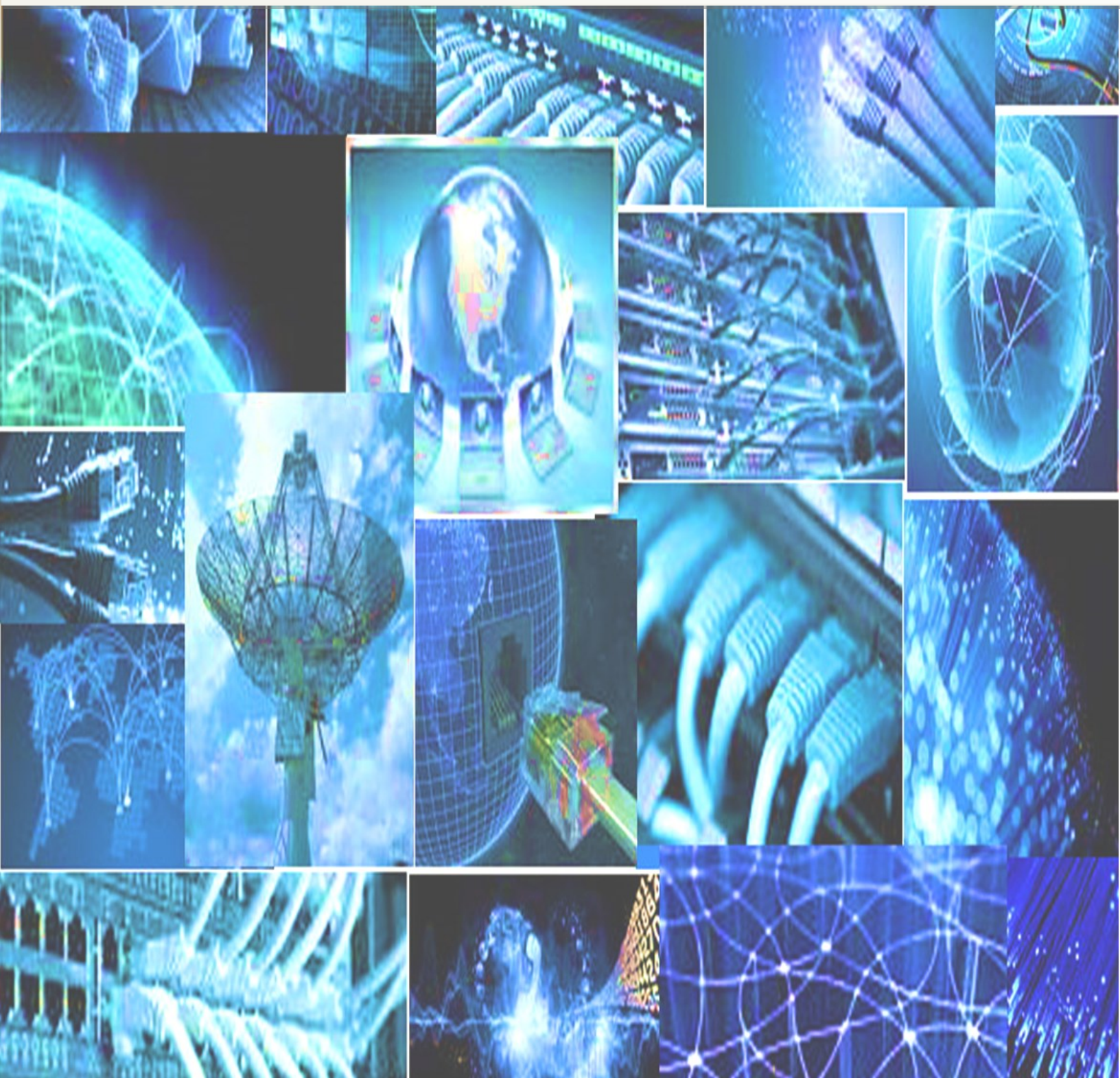# EXTC DEPARTMENT
# NEWSLETTER                 2016-2017



## VIVA Institute of Technology

### Electronics & Telecommunication Engineering Department

**Shirgaon, Kumbharpada, Virar(E) - 401305**

**www.viva-technology.org**

# CONTENT

## ABOUT THE DEPARTMENT

Electronics and Telecommunication is a diverse field of engineering connecting to electronics, civil, structural, and electrical engineering. This branch has wide scope in the Public sector, Private sector as well as in Government sector which makes telecom engineers responsible for providing the method for customers to have telephone and high-speed data services.

It is a versatile branch, meaning that the students holding the degree in the Electronics and Telecommunication can build up their carrier in any field such as Computer Engineering, Information Technology and Telecommunication etc. Our motto is to build up students who will be equally competent in all these fields. Keeping this in mind, our laboratories are well-equipped with advanced computer, (to implement concept of virtual lab) to give the students full exposure to computer, Internet Technology, and the advancements in this field.

