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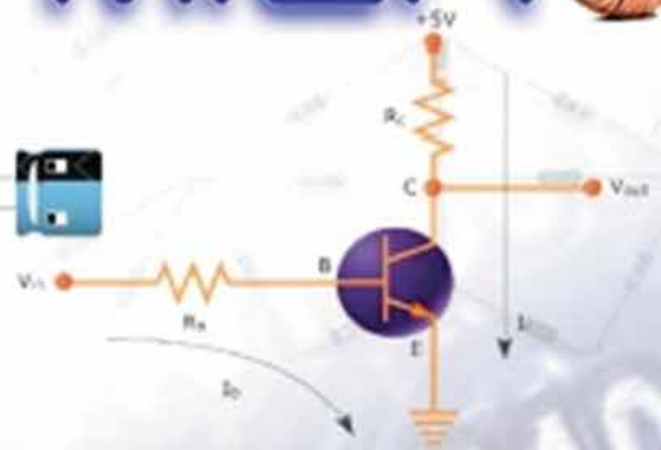
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NEWS LETTER FROM DEPARTMENT OF ELECTRONICS ENGINEERING

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MICROTRONIX



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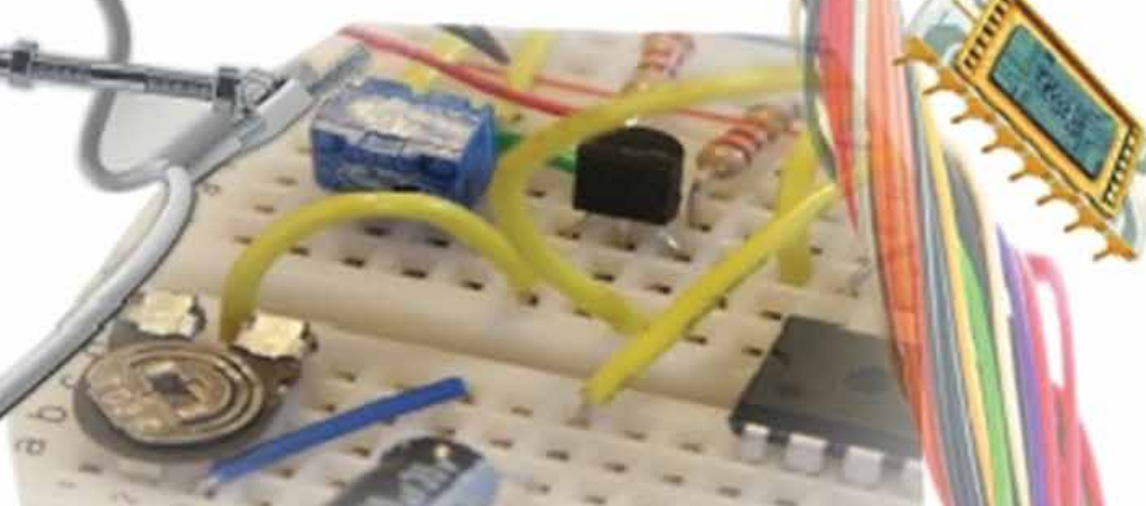
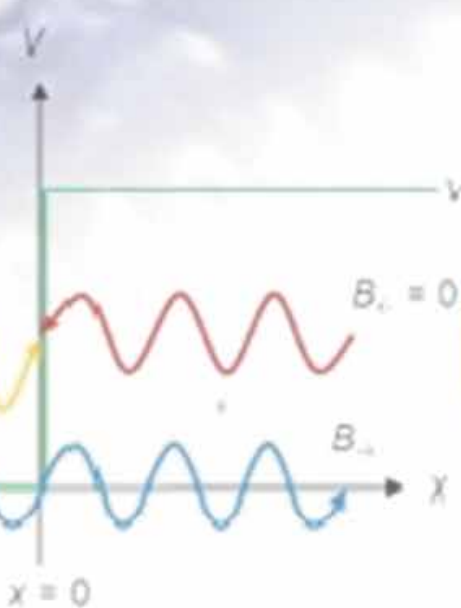


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EDITORIAL



Preethi S Warriar
Assistant Professor
SAKEC

My dear colleagues and students,

It is our great pleasure to present to you, the 2nd issue of volume no.4. of our departmental newsletter “Microtronix”, a platform for our students to present their technical and extracurricular talents. I would like to congratulate our toppers and also all other students for achieving such good results. This semester, the professional bodies conducted many interesting training programs and seminars, all of which saw active participation by staff and students. I would also congratulate IEEE SAKEC for celebrating IEEE day by connecting online with all colleges at the same time. In this edition of Microtronix, apart from showcasing our achievements, we also present some interesting articles by students about nationalism and some beautiful work of art and photography. Kudos to all contributors.

