



SREYAS INSTITUTE OF ENGINEERING AND TECHNOLOGY

Beside Indu Aranya, GSI, Bandlaguda, Nagole, Hyderabad,
Telangana

NEWS LETTER FROM

DEPARTMENT OF MECHANICAL ENGINEERING

1. Vision and mission of the institute

- **Vision** : To be a centre of excellence in technical education to empower the young talent through quality education and innovative engineering for well being of the society
- **Mission**
 - M1 Provide quality education with innovative methodology and intellectual human capital.
 - M2 Provide conducive environment for research and developmental activities.
 - M3 Inculcate holistic approach towards nature, society and human ethics with lifelong learning attitude.

2. Vision and Mission of the Department

- **Vision** : To excel in Mechanical Engineering education, Research and Development through innovation and technology.
- **Mission:**
 - M1 Provide quality education and skills to make the students globally sustainable Mechanical Engineers.
 - M2 Provide research oriented industry interaction to create and disseminate practical knowledge.
 - M3 Educate students about professional and ethical responsibilities for their career development and lifelong learning.

3. Faculty Visit to the Department and R&D center

Mr S L Narasimhareddy, Assoc. Professor and Head of the Department, Mechanical Engineering from Sidhartha Institute of Engineering and Technology, Ibrahimpatnam, Hyderabad visited the Department on 30/11/2018 as a part

of institute interaction with other institutions.



Mr Reddy met the Dr. Suresh Akella, principal; Mr Y. Krishnaiah, HOD-Mechanical and other staff members in the Department. He told the Principal about the importance of healthy understanding among the fast growing nearby colleges for sharing the knowledge and facilities for mutual benefit to the staff as well as the students. A staff member from one college can come and give seminars, lecturers, etc, to strengthen in academics and also get the same help from other college.

He visited all labs in the department and felt very happy with the infrastructure and cleanliness maintained in the laboratories. He appreciated the R&D works in the research centre and in particular the spot Air conditioner manufacturing activities with the support of the students. He came forward to support the R&D through purchasing few ACs for his college/department and also by sending few final year Mechanical Engineering students to do their main projects as this available facilities are very good for the students to do such projects.

3. Faculty Participation in one week FDP Program

The faculty from the Department of Mechanical Engineering have participated in one week faculty development program in "Recent Trends

in Mechanical & Industrial Engineering" during 10-15, December 2018 organized by the Department of Mechanical Engineering, MVSR engineering college, Hyderabad.



From the department, Mr Y.Krishnaiah, HOD; Mr A C S Reddy, Associate Professor; Mr. K. Sainath, Assoc Professor; Mr. D.V.Paleswer, Assoc Professor; Mr. Purusotham Reddy, Asst. Professor; Mr.M Abhilash, Asst. Professor; Mt.T Ravi, Asst. Professor and Mr.K.Nageswera Rao, asst. Professor attended the program. The faculty gained very good knowledge from eminent speakers Dr. Mansoor Husain from JNTUH and other resource persons.



As a part of it they also visited International Advanced Research Center for Powder Metallurgy and New Materials, Hyderabad. The faculty have been gained good exposure on various advanced materials by visiting ARCPMNM. The Principal and management of Sreyas congratulated

lated the staff who attended the program.

Article on Working Principle of Drone By B Sanjanna, Asst. Professor

What is a drone and how do drones work is answered here in this easy to understand article. Drone technology is constantly evolving as new innovation and big investment are bringing more advanced drones to the market every few months. Unmanned aerial vehicle technology covers everything from the aerodynamics of the drone, materials in the manufacture of the physical UAV, to the circuit boards, chipset and software, which are the brains of the drone.

One of the most popular drones on the market is the DJI Phantom 3. This drone was very popular with professional aerial cinematographers. While slightly old now, it uses plenty of advanced technology which is present in the very latest drones. This UAV is ideal to explain drone technology because it has everything in one package. It includes the UAV, gimbal and camera and uses some of the top drone technology on the market today.

Recently, some new and highly advanced drones such as the DJI Mavic 2, Mavic Air, Phantom 4 Pro, Inspire 2 and Walkera Voyager 5 have come to the market. The fast pace of drone technological innovation is tremendous.

A typical unmanned aircraft is made of light composite materials to reduce weight and increase maneuverability. This composite material strength allows military drones to cruise at extremely high altitudes. Drones are equipped with different state of the art technology such as infrared cameras, GPS and laser (consumer, commercial and military UAV). Drones are controlled by remote ground control systems (GSC) and also referred to as a ground cockpit. An unmanned aerial vehicle system has two parts, the drone itself and the control system. The nose of the unmanned aerial vehicle is where all the sensors and navigational systems are present.

The rest of the body is full of drone technology systems since there is no need for space to accommodate humans. The engineering materials used to build the drone are highly complex composites designed to absorb vibrations, which decrease the noise produced. These materials are very light weight.



Drones come in a wide variety of sizes, with the largest being mostly used for military purposes such as the Predator drone. The next in size are unmanned aircraft, which have fixed wings and require short runways. These are generally used to cover large areas, working in areas such as geographical surveying or to combat wildlife poaching.

Nowadays, drones are extremely popular and they have countless applications. However, in the future, they are going to be much better, so they will have even more applications. Even today, drones are used for transporting goods to remote locations, for surveillance and etc. In the future, we can expect to see drones that can do this much better.

There are a lot of speculations on what drones will be capable for in the future. The most likely thing they will do is package transport. At this moment, Amazon is testing their Amazon Prime Air service. This means that when you order a package, it will be delivered to you in less than 30 minutes, instead of a few days.

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