The Department is running IETE student forum (ISF), which is right forum for the students to give   exposure to their facets and help them for their overall personality and Technical development.

*Every problem might not have a solution right now, but don't forget that but every solution was once a problem.*

## VISION

To emerge as a "Centre for Excellence" offering Technical Education by developing the total personality of the individual, imparting high level of discipline, making professionally competent and ethically strong, who in turn shall contribute to the advancement of society in particular and the nation at large.

## MISSION

⇒ To achieve academic excellence by creating the right academic ambience,      that will enable students to pursue higher studies and career in research.

⇒ To provide an effective teaching-learning environment designed to develop internationally competent professionals with a sense of responsibility and social sensitivity.

⇒ To promote Industry- Institution Interaction.

*In real life, there is no such thing as second place. Either you are a winner, or you're not.*

## Programme Educational Objectives (PEOs)

The Bachelor of Engineering in Electronics and Telecommunication program has following educational objectives. These objectives are the long term career goals that we set for our students.

Our program prepares students to achieve these objectives.

⇒ Identify, analyze and formulate problems to offer appropriate design solutions that are technically superior, economically feasible, environmentally compatible and socially acceptable.

⇒ To create the necessary academic ambience that nurtures the student ability to cope up with situations that emerges in the professional context with confidence through lifelong learning.

⇒ To inculcate professional and ethical attitude, teamwork skills, good leadership qualities and commitment to social responsibilities.

*Life is all about CHANCES and OPPORTUNITIES. Never leave anything to CHANCE and never let an OPPORTUNITY get away.*

# PROGRAMME LEARNING OUTCOMES

The outcomes of the program objectives are:

⇒ **Engineering Knowledge**: The ability to apply knowledge of mathematics, engineering and science to solve complex engineering problems.

⇒ **Problem Analysis**: The ability to identify, formulate and analyze engineering problems.

⇒ **Design/development of Solutions**: The ability to design electronics circuits, conducts experiments, analyze and interpret data.

⇒ **Modern Tool usage**: An ability to design analog and digital systems and components.

⇒ **The Engineer and Society**: Ability to be aware of social, health, safety, cultural, legal issues and responsibilities relevant to professional engineering practice.

⇒ **Environment and Sustainability**: The broad education necessary to understand the impact of engineering solutions in environmental and societal context.

⇒ **Ethics**: Apply ethics to carryout engineering practices more professionally.

⇒ **Individual and Team Work**: The ability to function in multi-disciplinary teams by involving in technical activities.

⇒ **Communication**: The ability to comprehend, present and document effectively.

⇒ **Project Management and Finance**: Ability to apply engineering and management principles.

⇒

⇒ **Life-long Learning**: The ability to engage in lifelong learning with advances in technology.

## PROGRAM  SPECIFIC OUTCOME

**PSO1: Professional & Problem-Solving Skills:**

An ability to understand and analyze the basic concepts in Electronics & Communication Engineering and to apply them to various areas, like Electronics, Communications, Signal processing, VLSI, Embedded systems, microwaves etc.

**PSO2: Successful Career and Entrepreneurship:**

An understanding of social-awareness and ethical Responsibility to have a successful career and to endure passion for real-world applications using optimum Resources as an Entrepreneur.

*Stop thinking about WHAT WILL HAPPEN and start thinking about WHAT YOU CAN DO*

## PRINCIPAL'S MESSAGE



It is a matter of pleasure to speak with all of you through this newsletter. We all can take pride from the fact that each one of us has contributed to the present day glory and growth of our college. The Newsletter will serve as an interface between the Institute and outside world. It provides information about the academic activities organized in the Institute - Information about co -curricular activities held during recent past is also shared.

I am happy to note that various initiatives are taken by the faculty to disseminate knowledge by organizing conferences, training programs and workshops. Expert lectures are also organized by various departments time to time to keep abreast with the latest developments in the field of science and technology.

VIVA INSTITUTE OF TECHNOLOGY established in the year 2009, nurtures a unique system of education for creating dynamic leaders in the corporate sector, entrepreneurs, academicians, researchers and professionals who contribute to the development of society and nation at large. It has an aesthetically designed and elegantly built campus furnished with state of art equipment and facilities. Here, education is not only focusing on 4 years B.E. degree course but also creating for the students a platform to realize their dreams, hone their cognition, sharpen their competence and carve out a wholesome personality.

## WORDS FROM HOD



The motto of our department is *'Nothing can we achieve without genuine effort'.*

The department of Electronics and Telecommunication Engineering is one of the pioneering departments of this institution. We offer our students good educational experience that combines intellectual rigor and cross-disciplinary breadth in an organized, student centred environment

Department of Electronics and Telecommunications Engineering aims at training students in the areas of Electronics like Solid state circuits, VLSI, Electronic Controls and Communications Engineering including , Multiple access technology, optical fiber, wireless communication, signal and image processing, mobile communication and Microwave Engineering. One specialty with the department is that students learn published material from journals and generate publications of International quality. We provide opportunity to students to explore their interests in microprocessor and microcontroller based applications, image & video processing, VLSI, Wireless Networking, Embedded systems, Robotics, data compression, signal processing, analog and digital communication.