I hope that the newsletter encourages many more students to express their creativity. I congratulate the student editors for the great effort they put in, for bringing out this issue. I would like to specially thank all editorial team members and my colleagues for their immense support, and I wish all my students, great success in their future endeavours

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ALUMNI ARTICLE



By:
Prajakta Savarkar Shinde
SAKEC-B.E. Electronics,
2005 Batch.
Junior Telecom Officer,
BSNL Ltd., Mumbai
Past: Syntel Inc

Although it has been more than ten years, I still remember my time at SAKEC like it was yesterday. Throughout the four years, SAKEC was a great combination of rigorous academics and extra-curricular activities. The friendships that were cemented right from the mixed classes of first year still continue to enrich our lives.

The concepts of electronics that I learnt right from the beginning, starting at the pn junction diode- formed a sound foundation that I could build upon later. Be it the campus interview for Syntel or the BSNL entrance exam years later, my learning from college came in very handy, and the preparation needed was absolutely minimal. Recently, I could help my younger sister in subjects she found tough, such as mechanics, thanks to that foundation. My friends and I attended all lectures- not only was bunking thoroughly discouraged, but we had no inclination to miss lectures either.

I also remember working seriously in the practical sessions. Yes, we sometimes struggled to get the correct readings. But we found the teachers and lab assistants

approachable enough to tell them our difficulties rather than copying readings from elsewhere. And no, I'm not writing this to sound like a righteous alumnus. The satisfaction of performing an experiment or writing an assignment on your own does far outweigh the effort that goes in, don't you think? Today I often work with various meters and instruments at the QA department of BSNL, and I'm glad I familiarized myself with lab equipment back then!

Apart from academics, I participated and won at table tennis at intra college level and solo-singing at intra as well as inter college level. I won first prize in singing twice at the RAIT festival. I along with my friends participated in robotics at the IIT as well as RAIT techfests. We only got a consolation prize once, but I'll always be proud of us for making those robots from scratch; right from sawing plywood for the base to soldering the circuits together. Those trips to Lamington road for components and soldering iron accidents at the late night sessions are cherished memories. Not only that, we also attended an Art of Living workshop for college students, which was quite a revelation!

To sum up, my experience at SAKEC holds a treasured place in my heart. I always remember my teachers fondly for the knowledge they imparted to us, and for being helpful and approachable. I wish all the current students all the very best. Good luck!

