



Shri Shamrao Patil (Yadavkar) Educational & Charitable Trust's

SHARAD INSTITUTE OF TECHNOLOGY, COLLEGE OF ENGINEERING

Yadav (Ichalkaranji), Dist.-Kolhapur (Maharashtra)

• NBA Accredited Programmes • NAAC 'A' Grade Institution • An ISO 9001 : 2015 Certified Institute

An Autonomous Institute

APEX

...A NEWSLETTER

Department of
Mechanical Engineering 2020-21

VOL: 01 ISSUE: 02

Themes Inside

- Department Vision, Mission and Quality Policy
- Department PEO's and PSO's
- Sharad Pattern
- Autodesk Activities
- Expert Guest Lectures Conducted
- ISHRAE
- DIPEX21
- Industrial Visits
- Consultancy



Hon. Dr. Rajendra Patil (Yadavkar)
Chairman
Shamrao Patil (Yadavkar)
Education & Charitable Trust



Hon. Mr. Anil Bokane
Executive Director
Shamrao Patil (Yadavkar)
Education & Charitable Trust



Dr. S. A. Khot
Principal



Dr. P. M. Bhagwat
HoD, Mechanical Engineering

MESSAGES

From Executive Director Desk :

I am happy and glad that Department of Mechanical Engineering is releasing out Newsletter "APEX" of AY 2020-21 Volume 1 Issue-2. This Newsletter will showcase the various activities that are happening in the Mechanical Department. It will also build up a spirit of team work which has become essential thing in this competitive world. It will show the department achievements, merits and awards received. This will not only inculcate the documentation culture, also it will create an impact on the readers' mind providing broad visibility and dimensions to the campus. I believe this culture of releasing newsletter will continue forever and introduce the team work and social behavior culture in students.

I am happy that Department of Mechanical Engineer in is bringing out "APEX" of AY 2020-21 Volume 1 Issue-2 Newsletter. This Newsletter will definitely help to showcase the activities that are happening in the Mechanical department. It also helps in building up teamwork which is very much needed today in the world of competition. It provides a platform for exposing the merits and academic achievements of the department. This enhances the documentation culture of the institute. This would definitely create an impact in the minds of readers, by way of providing larger visibility and dimension to the campus. I hope that this culture of releasing Newsletter continue forever and become a quoted example for students.

From Principal Desk

A thought that has been enduring in mind when it becomes real is truly an interesting and exciting experience. This newsletter was one such cherished work that had its roots in the persuasion. It would be a snapshot of the various activities and advancements for all associated with Mechanical Engineering Department. Proper communication plays a vital role in institution's development. This newsletter will serve to reinforce and allow increased awareness, improved interaction and integration among all of us.

Usually we fail to appreciate the good deeds of many people and activities that happen around us as we are engaged in irrelevant talks and assumptions. It could all change if we just pause to think of what is our contribution to the society from which we have been gifted with this blessed life. The progress of the society is mainly depending on many people who are working behind the scenes, overtime round the clock planning things to the smallest. This newsletter will be a medium to provide proper acknowledgement and respect all of these efforts and its results.... Happy Reading!

From Head of the Department Desk:

We entrust that accentuating these areas will make our young students well-qualified to take leadership roles in the future. During this academic year various extracurricular activities were conducted successfully by Mechanical Engineering department like paper presentation, poster presentation. In the view for imparting sound technical and practical knowledge various workshops, guest lectures by prominent personalities and industrial visits have been conducted. Participation by students was the most encouraging feature of last year also various projects by final year students are as per present requirements of industries.

EDITOR MESSAGE

FROM FACULTY EDITOR DESK



Mr. Utkal S. Patil
Assistant Professor
Dept. of Mechanical
Engineering

Dear Readers,

We are presenting you with the Volume 1 Issue 02 of "APEX" Newsletter of the Mechanical Engineering Department.

It has a lot of interesting news which will tell you how our quiet looking department is always abuzz with activity underneath. It is the efficiency of our students and staff that so many activities of different flavours keep taking place and yet the schedules and daily activities don't get disturbed. In fact on surface it is all so calm while a strong current of activity flows underneath. I am deeply thankful for the efforts taken by department faculty, our students and also for the support and encouragement of our Beloved Hon. Executive Director, The Principal, Head of the Department and Faculty members to put forward this Newsletter. I hope this and upcoming Newsletters "APEX" will be very useful and informative to readers.

FROM STUDENT EDITOR DESK



Miss. Shraddha S. Mahadik
B.Tech Mechanical
Engineering

Our motto is to put forth two Issues of Newsletter in a year. I am deeply thankful for the efforts taken by department faculty, our students and also for the support and encouragement of our Beloved Hon. Executive Director, The Principal, Head of the Department and Faculty members to put forward this Newsletter. I hope this and upcoming Newsletters "APEX" will be very useful and informative to readers.