It is indeed my great pleasure that our department is publishing newsletter etching every aspect of activities and events held in academic session 2016-2017. The newsletter aims to bring into view about various proceeding, functions and happenings in the department.

I congratulate the team for producing this newsletter.

## SHORT TERM TRAINING PROGRAM

**1) ISTE Approved One Week Short Term Training Program on "Emerging Areas in Antenna and Meta material Technology" Organized by Electronics and Telecommunication Department from 3rd to 7th Jan, 2017**
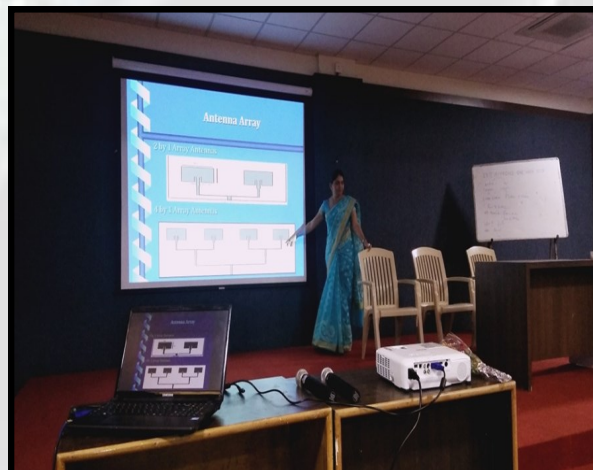
Designing antenna and its feeding network is a challenging problem but it has now become more complicated than before due to increasing demand for more compact and efficient wireless devices. The purpose of this STTP is to bring together researchers & PG students from academia and Engineers & Scientists from industry and R&D institutes to have discussions on the recent advances in the field of antenna. Total 17 faculty members participated in this program.

Topics Covered in STTP on "Emerging Areas in Antenna and Meta material Technology"

⇒ Meta material and DGS based Microstrip Patch antenna

⇒ Design of Microstrip and Horn antenna in using IE3D software

⇒ Feeding mechanism and Reconfigurable antenna

⇒ Antenna and optical fibre

⇒ Microstrip patch antenna array using defective ground structure for wireless communication

In valedictory function institute had received the feedbacks from the participants that they have learned and enhanced their knowledge in this STTP and they would always want to attend this kind of STTP in this institute once again. The overall feedback of the Training Program was encouraging and was highly rated by the participants

**2)  ISTE Approved One Week Short Term Training Program on "Advanced Networking and Network Security" from 2ⁿᵈ May to 6ᵗʰ May 2017.**

Networking is found to be fastest growing occupation, faster than the average for all occupations and will continue to grow as investments are made in newer, faster technology. This STTP provides comprehensive coverage of networking topics, from fundamentals to advanced applications and services while providing opportunities for Hands-on practical's on software's like NS2 and Python.

Topics Covered in STTP on "Advanced networking and Network Security"

⇒  Ns2 Installation with Basics of 'TCL Scripting'.

⇒  Hands-on Training on Computer Communication Networks

⇒  Cloud Computing.

⇒  Network Security

⇒  Ethical hacking

⇒  Protocol Visualization using Packet Tracer

⇒  Different Protocol analysis using Wireshark

Participants were the teaching faculty of Engineering College.  Total of 14 faculty members participated in the One week Short Term Training Program conducted.

# GUEST LECTURES

1) Lecture on "WSN Design and its Challenging Issues" by Prof Sunayana Jadhav from Vidyavardhini College of Engineering and Technology on 31$^{st}$ march, 2017 for B.E. and T.E. students of EXTC

Number of students attended: 96

2) Lecture on "Group Discussion and personal Interview" by Mrs. Anandita Mukherjee on 27$^{th}$ March, 2017 for S.E. and T.E. students of EXTC

Number of students attended: 79

3) Lecture on "Image and Video Processing" by Dr. Udhav Bhosle, Principal from Rajiv Gandhi Institute of Technology, Andheri (W) on 22$^{nd}$ July, 2016 for B.E. students of EXTC

Number of students attended: 72

## HITAISHI

Students of VIVA Institute of Technology, Virar organized annual cultural and Sports events under the banner of "HITAISHI" between 30th Jan'17 and 3rd Feb, 17. The Cultural Events were: Dance, Singing, Photography, Rangoli and others. The Sports Events were: Cricket, football, Volleyball, Chess, Carom, Badminton and many more.