EVENTS & WORKSHOPS

1. ISTE SAKEC

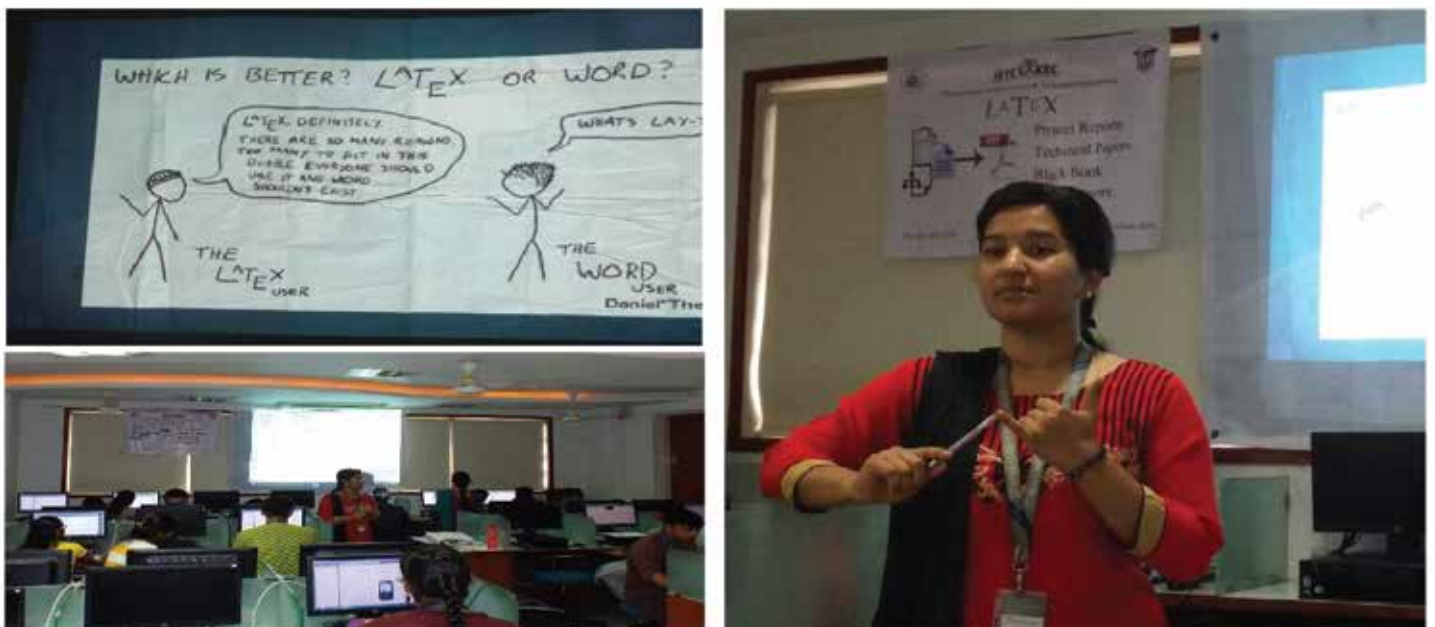
The Department of Electronics Engineering and ISTE Mumbai conducted a **Short Term Training Program (STTP) on Design Aspects in CMOS Analog Circuits, ASIC and MEMS** from 27th July, 2016 to 1st July, 2016.

Here's a quick glimpse of the event:



2. IETE SAKEC

On 30th July 2016, IETE SAKEC organized a **Workshop on LATEX Software**. The speaker for the workshop was Prof. Sujitha Kurup.



3.IEEE SAKEC

A **Workshop on Scientific Calculator** was conducted by IEEE SAKEC on 27th August, 2016 by Siddhant Pokle & Abhishek Diggewadi.



A **Seminar on behalf of Corporate Social Responsibility (CSR)** was conducted by IEEE SAKEC at Plus Point Merit High School, Vaibhav Nagar Chembur on 31st August, 2016. The seminar was conducted by Yash Gangar, Ashish Jadhav, Debleena Mukhopadhyay, Shrutika Kaware and Abhishek Ganatra.



IEEE SAKEC organized a **Workshop on 3D Designing And Simulation** on 8th October, 2016 by Akshay Momaya.



Engineer's day and Teacher's day was celebrated on 21st September, 2016 in collaboration with all the 4 student chapters of SAKEC: IEEE SAKEC, ISTE SAKEC, CSI SAKEC, IETE SAKEC.



IEEE Day Celebration was organized by the student members of IEEE SAKEC on 4th October, 2016.



STUDENT ARTICLE



Akhil Shirole
TE-2 ETRX

NATIONALISM

Nationalism teaches you to take pride in things you haven't done and hate people you never met. I don't believe in borders and segregation of populations.

Considering the world is run by corrupt leaders, our food is being poisoned, the meat industry has become a holocaust, we are still corporate slaves, the atmosphere is being sprayed with chemicals, there are people dying in the world from starvation while we waste enough food to feed them, I am pretty concerned right now.

15th August, India. Today our Independence (day) is limited to flag hoisting and listening to a speech. Our leaders fought for it and I do honour and remember those who fought for this land's independence. I believe it's time to bring back the same spirit in each and everyone of us to bring change. Britishers are gone but their impact is left on us, there are plenty of issues from which this land needs to be liberated from. Independence is not just freedom of speech, expression, etc. The true sense of independence is that we are free to do all good possible to the society without any hesitation. We still struggle to get our rights. Laws are made and thrown upon us. When we protest, we become the sufferer. There are still huge gaps between the

rich and poor. We are just independent constitutionally. We live in a perpetual state of indentured servitude, globally subjective, pathetically disconnected. People blame women for the crimes against them and lawyers defending the actions of rapists, PM needs to start cleanliness drives across the nation to keep our surroundings clean, sessions of parliament are washed away with trivial issues of blame games to prove self-worth by the honorary parliamentarians.