STUDENT COMMITTEE MEMBERS

Mr. Prabhudd Kamble
Publisher

Madake Hrutuja Ajit
News Head

VISION

To be a center of excellence in Mechanical engineering education to prepare professionally competent engineers with lifelong learning attitude for the accomplishment of ever-growing needs of society.

MISSION

- To prepare technically and professionally competent engineers by imparting quality education through effective teaching learning Methodologies and providing stimulating environment for research & innovation.
- To develop professional skills and right attitude in students that will help them to succeed and progress in their personal and Professional career.
- To imbibe moral and ethical values in students with concern to Society and environment

QUALITY POLICY

We at Mechanical Engineering promote capacity building through education and training quality in the field of Mechanical Engineering to comply with the requirement and continually improve the effectiveness of the quality by involving all stakeholders upgrading facilities and faculty through continuous improvement.

PROGRAM EDUCATION OBJECTIVES

PEO I: Demonstrate capabilities to develop optimal solution to the real world engineering problems by applying theory based practical approach of engineering and related engineering disciplines.

POE II: Exhibit professional skills, ethical attitude and sensitivity towards society and environment.

POE III: Engage in lifelong learning for successful adaptation to technological changes.

POE III: Engage in lifelong learning for successful adaptation to technological changes.



Sharad Pattern

Education is not the amount of information that is put into your brain and runs unrest there, undigested all your life. We must have life-building, man making, character making and integration of ideas. As Swami Vivekananda has aptly said:

"We want that education by which character is formed, strength of mind is increased, the intellect is expanded and by which one can stand on one's own feet".

Today we live in twenty first century. It is an age of inventions and innovations. So, what do you want from education system: to make you just a 'LITERATE' or an 'EDUCATED'. The very word education is derived from the word "Educaire" which means "to bring up". To bring up each and every stakeholder of the system in every aspect it may be economical, social as well as personal. In Sharad Pattern we are committed provide these things.

Education system should not just produce students only as human resource and make them 'knowledge products' and 'services'. But it should aim on all round shaping up of one's personality. In the present system a teacher's concern should be on-not just imparting knowledge but also tapping the inherent talents of a student. Because every human being can be an engineer but not every engineer can be a great human being so we are committed to make student great human being who can lift up others by standing on his/her own feet.

We in Sharad pattern yearn the socio-economical development of all members of SIT family, first and foremost the parents who are actually determining factor of all, then students who are the asset for us, next its faculty from apex to nadir who are backbone of the system and finally the management the prime drive that motivates all of them to work, So we maintain this perfect square by working in unison.

Education should not be limited to books but it needs to be full of interaction, exposure and opportunities. In my opinion, co-curricular activities should be made an integral part of education for the overall development of the student. Besides books and the rat race, the students should be made to follow the moral values. Last but not the least the education should be transformed into a practical process where apart from the texts, there is a space for the students to create new ideas, activities should also be held like – project exhibitions where student can come up with their new ideas, imaginations and try to create something new, something more interesting.....they could try to implement it and move beyond the books. The need of the hour is not just an academic education but we need more practical and value based education .It should be like the words of Swami Vivekananda—" Man making education is what we want

And after all "The education which does not help the common mass of people to equip themselves for the struggle of life, which does not bring out strength of character, a spirit of philanthropy, and the courage of a lion – is it worth the name? Real education is that which enables one to stand on one's own legs. Education must provide 'life-building, man-making, character-making assimilation of ideas". The ideal of this type of education would be to produce an integrated person. We are proud to say that we with the help of Sharad Pattern are actually implementing these things rigorously from its inception and we will take ceaseless endeavors to accomplish everything that has been promised by us. Besides this we will also be an Alma Mater i.e. Caring mother of all its family members.

Certification courses in Innovation Centres

Objectives :

1. The main objective is to provide additional skills to the students which will help them for the placement.
2. To collaborate students with the various industry initiatives.

Context : Institute has developed various innovation centers in every department to facilitate students with upcoming technologies and make use of the facility for research and development activity. These centers are over and above the AICTE requirement so no academic lecture practical scheduled on the same. These centers are maid full time available to the students for learning new things. But it is observed that many students are not participating in such activities actively. Also, many students learn and develop some skill sets but they unable to claim the same in front of other peoples. So to give them authentication and encouraging students for active participation certification programs were started.