## WORKSHOP

IETE Approved Two Day Workshop On  "**INTERNET OF THINGS {IOT}**"  09th & 10th August, 2016.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a two day workshop on **"INTERNET OF THINGS"** under the banner of IETE on **9th & 10th August, 2016.** The program started by greeting the speakers Mr. Ajit Yadav and his team.**.**

The workshop was based basically on Home Automation concept and interfacing of component over a internet which was conducted by **Mr. Ajit sir** as the speaker and a team of volunteers who guided the  participants.

The topics that were covered are as follows:-

⇒  Explanation on what is Internet of things?

⇒  Importance of Internet of things.

⇒  Basic programming related to Internet of Things concept.

⇒   Brief description of future scope of IOT.

The session on day 2 of the workshop started by 10.00 am .On second day of the workshop competitions was held by Ajit sir based on innovative ideas and programming .

Topics that were discussed were:

Introduction and program based on Wifi Module.

Interfacing of physical components such as Sensors , Led's , Motors etc over internet.

Home Automation programming.

Competitions based on innovative ideas and programming challenge.

## INDUSTRIAL VISIT

### 1) Air Traffic Controller, Santacruz

All Faculty members of Electronics and Telecommunication Engineering Department visited Air Traffic Controller(ATC), Santacruz on 28th October 2016.

Faculty were exposed to following departments:

Air Space Ocianic Control and Area Approach Control room
Automation System/Maintenance Unit
Database Management System
ATC tower to show controlling of landing and take-off planes.

Faculty gained knowledge how air traffic is controlled by dividing entire area into 5 different zone (East, West, North, South and Oceanic zone)
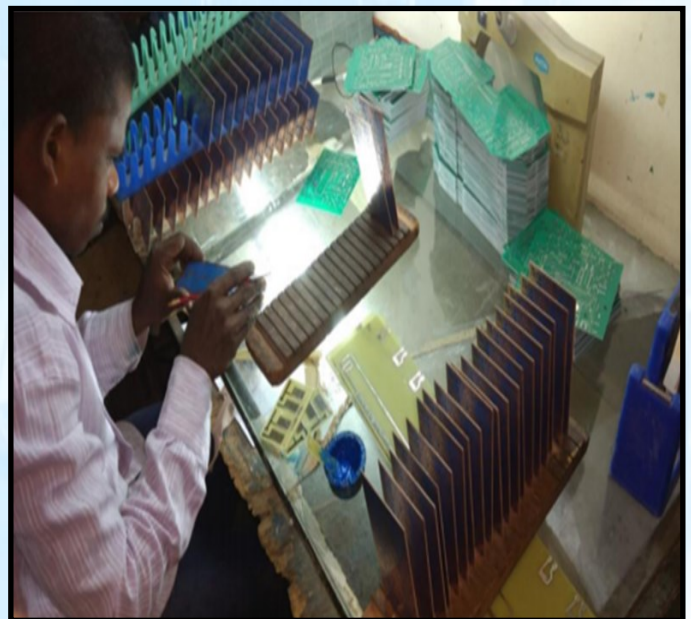
### 2) Copper Track Industries, Nashik

Electronics and Telecommunication Engineering Department had organized Industrial visit to Copper Track Industries, Nashik with prior permission for 51 students of SE EXTC Semester IV on 10th February 2017, accompanied by 3 faculty members. Visit started with a brief introduction of the Company; and a 2 hour workshop where the company staff explained in detail about the manufacturing process of PCB.

In this session through PPT's the student's theoretical knowledge was refined on different steps used for PCB designing. Thereafter, each batch got a glimpse of the PCB manufacturing process; such as

PCB Cutting,
PCB Cleaning,
Screen printing & etching etc.

All students were then awarded certificates for being a part of this Industrial visit. The students of second year EXTC have enjoyed the technical endeavor of organization a lot. Visit seems to be very informative and has given good learning experience.

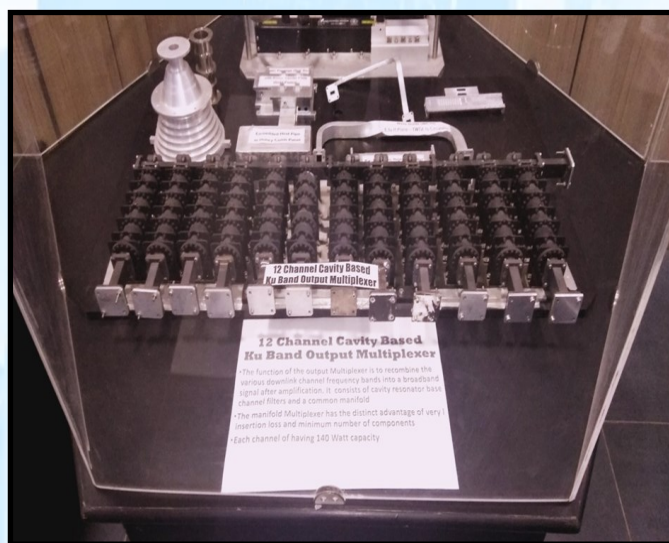### 3) Indian Space Research Organization (ISRO), Ahmedabad

