IGNITE

SVERI's College of Engineering (Polytechnic), Pandharpur.

Volume 7 . Issue 2

Department of Electrical Engineering

Departmental Achievements

- Our 07 students from final year are placed in TATA Motors
- Our 05 students from various batch are placed in MSEDCL
- 08 faculties completed different online trainings programs during Lockdown period
- 02 FDP's are arranged for Faculty members
- We achieved Rs.32000/- amount consultancy from LED Bulb Manufacturing
- Our 02 Faculties completed their ME/M. Tech Successfully

Vision

To provide diploma education strengthened with basic knowledge and skills along with professional ethics enabling students to reach higher goals in Electrical Engineering.

Mission

1. To impart value based technical Education in Electrical Engineering.
2. To improve Technical knowledge of students.
3. To make the students equipped with various skill sets in Electrical Engineering.
4. To inspire students for lifelong learning.

Departmental Result for A.Y. 2019-20

Sr. No.	Name of Student	Marks %	Class
1	Ms. Kharde Shravani Yogesh	99.25%	1st Year
2	Ms. Karale Sakshi Kantilal	98.38%	1st Year
3	Ms. Menkudale Sanika Amol	98.13%	1st Year
1	Ms. Chavan Gitanjali Mahadeo	98.00%	2nd Year
2	Mr. Sagar Vishal Bhagwan	97.87%	2nd Year
3	Mr. Jadhav Tejas Santosh	96.53%	2nd Year
1	Mr. Gade Rahul Hanumant	95.83%	3rd Year
2	Ms. Ritapure Vaishnavi Vidyadhar	94.94%	3rd Year
3	Ms. Kokare Kajal Maruti	94.89%	3rd Year

Editorial

It gives us great opportunity to present the seventh issue of our departmental newsletter "Ignite", which gives us the chance to focus on achievements in our department and new and emerging trends in Electrical engineering .

I am thankful to all the students and faculties who have contributed during the preparation of this newsletter. We have tried our best and given positive efforts, expecting creative responses from everyone to continue the flow of knowledge through this newsletter.

Mr. S.D. Kolekar

About Department

Electrical Engineering Department has been started in 2011 with intake of 60. Our department has 08 well-equipped laboratories. We have established the association "EESA" with the department of Electrical Engineering in which we conduct various activities like Quiz competition, Paper Presentation etc.

Energy storage and better batteries

While wind and solar power are excellent sources of sustainable energy, they are not always there. Therefore, consumers can only "make hay when the sun shines." They have to do their best to save energy from the wind, the sun, or any other renewable sources for later use.

To meet this demand, electrical engineers all around the world are working towards better batteries and energy storage. Distributed Energy Resource (DER),

Generally, 2020 is an exciting year for the electrical engineering landscape. Companies like Tesla, Eos, Sonnen, and Vivint Solar are some to keep an eye on for the latest innovations.

Electrical Engineers have a lot on their deck, and we can't wait for all these awesome innovations to reach their full potential.

By– Ms. Chavan Gitanjali Mahadev

Message of HOD

It gives me a great pleasure to congratulate students, teachers and staff of Electrical Engineering Department for the Seventh publication of newsletter. Newsletter is believed to be focus of the inside activities i.e. academics, students and faculty achievements as well as outside visits of the department. In the era of engineering and technology this newsletter will motivate the teachers and students of sharing their creativity and new ideas for overall development.