Practice : With respect to the above context every innovation center started some certification courses in association with supporting industry. In the first phase students are motivated to participate in the learning process. Students who successfully completed the course undergo certification exams and those who get cleared are getting more job opportunities compared to other students. Some certification courses were started by third party agencies or supporting organizations. Some certifications were started by the Innovation center itself. Design and innovation center powered by Autodesk India Pvt. Ltd. doing certification to students with online courses and examinations started by Autodesk University. Institute also runs the Ready Engineers program powered by Tata Technologies Ltd. Students who completed the course successfully and cleared examinations got Ready Engineer certification. The Center of Excellence in VLSI and embedded system runs the courses for the students. Students after completion of all three modules of course certification were given by the institute itself. Similarly, other centers of excellence are working.

Impact : Number of students actively involved in learning in the innovation center. More than 200 students got certification in various courses at Autodesk University. This helps students for placement. 11 students got a placement on the basis of skill sets available in the field of design. 100 students got the certificate as a ready engineer. All students got the opportunity of placement drive organized by Tata Technology. Center of excellence in VLSI and Embedded system gave training to 50 students of Electronics and Telecommunication in association with UTL Technologies Bangalore.

NPTEL Awareness Program.

Goal :

1. To motivate students and faculty for Self learning activities.
2. To create ICT Tool usage awareness

Context : Institute has very good academic culture. In our region institute is very well known for academics. To do improvements in academics, self learning of students is most important. Many recruiters also recognized need of self learning. In connection with this institute decided to motivate students as well as faculty members to participate in MOOC courses. Being an affiliated institute we are unable to give credit transfer benefit to student but even students provided great support to such extension activity.

Practice : IQAC committee gave instruction for the implementation of NPTEL awareness among students. Initially institute is registered under NPTEL local chapter. Mr. G. V. Pujari working as SWAYAM NPTEL SPOC person. At institute level we created committee of NPTEL. From all department one contact person is selected who encourage students and faculty members to participate. Initially maximum focus is provided on registration for course. Then in next phase students active participation is observed. For that faculty mentors are appointed. Finally students and faculty members are motivated for registration in examination. Fee Reimbursement scheme was launched for year 2018-19 from institute side for the students who cleared the examination. Students who scored more than seventy percent marks are falcited by the institute. This also create positive impact on students side.

Impact : As first step of success 1505 students registered for different courses. They tried to learn the basics. Some students continued the same but few were fail to complete the same. Out of those 155 students appeared for the examination and out of appeared students 139 students cleared their examination. All students who gets cleared are falcited by the institute. Also they got benefit of fee reimbursement.

NPTEL

NPTEL is an initiative by the IITs (IIT Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and IISc along with full financial support by MHRD.

Objective of the National Programme on Technology Enhanced Learning (NPTEL)

- To enhance the quality of engineering and science education in the country.
- Open online courses learn for free anyone, anytime, anywhere.
- Get certified from the IITs & IISc.
- Developing contents for undergraduate and postgraduate curricula using video and web based courses.
- The objectives of enabling students obtain certificates for courses to make students employable in the industry.
- Pursue a suitable higher education programme.
- Exposure to relevant tools and technologies, are being offered.



Objectives

- To provide students the knowledge information of 3D Mechanical design, visualization & documentation processes that student will use to complete the project for the competition.
- Student would get an opportunity to lay hands on Autodesk design software, understand principles of 3D design & clear doubts

Outcomes Expected

- Develop Physical/ Prototype models for multidisciplinary projects.
- Develop an optimized design for product research and development.
- Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health, safety, manufacturability, and sustainability.

Utilization

- This design & innovation centre has 40 workstations with multiple licenses of the entire suite of Autodesk software's running on them.
- These includes Autodesk Fusion 360, Inventor Professional, Autodesk AutoCAD, etc.
- These licenses will be used exclusively for educational purposes directly related to learning, teaching, training, research and development that are part of the instructional functions.

Activity Completed 2020-21 Sem-II

Sr.No.	Date	Time	Diploma/ B Tech	Webinar attended class	Content Delivered	Present Students
1	17/04/2021	10.30-12.00 pm	Diploma/ B Tech	Webinar Attended	Introduction to fusion 360 & 3D modeling	35
2	18/04/2021	10.30-12.00pm	B Tech	S Y Mech.	3D modeling in fusion 360	34
3	19/04/2021	10.30-12.00pm	B.Tech	S Y Mech.	Sculpting In fusion	27
4	20/04/2021	10.30-12.00pm	B.Tech	S Y Mech	Sculpting In fusion	24
5	22/04/2021	10.30-12.00pm	B.Tech	S.Y Mech	Surface modeling in fusion 360	24
6	25/04/2021	10.30-12.00 pm	B.Tech	S.Y Mech.	3d modeling & assembly of universal joint	27
7	28/04/2021	12.10-2:10pm	B.Tech	S Y Mech	introduction to fusion 360& 3d modeling	79
8	01/05/2021	10.00-12.00 pm	B Tech	TY Mech.	3d modeling & Sculpting in fusion 360	39
9	02/05/2021	10.30-12.00pm	B.Tech	TY Mech	sculpting in fusion 360	36
10	09/05/2021	9.30-11.00 am	B.Tech	S.Y Mech.	introduction to fusion 360& 3d modeling	43
11	09/05/2021	11.30-12.30pm	B.Tech	S.Y ETC	Sculpting Car Body	24
12	11/7/2021	10:30-11:30am	B.Tech	S.Y Mech.	Introduction to Fusion 360	42
13	18/07/2021	10:30am-12:00pm	B.Tech	FY G Div.	3D Modeling in Fusion 360/render in fusion 360	26
14	8/8/2021	10:30-11:30pm	B Tech	FY G Div.	3D Modelling in Fusion 360, Exploring Technical Drawing in Fusion 360 converting to 3D to 2D.	21