Electronics and Telecommunication Engineering Department had organized Industrial visit to ISRO, Ahmedabad for total 60 students of T.E. and B.E. EXTC on 19th January 2017, accompanied by 4 faculty members. Students were taken to ISRO SAC (Space Application Center), & VSSE (Vikram Sarabhai Space Exhibition). Students were provided information about following technologies:

- Destress Alert Transmitter
- Satellite mobile Radio
- Transmitter only terminal
- Portable multimedia terminal of GSAT - 6
- DVBS modulators
- Satellite Radio Routing
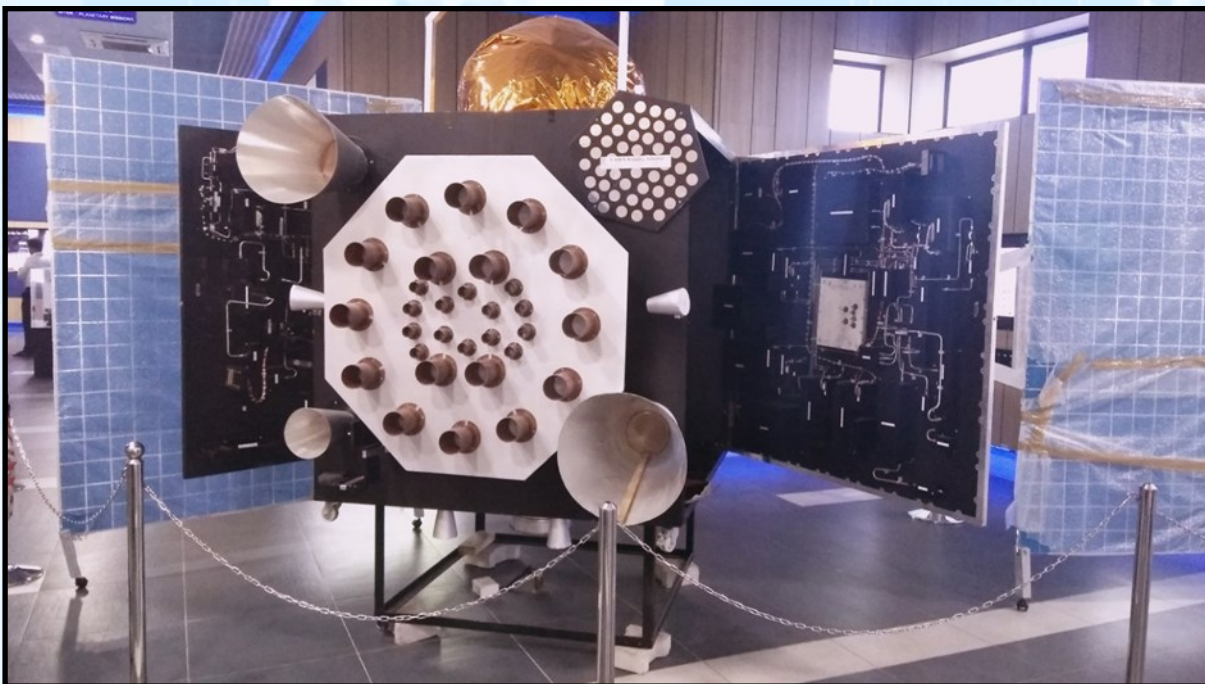- Mangalyan information in video form

Students also visited Akshardham temple, Sabarmati Ashram, & Lake View front next day. The students of T.E and B.E EXTC enjoyed this educational visit. Students were enlightened about different programs run by ISRO. They were informed about opportunities to work with ISRO. Students felt motivated and inspired to research and contribute to country's development.

12 Channel Cavity Based
Ku Band Output Multiplexer

12 Channel Cavity Based
Ku Band Output Multiplexer

•The function of the output Multiplexer is to recombine the various downlink channel frequency bands into a broadband signal after amplification. It consists of cavity resonator based channel filters and a common manifold
•The manifold Multiplexer has the distinct advantage of very low insertion loss and minimum number of components
•Each channel of having 140 Watt capacity

CHANDRAYAAN-1
SCALE 1:10

**4) IETE Approved One Day Industrial Visit to "Bhabha Atomic Research Centre" (Trombay)**

Date: 23rd September, 2016

Venue: BARC ( Bhabha Atomic Research Center)

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a one day Industrial Visit to "BHABHA ATOMIC RESEARCH CENTRE-TROMBAY" with prior permission under the banner of IETE on 23rd September, 2016

Total 50 Students of Third year Engineering and 5 faculty members visited the plant.