The official history, religion, presence of extraterrestrials, medicine (vaccines, CDC, germ theory of disease, fluoride and mercury in dentistry), science, oil and energy industries, college admissions, elections, pharmaceutical, banking and finance, food and food labeling, academia, the justice system, the entire mainstream media; all are rigged.

No one is free when others are oppressed.

You never influence the world trying to be like it. What if I told you that you can't fix a broken system by voting to keep the same system?

Complain all you want, but as long as you remain a hypocrite, you aren't accomplishing anything.

It's high time for us to realize our responsibilities and work towards self-sustaining nation first and eventually it will be the whole planet.

The question that keeps on tormenting me: Is this the land our forefathers and we dreamt of? Is this the land we feel proud and independent of? If not, then why are you chilling so much?

Make knowledge your power because if you can't acknowledge a problem first, you can't bring about a solution. Freedom is about truth, never giving up and in there is valor.

PROJECTS

ENERGY EFFICIENT ELECTRIC CAR

By Akshay Momaya & Group

Akshay Momaya, Arihant Mundhra, Ameya Chavan,
Aadarsh Shetty, Aniket Prabhu, Masumi Seth,
Mahima Mohan, Mitesh Chedda, Jayshree Nair,
Prasant Pandey
S.E. - 7 EXTC



A Team of First year undergraduates from majors electronics and telecommunication engineering and Information technology engineering discipline named “Knowledge Cloud” made an electric car to learn something out of their understanding, curriculum and gain a fair amount of engineering knowledge out of it, at a metal fabrication workshop in Mulund, Mumbai and was presented as the show stopper for the annual technical fest of shah and anchor kutchhi engineering college, chembur, Mumbai.

The car was named “Energy Efficient Electric Car” which was powered by sealed lead acid chemistry batteries and had a range of 40~50 Km at one charge, with a top speed of 81.67Km/h.

“This Car isn’t so beautiful, neither most cutting technology but definitely safe, fast and efficient than other cars out on streets, this is just a prototype made for education or learning purpose” Akshay said.

Mission of Akshay and his team was to inspire entire student community of India to emphasize on practical knowledge along with scoring marks and running behind assignment submission deadlines. Akshay added” I always wanted to make my own car since my childhood, the feeling when I drive self-made car is indescribable”.

As the design was complex enough and non standard, the team had to manage the parts either by “jugaad” or say “hack”; team had to manufacture its transmission assembly, major exterior and seats, etc.



Inspiration of the young team was the electric car by “Tesla Motor” and also the summer projects made by international students all over the world.

The special thing about the young invention was that it had a complex and special kind of chassis frame that technology isn’t specified by team as it is highly confidential, the car frame is made in such a way that a balance load distribution can lead to zero impact over the frame and passengers.

This frame was tested with front and side impact at a speed of 69.13Km/h and resulted into zero impact on the driver and side seat with seat belt buckled in, resulting into higher level of safety feature for a normal electric car.



The Designer said “learning mechanical and structural science out of syllabus was definitely a challenge for us, though we figured out the best design by a considerable amount of testing and thus referring the related theory”



The Team even added that the ‘EEEC’ has all the features than a gasoline car has, for e.g. reverse gear, turn indicators, rpm, fuel, speed gauge, side mirrors, etc. it worked on hybrid gear system that had constant gear ratio along with constant torque till the speed of 40Km/h allowing the vehicle to give extra mileage.

History was created in shah and anchor kutchhi engineering college by a team of First Year Engineering student’s on 1st April 2016 at college campus. The car inaugurated annual technical fest as it drove through the passage between the audiences.



Ali Asgar I. Tashrifwala
BE EXTC

THE CLEANING ROBOT

Description:

What is a cleaning Robot ?

- Cleaning Robot is a movable bot with cleaning abilities to bring innovative and never like before user experience.
- The Cleaning Robot is used for cleaning AC vents of Offices and Hospitals where our hands won't reach.
- We are using ultrasonic sensor and buzzer to detect forward obstacle, reach close to it and clean it.
- The cleaning arm is mounted on a wired remote controlled car.
- We also have a special video streaming feature for further improvements.

Why make cleaning robot ?