Autodesk Design Academy Course Certification (online)

Sr.No.	Academy Certification	Target Student	Conducted by
1	Online (mode)	153	Autodesk (Month of March 2021 and June 2021)

Internship 2020-21

Opportunities through Innovation Centre
Autodesk Internship program 2021 for Six months - (April 2021 to September 2021)



Shri ShamraoPatil (Yadavkar) Educational & Charitable Trust's
Sharad Institute of Technology, College of Engineering,
Yadav-Ichalkaranji

(Approved by AICTE, New Delhi, Recognized by Government of Maharashtra & Affiliated to J.B.A.T.U, Lonere)
Accredited by NBA, NAAC 'A' Grade ISO 9001:2015 Certified Institute

*Congrats for selection
as a intern in Autodesk*



Achievement in 2020-21 Sem-II

Techno-Minds-2K21 Mega Event Project Competition

Conducted by : MIT, Auragabad on 18th June 2021

Student ID	Name	Project Name	Institute Name	Obtained marks	Remark
Project180303	1. Amey Anil Jadhav 2. Santosh Bhanuse 3. Hirutuja A. Madake	Next Generation Autonomous Mine Detection Robot	Sharad Institute of Technology College of Engineering Ichalkaranji, Kolhapur	59	Second Prize

Techno-Minds-2K21 Mega Event Innovative Ideas

Conducted by : MIT, Auragabad on 18th June 2021

Student ID	Name	Project Name	Institute Name	Obtained marks	Remark
ID170203	1. Rushikesh Khadakole	Smart Helmet	Sharad Institute of Technology College of Engineering, Ichalkaranji, Kolhapur	62	First Prize

Expert Lectures Conducted

Sr.No.	Title of Expert Lecture	Class	Expert Lecture conducted Date	Name of Expert Resource person	Designation	Company/Institute	Time
1	Gate Exam awareness and preparation	SE, TE, BE	19/3/21	Mr. Mandar Deshpande	Central Head	GATE Forum, Kolhapur	10 am to 11.30 am
2	Alumni Talk	SE, TE, BE	23/3/21	Mr. Suganshu Parsharam	Student	Sharad Institute of Technology College of Engineering Yadav	10 am to 11.30 am
3	Gateway to success	SE, TE, BE	30/04/21	Mr. Abhishek Bera	Academic Head	Ekeeda Pvt. Ltd. Mumbai	12:10 pm to 2:10 pm
4	Basic understanding of motor or motor and application.	SE, TE, BE	1/6/2021	Mr. Srinivasan	Director	ACE Enablers, Chennai	11 am to 12.30 pm
5	Industry 4.0	SE, TE, BE	11/6/2021	Mr. Anirash Majum	Fabricier & Director	Whiz Key (OPC) Pvt. Ltd. Pune	10 am to 11.30 am
6	Effective communication	SE, TE, BE	12/6/2021	Mrs. Pallavi Desai	Central Head	Achievers Academy, Kolhapur	10 am to 11.30 am
7	New Vista of corona discharge based advanced manufacturing in the age of nanotechnology	SE, TE, BE	16/06/21	Dr. Ranjeet Sahu	Asst. Prof.	NITK Surathkal	11 am to 1pm

1. Gate Exam Awareness and Preparation

Activity conducted date and time : 19/03/2021, 10.00 am
 Resource person for Activity : Mr. Mandar Deshpande
 Class : SE, TE & BE
 Purpose : Guest lecture



Summary:

Mr. Mandar Deshpande working as a central head of GATE forum Kolhapur. He involve in training activity of student regarding competitive exam such as MPSC, UPSC and especially GATE exam.

He explained structure of GATE syllabus and guide students regarding about it. He discussed different opportunities available after qualifying GATE exam such as public sector, research, post-graduation etc. He discussed eligibility criteria of GATE exam, score of GATE exam. Also, he explain about how to prepare for such competitive exam, how to give priority to subjects during preparation. He explain marks weightage allotted to subjects. He motivate students regarding competitive exam. This session ended with question and answering with student and vote of thanks.