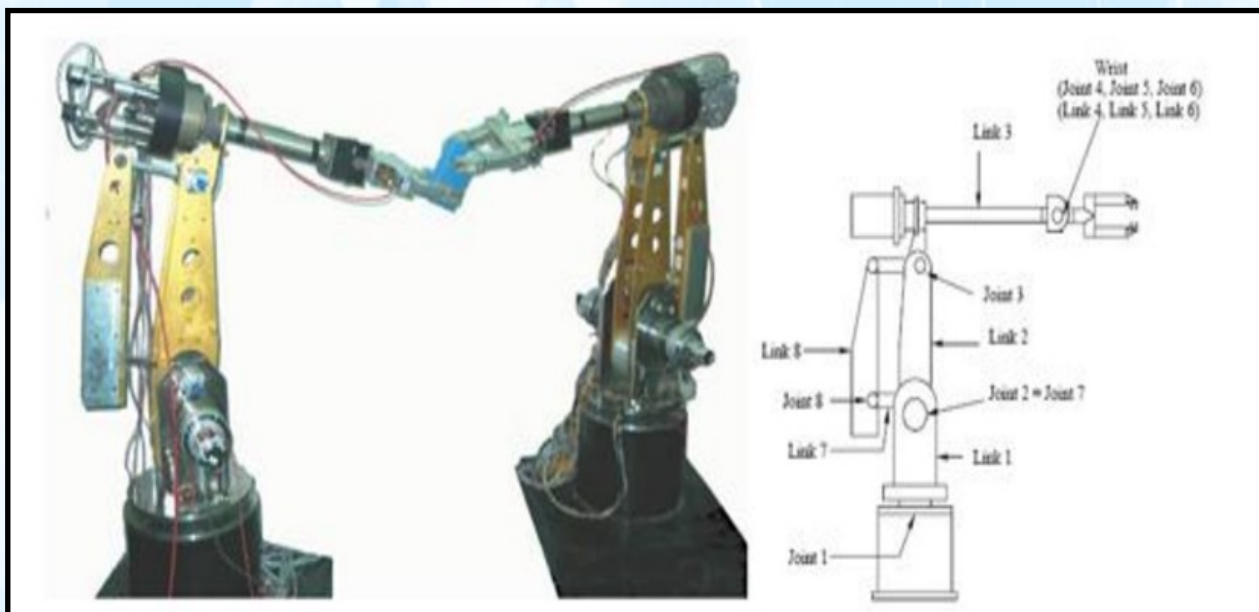Neutron beam Experiments Set up inside DHRUVA

The Dhruva reactor is India's largest nuclear research reactor. Located in the Mumbai (Bombay) suburb of Trombay at the Bhabha Atomic Research Centre (BARC), it is India's primary generator of weapons-grade plutonium-bearing spent fuel for its nuclear weapons program

BARC has started development of supercomputers under the ANUPAM project in 1991 and till date, has developed more than 20 different computer systems. The Division of Remote Handling & Robotics (DRHR) is engaged in developmental activities in a range of areas relating to reactivity control and in-service inspection of nuclear reactors at one end, to master slave manipulators, industrial robots and mobile robots on the other.

## NCRENB 2017 & PROJECT EXHIBITION

**Conference Dates**: 03rd & 04th March 2017
**Conference Venue**: VIVA Institute of Technology, Shirgaon, Virar (E), Mumbai- 401305, Maharashtra.

The main objective of the National Conference is to advance knowledge in building sciences in general and in aspects of building and construction in particular; to solve long-range problems of the building sector through methodological research and development; to provide support in solving short-term needs in areas where its expertise is crucial; and to disseminate knowledge and transfer technology.
Topics of Interest in NCRENB 2017 are as follows:

⇒ Electronics and Telecommunication Engineering
⇒ Electrical Engineering
⇒ Computer Engineering
⇒ Mechanical Engineering
⇒ Civil Engineering
⇒ Humanities & Applied Science

**Project Presentation (2017)**

University curriculum and the practices in industry find a wide gap today. To bridge this gap, the project presentation practices can be made an integral part of engineering curriculum. To achieve this initiative through NCRENB 2016 was taken by VIVA-TECH. The current initiative will provide a platform for the students, researchers and faculty acquainted with the current trends and practices in presenting 'Project Presentation' is proposed in NCRENB 2017. The project covered wide variety of topics from various do-mains like Information Technology, Communication Engineering, Mechanical Engineering domains etc.

**NCRENB 2017 was organized in co-operation with following International & National Bodies:**
1. International Journal of Computer Application (IJCA), USA
2. Indian Institution of Industrial Engineering (IIIE), Mumbai

Total 159 Papers were received out of which 171 Papers for 530 authors were accepted. The paper submission system was online managed by www.easychair.org. The papers were reviewed by a panel of internal as well as external reviewers. Total 30 papers were published through EXTC Department. Minimum One review by internal (VIVA TECH) reviewer and one review by external reviewers were performed. All external reviewers were highly qualified & experienced personnel with good expertise. All papers were finally approved by program convener Dr. Arun Kumar for uploading on IIIE and IJCA Digital Library.