Mr. S. M. Ghodake

Wireless Power Transmission

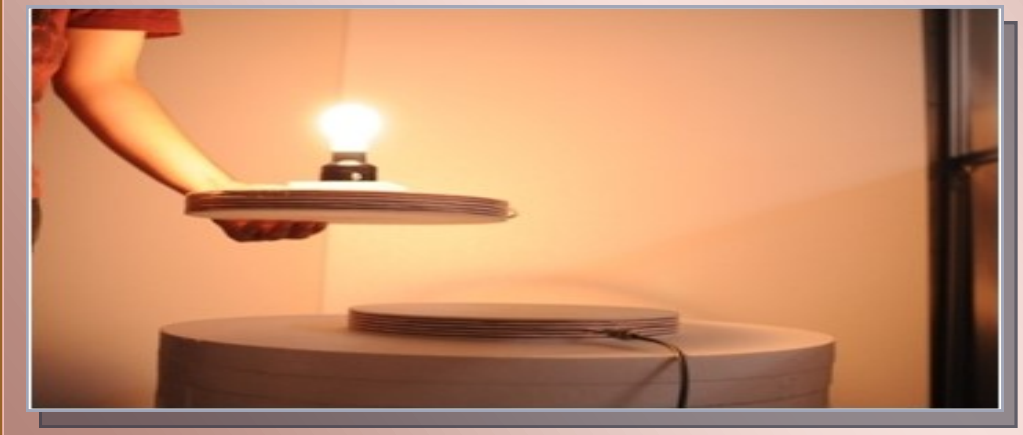
Introduction:

Unless you are particularly organized and good with tie wrap, you probably have a few dusty power cord tangles around your home. You may have even had to follow one particular cord through the seemingly impossible snarl to the outlet hoping that the plug you pull will be the right one. This is one of the downfalls of electricity. While it can make people's lives easier, it can add a lot of clutter in the process. For these reasons, scientists have tried to develop methods of **wireless power transmission** that could cut the clutter or lead to clean sources of electricity. Researchers have developed several techniques for moving electricity over long distances without wires. Some exist only as theories or prototypes, but others are already in use. This paper provides the techniques used for wireless power transmission.

History of Wireless Power Transfer:

What exactly is wireless power transfer?

This is the transmission of electrical energy from a power source to an electrical load, such as an electrical power grid or a consuming device, without the use of discrete man-made conductors. The word *wireless* from a basic description means without wires. Wireless power transmission (WPT) is one of the fields of engineering that has in the past few years received a lot of attention. A lot of companies are spending millions of dollars trying to research and develop ways of transferring power wirelessly. However the concept of WPT has been in existence for over a century. This concept was first discussed in the late 19th century. Nikola Tesla was the brains behind this concept. He together with Heinrich Hertz theorized the possibility of power being transmitted wirelessly. Tesla's main idea was to use the planet as the conductor to transmit power to any point on the earth. In 1899 Tesla successfully managed to illustrate the concept by powering fluorescent lamps 25 miles away from the source of power. In 1901 Tesla built the Wardenclyffe Tower.



By- Mr. Sagar M. Ghodake
(Lecturer, Electrical Engineering Department)

Flexible Generators

By- Mr. Prakash D. Kadam
(Lecturer, Electrical Engineering Department)

Solid-state devices that directly convert heat to electricity without moving parts, TEGs are typically made from inorganic semiconductors. Yet polymers are attractive materials due to their flexibility and low thermal conductivity. These qualities enable clever designs for high-performance devices that can operate without active cooling, which would dramatically reduce production costs.

The researchers have developed P- and N-type semiconducting polymers with high performing ZT values (an efficiency metric for thermoelectric materials). "We'd like to get to ZT values of 0.5, and we're currently around 0.1, so we're not far off," Yee said.

In one project funded by the Air Force Office of Scientific Research, the team has developed a radial TEG that can be wrapped around any hot water pipe to generate electricity from waste heat. Such generators could be used to power light sources or wireless sensor networks that monitor environmental or physical conditions, including temperature and air quality.

"Thermoelectric are still limited to niche applications, but they could displace batteries in some situations," Yee said. "And the great thing about polymers, we can literally paint or spray material that will generate electricity." This opens opportunities in wearable devices, including clothing or jewelry that could act as a personal thermostat and send a hot or cold pulse to your body. Granted, this can be done now with inorganic thermo electrics, but this technology results in bulky ceramic shapes, Yee said. "Plastics and polymers would enable more comfortable, stylish options."