2. Alumni Talk with students

Activity conducted date and time : 23-03-2021, 10.00 am
Resource person for Activity : Mr. Sudhanshu Rankhambe
Class : SE, TE, BE
Purpose : Guest lecture



Summary:

Sudhanshu Rankhambe is a student of final year in Mechanical engineering department. He qualify GRE exam and he got admission for post-graduation in Wisconsin University along with scholarship from IISc. He discuss among students how to prepare for such type of exam, what are the difficulties him facing during study preparation. He explain need of improvement in communication skill, LinkedIn profile and improvement in developing interpersonal relationship. He motivate students regarding such type of exam and ask them to qualifying and get success in career. Session ended with question and answering with students.

3. Gateway to success

Activity conducted date and time : 30-04-2021, 12.10 pm
Resource person for Activity : Mr. Abhishek Barve
Class : SE, TE & BE
Purpose : Guest lecture

Summary:

This session conducted by academic head of Ekeeda Pvt. Ltd. Mumbai. He involve in training activity of student regarding GATE exam. He emphasize on students self-preparation regarding such exams. He explain about question format and how to prepare for such questions. He explained structure of GATE syllabus and guide students regarding about it. He discussed different opportunities available after qualifying GATE exam such as public sector, research, post-graduation etc. He discussed eligibility criteria of GATE exam, score of GATE exam. Also, he explain about how to prepare for such competitive exam, how to give priority to subjects during preparation. He explain marks weightage allotted to subjects. He motivate students regarding competitive exam. This session ended with question and answering with student and vote of thanks.

4. Basic understanding of induction motor and applications

Activity conducted date and time : 01-06-2021, 11.00 am

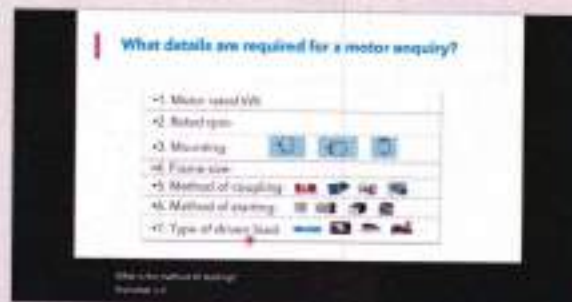
Resource person for Activity : Mr. J. Srinivasan

Class : SE, TE& BE

Purpose : Guest lecture

Summary:

Mr. J. Srinivasan popularly known as 'Motor Man' in industries. He is expert in motor analysis, dimensioning, commissioning and testing of motors. He discussed in his session regarding energy scenario and need of energy conservation. In his session he discussed that this topic is multidisciplinary, because except with design of electric motor winding and other electrical parameters, 90% of manufacturing work will be carried out by mechanical engineers. Also sensors and other automated controls requires electronics and computer science engineers. He explain in detail name plate of a standard motor, each letter and symbol explained by him. Session followed by motor construction, details and design considerations for different applications. He also, give overall scenario of motor percentage of induction motor and others. Session ended with question and answering with students and faculties.

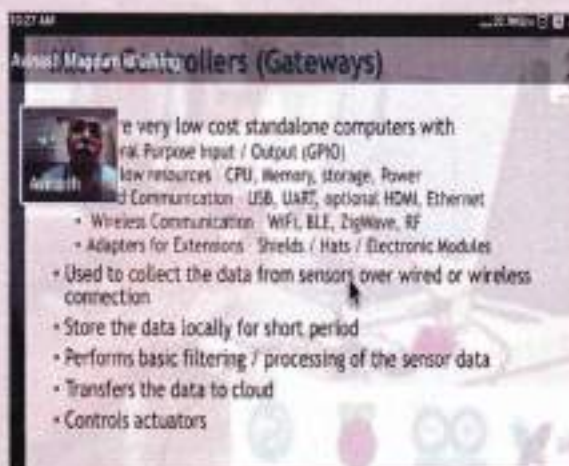


5. Industry 4.0

Activity conducted date and time : 11-06-2021, 10 am
Resource person for Activity : Mr. Avinash Magdum
Class : SE, TE & BE
Purpose : Guest lecture

Summary:

Mr. Avinash Magdum has vast experience in software testing and development, consultancy in automation and IoT. He discuss need of IoT in different applications and industry. He discuss few case studies involving IoT, microcontrollers and software used in in such applications. Further he discussed Industry 4.0 has been defined as "a name for the current trend of automation and data exchange in manufacturing technologies, including cyber-physical systems, the Internet of things, cloud computing and cognitive computing and creating the factory". Industry 4.0 is a vision that evolved from an initiative to make the German manufacturing industry more competitive ('Industry 4.0') to a globally adopted term. Industry 4.0 is often used interchangeably with the notion of the fourth industrial revolution. Session ended with question and answering with students.