- Swachh Bharat Abhiyaan is a national campaign by the government of India to clean the street, roads and infrastructure of the country.
- The campaign was launched on 2nd October 2014 and aims at accomplishment up till 2nd October 2019, the 150th birthday of Mahatma Gandhi.
- With this novel vision of Honourable Prime Minister Mr Narendra Modi; we take it as our mission statement.
- Out of its several specifics objectives, we are focussing on- “Supporting urban local bodies in designing, executing and operating hygiene systems”.
- We as engineering students wished to make a small system which supports this cause and also our knowledge which we gained in our engineering life will be utilized.

- Our cleaning robot is a simple but efficient in cleaning the specks of dust away without using vacuum cleaner hence making it cheaper.
- With use of a simple microcontroller and remote, we can control it, but we are implementing an amazing range of features to make this robot an attractive piece.

Components used:

- 1.Ultrasonic Sensor
- 2.Buzzer
- 3.DC Motors
- 4.Chassis
- 5.Wheels
- 6.10 bus wire
- 7.Battery and Battery Connector
- 8.Switch box
- 9.DPDT switches
- 10.Robot Arm
- 11.Brush
- 12.IC development kit with IC 89E516RD
- 13.Mobile Camera

Application:

- This Cleaning Robot is made to be used for a unique application, which is to clean Offices and Hospital AC vents.
- Along with that, the robot is used for cleaning objects and cleaning in unreachable areas.

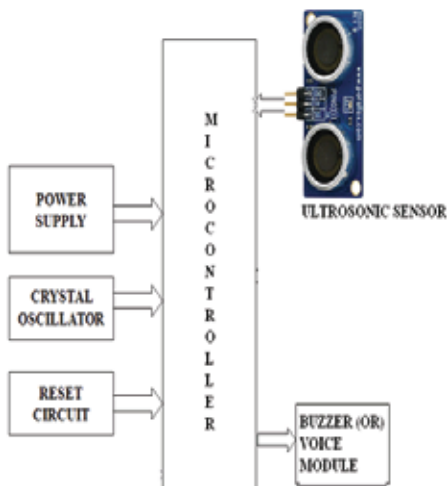


Working:

- The Cleaning Robot consists of a Level 1 Robot with a mounted arm and controlled with DPDT switches in the switch box.
- The robot is connected by 10 bus wires and power supply was connected directly.
- When the DPDT switch is pressed forward, it moves ahead and when the switch is pressed backwards, the polarity is changed and the robot moves back.
- Similarly the arm moves front and back.
- When the robot approaches near an obstacle, the buzzer is turned on and alert the user to stop the robot and clean the area.

Conclusion:

The outcome was perfect as we aimed for and now we are capable of making it more advanced towards commercialization of this project which will give us monetary benefits and an entrepreneur skill in the field of ELECTRONICS and MECHATRONICS. We have found the developments needed the same would be done making it the favourite of all and helping in SWACHH BHARAT ABHIYAN making our nation clean.



Did you know?

A computer problem bothered Grace Murray Hopper and her team while working on a Mark II Computer at a US Navy research lab in Dahlgren, Virginia, in 1947. When they opened the machine, they found a moth inside, stuck in a relay. Removing the offending creature, she remarked that they were 'debugging' the system. Hopper pasted the creature into her log book and noted, "First actual case of a bug being found!" She is credited with the terms 'bug' and 'debug' for computer errors and how to fix them.

(Source: Krishna Murty Kommajosyula in Electronics For You, Reproduced with permission.)

ACHIEVEMENTS



Cricket Team

Some of our students represented the **College Cricket Team** and participated in a Tournament held at **Maharashtra Institute of Technology, Pune** on 28th and 30th August 2016.

Some of our students represented the **College Football Team** participated in a Tournament held at **Maharashtra Institute of Technology, Pune** on 28th and 30th August 2016.



Football Team



Karan Kori of **BE ETRX**, participated and won gold medals in **18th FSKA World Cup Shotokan Karate Championship**. He came first in Individual Kata and Individual Kumite.

