Electronics Engineering Department:

Various activities conducted under Electronics Students Association (ESA) are listed in the following table.

Sr. No.	Event Organized	Event Date	Event Description	Usage	No of Students Attended
1	Orientation for FE ETRX	6 <sup>th</sup> Aug. 2015	An orientation was given to the FE ETRX students to familiarize them with the Department	It helped FE students to know their department.	80
2	Kothaligad Trek	8 <sup>th</sup> Aug. 2015	ESA in collaboration with IETE committee organized a trek to Kothaligad.	Adventure event	127
3	Teachers Day Celebration	4 <sup>th</sup> Sep. 2015	ESA organized a celebration for teachers where students got opportunity to showcase their talent.	Teachers day celebration	72
4	Mock Interviews	11 <sup>th</sup> Aug. 2015	A mock interviews session was conducted by Mr. Dhaval, Kunte, faculty at CPLC classes and SPIT alumni. Techniques for cracking the interviews, making resume were taught. Also mock interviews were conducted for 3 students which taught everyone how to deal with the scenario's at interviews.	Gave the students a brief idea of interviews and how to start preparing for them by focusing on improving technical and communication skills.	85
5	Proteus workshop	5 <sup>th</sup> Oct. 2015	IEEE in collaboration with ESA organized a workshop "Proteus":- an event that focused on teaching students how to successfully build circuits so that they can Mount circuits on the PCB.	This workshop was an opportunity for the students to learn Proteus so that they can use this while making their own projects.	35
6	Tee – Shirt Making competition	21 <sup>st</sup> Oct. 2015	A Tee – Shirt designing competitions was organized wherein students of Electronics department had to submit the designs online and best design was selected.	The first prize winner design was selected and printed as Tee – Shirt for the year 2015-16 for Electronics department students.	25

## Student Performance Enhancement Scheme (SPES):



Scheme referred as 'Student Performance Enhancement Scheme' (SPES) was implemented from academic year 2013-14 in Electronics Engineering Department which was continued this year as well. In this scheme, every student received hardware tools kit worth Rs. 3000/-- to enhance their hardware debugging capabilities. One kit comprises soldering iron, multi-meter, Wire stripper, bread board, bundle of connecting wire, logic probe, soldering wire and flux. Students carry same kit during day to day practical, mini projects, final year projects

## Sponsored Projects in 2014-15:

S.N.	Project Title	Mentor	Funding Agency
1	Design and Development of an Experimental Setup for Process Control and Instrumentation Laboratory using LabVIEW for e-Learning.	Prof. P. V. Kasambe	Mumbai University

## Experts in Each Research

## Research Topics Offered by the Department:

<b>1. VLSI and Embedded Systems</b> <ul style="list-style-type: none"> <li>➤ Dr. S. S. Rathod</li> <li>➤ Prof. Narendra Bhagat</li> <li>➤ Prof. P. V. Kasambe</li> <li>➤ Prof. Manisha Bansode</li> </ul> <b>2. Instrumentation and Control</b> <ul style="list-style-type: none"> <li>➤ Dr. S. S. Rathod</li> <li>➤ Dr. R. G. Sutar</li> <li>➤ Prof. P. V. Kasambe</li> <li>➤ Prof. G. T. Haldankar</li> <li>➤ Prof. Payal Shah</li> </ul> <b>3. DSP and Image Processing</b> <ul style="list-style-type: none"> <li>➤ Prof. K. T. Talele</li> <li>➤ Prof. Priya Deshpande</li> </ul> <b>4. Communication and Networking</b> <ul style="list-style-type: none"> <li>➤ Dr. D. C. Karia</li> <li>➤ Prof. Manisha Bansode</li> </ul>	1. Electronic Circuit Analysis and Design 2. Semiconductor Device Modeling 3. Novel Semiconductor Devices 4. Low Power Circuit Design 4. RADHARD Circuit Design 5. Carbon Nanotube FET and Circuit Design 6. CMOS analog and Mixed Signal Design 7. MEMS 8. ASIC Verification 9. FPGA/CPLD based design 10. Design of Embedded System 11. Labview Based Virtual Instrumentation 12. Biomedical Instrumentation 13. Antenna Design 14. Design of communication circuits 15. Digital Signal Processing 16. Image Processing
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## Final Year Projects in 2014-15:

S.N.	Project Title	Project Guide
1	Gas Detection using MEMS.	Dr. S. S. Rathod
2	WATER Power management and Bacteria Detection.	
3	WATER Automated sample collection and data analysis.	
4	Underground Cable Fault Detection.	Dr. D. C. Karia
5	Electronic Security System.	
6	e-Banking Security System using Biometrics.	
7	Magic Mirror Virtual Fitting Room.	Prof. K. T. Talele
8	Design and Control of Autonomous Quad-rotor.	
9	Gesture Controlled Computing.	
10	Atmospheric Peltier Water Generator.	Prof. Narendra Bhagat
11	Digital Medical kit.	
12	Brain Computer Interface – SSVEP.	
13	Current Transformer / Potential Transformer Analyzer.	Dr. Rajendra G. Sutar
14	Prepaid Energy meter using GSM.	
15	Gantry Robot and Quality Monitoring for Bottle Filling System.	
16	Design and Development of an experimental setup for Process Control and Instrumentation Laboratory for e-Learning.	Prof. P. V. Kasambe
17	Electronic Life Saver for Fishermen.	
18	Low Cost Bionic Arm for Amputees.	
19	Robotic Gripper with Haptic feedback.	Prof. Payal Shah
20	PLC Based Smart Bottle Filling System.	
21	Smart Stick for Visually Impaired.	
22	Smart Attendance System.	Prof. Manisha Bansode

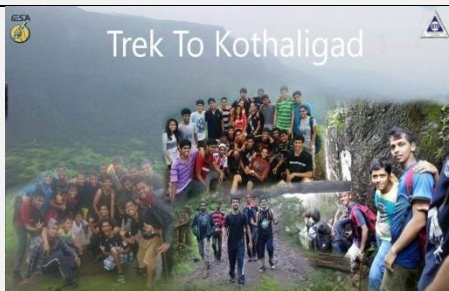
### Parents Teacher Meeting



### Cultural Events in the Department



Teachers day celebrations by ESA



Trek to Kothaligad organised by ESA



Essel World trip organized by ESA



Event during UDAAN cultural fest



Final year students memorable farewell

### Degree Certificate Distribution Ceremony



# Contact

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