6. Effective communication

Activity conducted date and time : 12-06-2021, 10.00 am

Resource person for Activity : Mrs. Pallavi Desai

Class : SE, TE & BE

Purpose : Guest lecture

Summary:

Mrs. Pallavi Desai involving in training activities, such as effective communication, personality development, GRE and other competitive exams. She is well known about transforming peoples into speakers. She trained many corporator, MLA regarding public speaking, stage speech, personality development etc.

This session is structured to improve student's communication for helping them in their career. In her session she give four steps to improve communication regarding career development. First content of your resume, second LinkedIn profile, third Focus, fourth commitment. She nicely explain all these terms with some examples. Session ended with question and answering with students.



7. New Vista of corona discharge based advanced manufacturing in the age of nanotechnology

Activity conducted date and time : 16-06-2021, 11 am
 Resource person for Activity : Dr. Ranjeet Sahu
 Class : SE, TE& BE
 Purpose : Guest lecture

Summary:

Dr. Ranjeet Sahu working as Assistant professor in Mechanical engineering department of NITK Surathkal. He has vast experience in micro and nano machining, nanomaterial synthesis, additive manufacturing and precision manufacturing. He discussed with our students and faculty regarding machining of critical materials, joining of critical materials such as Ni-coated alloys. He also explained different experimental setup developed in Surathkal for study of material joining. He discuss his patent filed on 'New Vista of corona discharge based advanced manufacturing in the age of nanotechnology'. He discuss in details of development in nanotechnology and its use in advanced manufacturing technics. Session ended with question and answering with students and faculties.

New Vista of Corona Discharge based Advanced Manufacturing in the Age of Nanotechnology

Dr. Ranjeet Kumar Sahu
 Assistant Professor

Department of Mechanical Engineering
 NITK Surathkal

Advanced micromachining

- ADAM: A complex blind drilled, deep holes, extremely complicated shapes on various engineering materials in high accuracy & finish
- Applications: In small and four five holes in turbine blades, die manufacturing, special valves, bearings for cylinders, etc.
- In today's high-tech global market, with growing trends toward:
 - Miniaturization of parts
 - Development of MEMS
 - Nano-level surface finish

Advanced micro-machining becomes important

Requirements for micro features in engineering materials

- Properties: + more physical, mechanical, chemical, electrical, optical properties etc.
- Applications: + electronics, MEMS devices, fuel cells, sensors and actuators, catalysis, optical properties, nanomedicine, nanotechnology.

Flowchart illustrating the relationship between nanotechnology, micro-machining, and advanced manufacturing.

Introduction to Nanotechnology

- Nanotechnology: + production, + applications, + nano-structured materials/nanomaterials, + best and direct + nanometer scale
- Nanomaterials: + nanoparticles, carbon, nanotubes, + thin, nanocomposites, etc.
- Nanoparticles: + size: 1 to 100 nm
- Nanoparticles play a significant role in industrial and medical fields due to their advanced nanoscale manufacturing.

Technology	Scale (nm)	Resolution (nm)	Accuracy (nm)	Throughput (parts/hr)	Material Waste (%)
Conventional Machining	1000 - 10000	1000 - 10000	1000 - 10000	1000 - 10000	10 - 20
Micro-machining	100 - 1000	100 - 1000	100 - 1000	100 - 1000	1 - 5
Nanotechnology	1 - 100	1 - 100	1 - 100	1 - 100	0.1 - 1

Shrivastava et al., 2012

Conceptual Realization of CDM

- CDM: Advanced manufacturing technique which is based on the energy created between the two electrodes: tool cathode and the workpiece (anode) submerged in electrolyte fluid
- This technique is used for machining ultra-precision micro parts and structures on heterogeneous materials
- Micro-features are obtained by removing a thin film of materials in the form of debris through melting and evaporation by using corona discharge between the electrodes
- Some of the debris is evaporated and some are deposited in the electrode fluid
- Experiments: + these debris and their applications as nanoparticles in electronic fluids has achieved recently

ISHRAE

Covid 19 Vaccination Awareness Poster Competition

Event conducted by : ISHRAE (Kolhapur-Sanglisub Chapter) and NSS unit of Sharad Institute of Technology, College of Engineering, Yadrav.

Event Theme : Covid 19 vaccination awareness.

Event Date and Time : 10th May, 2021 whole day.

Winner Categories :

Digital Poster winner.

Handmade Poster winner.

Winners :

Digital Poster

1ST WINNER : MR. ABHISHEK MASKE



2 ND WINNER – MR. ADESH MOHALKAR



Handmade Poster

1ST WINNER : MISS.SHREYA TERDALE



2ND WINNER : MR. SANJAY S.



Certification : nd Participation certificate provided.