RESULT ANALYSIS

ELECTRONICS DEPARTMENT

YEAR	PASS PERCENTAGE
BE	87.85%
TE	49.04%
SE	39.18%

ELECTRONICS & TELECOMMUNICATION DEPARTMENT

YEAR	PASS PERCENTAGE
BE	95.83%
TE	78.87%
SE	72%

Branch Toppers

Electronics Toppers' List

Sr. No.	Course/Sem	Name	CGPI
1.	BE Sem-VIII	Patil Kanchan	8.64
2.	TE Sem-VI	Matharu Sukwinder	10.00
3.	SE Sem-IV	Parab Dnyanda	9.82



Kanchan Patil
BE ETRX



Sukwinder Matharu
TE ETRX



Dnyanda Parab
SE ETRX

Electronics and Telecommunication Toppers' List

Sr. No.	Course/Sem	Name	CGPI
1.	BE Sem-VIII	Dedhia Rikhav	8.35
2.	TE Sem-VI	Barnwal Akash	9.00
3.	SE Sem-IV	Jain Anuj	9.57



Rikhav Dedhia
BE EXTC



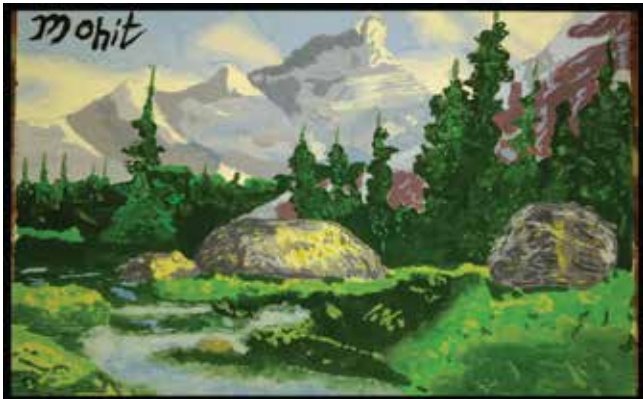
Akash Barnwal
TE EXTC



Anuj Jain
SE EXTC

Creativity Corner

1. PAINTINGS & SKETCHES



By Mohit Bhanushali of FE ETRX



By Aishwarya Auti of TE ETRX

2. PHOTOGRAPHY



By Manthan Shah of FE ETRX



By Purva Desai of FE ETRX



By Tejas Pawar of SE ETRX



By Prathamesh Khopkar of FE ETRX



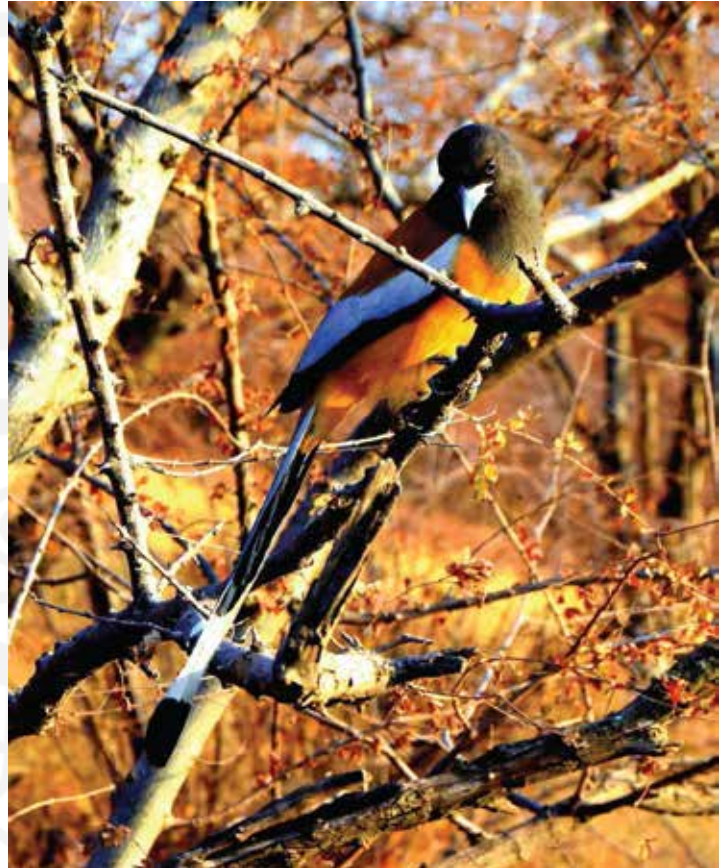
By Unnit Dedhia of FE ETRX



By Nihar Masurkar of TE ETRX



By Jeet Jobanputra of BE ETRX



By Ali Asgar I. Tashrifwala of BE EXTC



By Sairaj Mayekar of TE ETRX