## STUDENT ACHIEVEMENTS

Third year Electronics and Telecommunication Engineering students **Chinmay Sankhe, Yash Patil, Anukul Save and Chunouti Vartak of Viva Institute of Technology, Virar** secured **second prize** in the "National Round Engineering Excellence Championship 2016" in Robo-Soccer challenge organized at **IIT BOMBAY** on 13th march 2016. Students made their own wheeled robot for this competition without microcontroller with innovative mechanism to push the ball. They got 100 points in the challenge and completed their task in 2.23 minutes.
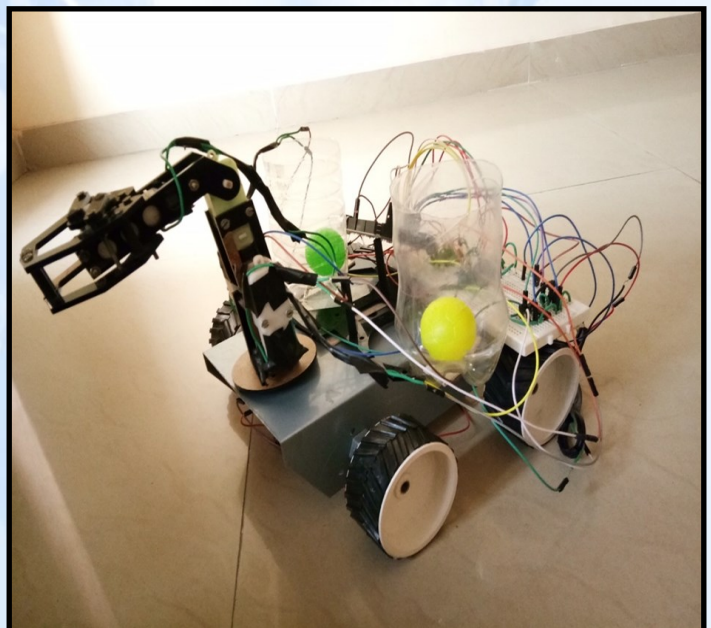
# Transform Maharashtra

'Transform Maharashtra' provides an opportunity to college students in Maharashtra to put their heads together and come up with policy and/or programme level solutions to 11 critical challenges being faced by the State at present. These solutions should be implementable by the Government.

**Chinmay Sankhe, Chunouti Vartak, Swarali Sarangdhar, Anukul Save and Yash Patil secured 2nd position in Transform Maharashtra competition under clean slate (Swachh Maharashtra Theme) theme (based on popularity as measured by the number of votes received on Transform Maharashtra website) for their work 'Intelligent Garbage Collection and Classifying Robot (IGCC)'** :

The purpose of this robot is to reduce our work load and most importantly to reduce the human work in cleaning. This objective of this project was to design a robot that is capable of automatic garbage collection with the help of its arms, here we are using real time image processing to detect garbage. Collected garbage is further classified into degradable-non-degradable or Dry-wet categories. •Identification of object is done by image processing as we will create database where different samples of garbage with different texture, colors and sizes listed. Once object will be detected using ultrasonic sensors, web camera which is fitted on robot will turn on and identifies the object if it is garbage or not. If object is identifies as garbage then it further been classified as 'Wet' or 'Dry' garbage

**Aniket Kumbhar and Nikhil Wani** won 1st Prize in Circuit Building Competition held at Shivajirao S. Jondhle College of Engineering and Technology, Asangaon on under **Oscillations-17** IETE Student Forum.



*Stop thinking about WHAT WILL HAPPEN and start thinking about WHAT YOU CAN DO*

| Co-curricular Activities (Paper Publication/Technical Paper Presentation/Project Exhibition) | | | | |
|---|---|---|---|---|
| Sr No | Event | Name of the Student | Organization | Position |
| | | | | |
| 1 | "Robo-Soccer challenge" IIT-BOMBAY National Round Engineering Excellence Championship, 2016 | Chinmay Sankhe | IIT-BOMBAY | 2nd Prize |
| | | Yash Patil | | |
| | | Anukul Save | | |
| | | Chunouti Vartak | | |
| 2 | OSCILLATIONS-17 Circuit Building Competetion atShivajirao S. Jondhle College of Engineering and Technology, Asangaon | Aniket Kumbhar | IETE Mumbai Center | 1st prize |
| | | Nikhil Wani | | |
| 3 | Transform Maharashtra Competition | Chinmay Sankhe | Govt. Of Maharashtra | 2nd Prize |
| | | Chunouti Vartak | | |
| | | Swarali Sarangdhar | | |
| | | Anukul Save | | |
| | | Yash Patil | | |