Total number of participations : More than 60 participation all over from INDIA.

Poster Receive : More than 60 posters.

Prize distribution ceremony:

On 10 May, 2021 at 7.30 pm.

Faculty Co-ordinator :

Mr. Vishal Wadkar (NSS faculty co-ordinator) (SITCOE, Yadrav)

Prof. A. S. N. Hussainy (ISHRAE faculty co-ordinator) (SITCOE, Yadrav)

Essay Writing Competition World Environment Day

- Event conducted by : ISHRAE (Kolhapur-Sangli sub Chapter) and Sharad Institute of Technology, College of Engineering, Yadrav.
- Event Name : Essay writing competition event conducted on the occasion of World environment day on 05-06-2021.
- Mode : Event was conducted by online mode through google forms.
- Number of questions contained : above 25 essay have been received.
- Certification : Certificates were only provided to participated candidates.
- Faculty Co-ordinator : Prof.A.S.N.Hussainy (SITCOE, YADRAV)

Event Poster :

Event Certificate :

Glimpse of some essay :

Techkriti 2021 World Refrigeration Day

- Event conducted by : ISHRAE (Kolhapur-Sangli sub Chapter) and Sharad Institute of Technology, College of Engineering, Yadrav.
- Event Name : Techkriti 2021
Submission of an article on new trends in HVAC sector event conducted on the occasion of World refrigeration day on 26-06-2021.
- Mode : Event was conducted by online mode through google forms.
- Number of questions contained : Above 35 articles have been received.
- Certification: Certificates were only provided to participated candidates.
- Faculty Co-ordinator : Prof.A.S.N.Hussainy (SITCOE, YADRAV)

Event Poster

Event Certificate

Glimpse of some Articles

Heating, ventilation, and air conditioning (HVAC) is the technology of indoor and vehicular environmental comfort. Its goal is to provide thermal comfort and acceptable indoor air quality. HVAC system design is a part of mechanical engineering, based on the principles of thermodynamics, fluid mechanics and heat transfer.

HVAC new trends to look up for future is mainly:-

1.Green technology and eco friendly technology:-

With a green Product Strategy, the HVAC industry can reduce environmental impacts throughout the life cycle of products, through the reduction of resource consumption, increase energy efficiency, substituting chemicals, and reducing carbon emissions.

2-Software automation:-

Automated maintenance systems that allow management to control HVAC technology from one centralized point. Having connected systems allows for one central hub to control all. Whether it is ventilation system or heat exchangers, HVAC operators can control the whole cooling system via one central hub.

3.Solar/Geothermal:-

Solar methods of HVAC have been popular for several years in the field of sustainable energy. Using panels, solar HVAC units can be added to existing buildings as well as new ones, and solar HVAC can be used for both heating and cooling, making them an attractive option to many people.

MOTION ACTIVATED AIR CONDITIONING

The conventional HVAC system uses refrigerant that harms the environment and depletes the ozone layer. The commonly used refrigerants are CFCs and HFCs. Though HFCs has less effect over the ozone layer as compared to the CFCs but it still plays a role in depletion of ozone layer. A huge time would be required to make the complete system eco-friendly. Moreover the other factors like extra power consumption and the matter of fact that HVAC starts only with after stating of engine gave rise to the development of HVAC USING TEC. To overcome the problems encountered in conventional HVAC a novel concept is presented in the paper.



Article on Recent trends in Refrigeration

1 Magnets Refrigeration

Magnets refrigeration is a technology that uses the magnetocaloric effect for cooling. As we all are familiar with magnets as attractor – but the diamagnetic phenomenon has been used as a magnets that repel each other. A piece of metal is heated by the magnetically field to heat up. Heat is absorbed in the metal field to the up and down from electrons during field direction and direction. Heat of cooling has been used to work as a refrigerator for the opposite or other system. Suggested by Gernot.

The plus of magnet is under the influence of a magnets field, and the field is other way, the metal will cool down. A substance, usually ferrous, is applied to the metal while the metal is under a steady magnetic field. The substance gets cooled by the magnet's field and then the magnetic field is taken away, making the metal equally hot – hot enough to be used as a cooling unit. Magnetic refrigeration systems have the potential to reduce energy usage by up to 30 percent, according to GSK Journal, which is thermoelectricity, they require no refrigerant. These systems are already in use in many laboratory settings, but their main limitation has to do with the relatively small temperature differences that can be achieved during the hysteresis of the magnetic field.

2 Air-gel based cooling Technology

A solid substance refrigeration system is a novel technology of nearly 20 percent a significant amount, according to the research paper. A research paper on the scientific field for being to do it in a short manner. In addition, a 20 percent weight loss saved costs the tens of thousands of dollars. Since in the US, therefore the apparatuses, 20 million pounds of energy storage. Several months' development.