**Extra-Curricular Activities**

| Sr. No | Name of Student | Event | Year | Organized College | Result |
|---|---|---|---|---|---|
| 1 | Abhishek Waingankar Rupesh Zimbare Suarabh Patil Chetan Badhe | Tennis Ball Cricket | 2016 | Sport saga at Institute of Chemical Technology, Mumbai | 1st Prize |
| 2 | Abhishek Waingankar Rupesh Zimbare Chetan Badhe | Tennis Ball Cricket | 2017 | Sport saga at Institute of Chemical Technology, Mumbai | 2nd Prize |
| 3 | Chetan Badhe | Cricket | 26th to 30th Jan 2017 | IGNITRA 2017 ST.Francis Institute of Technology,Borivali West | 1st Place |
| 4 | Krushna Khadtare | Folk Dance | 2016 | Inter- collegiate Cultural Competition at MU | 2nd Rank |
| 5 | Krushna Khadtare | Street Play | 2017 | Zeal 2017 at Vidya-vardhani College of Engineering and Technology | Winner |
| 7 | Abhishek Waingankar Rupesh Zimbare Chetan Badhe | Tennis Ball Cricket | 2017 | Sportsaga at Institute of Chemical Technology, Mumbai | 2nd Prize |
| 8 | Chetan Badhe | Cricket | 26th to 30th Jan 2017 | IGNITRA 2017 ST.Francis Institute of Technology,Borivali West | 1st Place |
| 9 | Krushna Khadtare | Folk Dance | 2016 | Inter- collegiate Cultural Competition at MU | 2nd Rank |
| 10 | Krushna Khadtare | Street Play | 2017 | Zeal 2017 at Vidya-vardhani College of Engineering and Technology | Winner |

# congratulations

## Top Rankers

### BE EXTC (Sem VII)

| | |
|---|---|
| Singh Akhsay | 9.11 |
| Tanna Hazel | 8.37 |
| Gharat Akshata | 8.30 |

### TE EXTC (Sem V)

| | |
|---|---|
| Shejwal  Abhishek | 9.48 |
| Palav Prachi | 8.85 |
| Jawale Sayali | 8.78 |

### SE EXTC (Sem III)

| | |
|---|---|
| Naik Soham | 9.04 |
| Pawar Vaishnavi | 8.88 |
| Haral Rushikesh | 8.50 |

# congratulations

⇒ *Aditya Desai ,  Sushma Dhaware, Rahul Gosavi
–  Got Placed in AGS company*

⇒ *Dharali Rathod - Got Placed in Videocon*

⇒ *Vaisag Nair - Got Placed in MARRS*

⇒ *Deepika Billava  & Vishal Anmanlu  - Got
Placed in ROBOKART*

*As a student the most important thing to remember is that
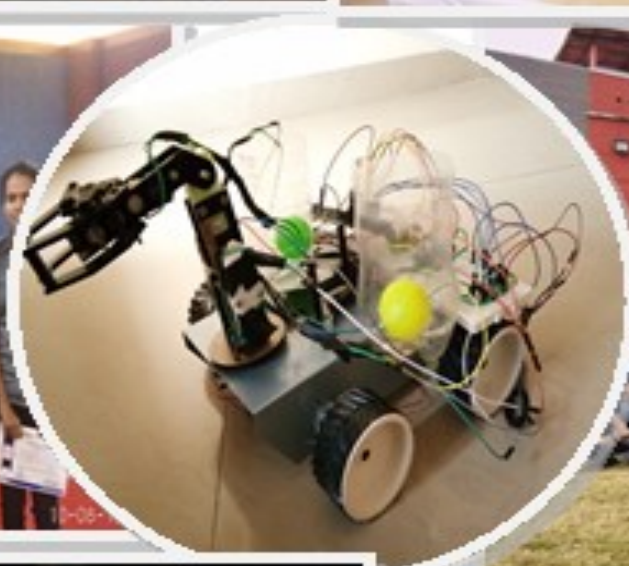Laziness is your worst enemy and Hard Work is your best
friend.*

## ALUMINA CORNER: STUDENT SPEAKS

*My freshman year at college was filled with anxieties. Other than the short deadlines or writing assignments my major challenge was to travel to the college, while its quite manageable now. Continuous oral exams, presentations, performing practical's, attending workshops has developed my ability to understand the technical knowledge and express the same efficiently, which seemed difficult initially. I am grateful that I got an opportunity to attend campus drive in this college which is quite an experience for me. Attending cultural and technical fests and the time spent with my friends has brought engineering to life. As this semester is drawing to a close, I have come to a realization that learning all these years in this college is probably the best I can ever learn.*

*Deepika Billava (BE EXTC)*

# Late Shri. Vishnu Waman Thakur Charitable Trust's
# VIVA INSTITUTE OF TECHNOLOGY
(Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and Affiliated to the University of Mumbai)

**Address:** Shirgaon, Kumbharpada, Virar (East)-401305
Tal-Vasai, Dist- Palghar, Maharashtra.

**Telephone:** ( 0250)-6990999

**Email:** principalvit@vivacollege.org
www.viva-technology.org

**Telefax:** 91-22-39167294