Over many of the aforementioned technologies are for an already available commercial business, and the progress and subsequent work on the research in this field. Today, one of the best.

Techno Quiz 2021 National Technology Day

- Event conducted by –ISHRAE (Kolhapur-Sangli sub Chapter) and Sharad Institute of Technology, College of Engineering, Yadrav.
- Event Name : **TECHNO QUIZ 2021** event conducted on the occasion of National Technology Day on 11-05-2021.
- Event Time : Event time is from 6.00 am to 12.00 pm and the event was conducted by online mode through google forms.
- Number of questions contained : Event contained total 15 questions each of two marks and total marks for the event is 30 marks.
- Passing criteria: The participant must score 60% (18 marks) or above 60% (18 marks).
- Certification: Certificates were only provided to the passed candidates.
- Total number of participations: Participation is more than 900 from all over INDIA.
- Quiz attempted by:- More than 500 participants attempted the quiz.
- Faculty Co-ordinator : Prof.A.S.N.Hussainy (SITCOE, YADRAV)

Event Poster

National Technology Day

TECHNO QUIZ 2021
A NATIONAL LEVEL EVENT

EVENT DATE - 11th MAY, 2021

FREE OF COST REGISTRATION

RULES -

- 1) Total 15 questions
- 2) Total 30 marks
- 3) E. Certificates will be sent on e-mail if score is 60% or more than 60%.

NOTE -

- 1) Quiz form will be sent on e-mail after registration.
- 2) Quiz form will open on 11th May 2021 from 6:00 am to 11:00 pm.

Contact: **Sharad Institute of Technology**
1, BANGKAL PAVAN, ROAD, COLLEGE OF ENGINEERING, YADRAV.

FACULTY CO-ORDINATOR
PROF. A.S.N. HUSSAINY
ISHRAE, YADRAV

Event Certificate

Techno Quiz 2021
National Level Event

CERTIFICATE OF PARTICIPATION

This is awarded to

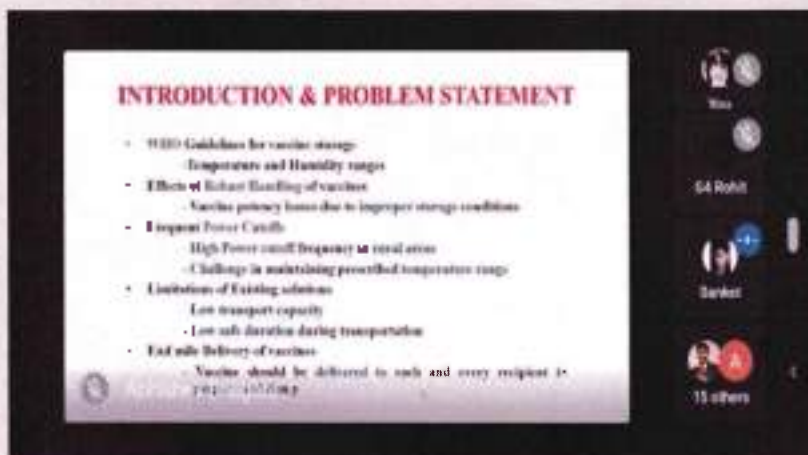
Who participated in the event named 'TECHNO QUIZ' organized on 11th May 2021 by ISHRAE KSC & SITCOE, YadraV (Kolhapur)

ISHRAE **STUDENTS OF ISHRAE** **SITCOE**

Prof. A.S.N. Hussainy
Faculty Co-ordinator

DIPEX 2021

DIPEX and SRIJAN annually arrange Maharashtra and Goa State level competition during the month of March. Every year, more than 500 teams register for the event and nearly half of them get chance to attend actual project presentation competition held at different colleges in Maharashtra. But due to lockdown, this year, the DIPEX 2021 was conducted in online mode via Google Meet application from 21nd-27th May 2021. Participants had to present their project with the help of PowerPoint presentation slides to the juries. This year, Tantra ShikshanVidyarthiKarya and Shivaji University also joined DIPEX and SRIJAN for event organization purpose. 600+ students in 149+ teams were participated for this event from colleges throughout Maharashtra and Goa state. And we feel really proud and pleased to mention that this project stood at Winners place in this competition.



Demonstration of Students project "Vaccine Storage System" in-front of Collector and District Magistrate, Kolhapur.



Students of SITCOE Mechanical Engineering department had great opportunity to meet Hon. Daulat Desai sir, Collector and District Magistrate, Kolhapur at collector office. We presented the demonstration of Refrigerated Vaccine Storage System to him and had a knowledgeable interaction with him in presence of Hon. Anil Bagane sir, Executive Director, SITCOE, Yadrav. The objective of this meet is to explore the student project for commercialization for society need.

Industrial visit

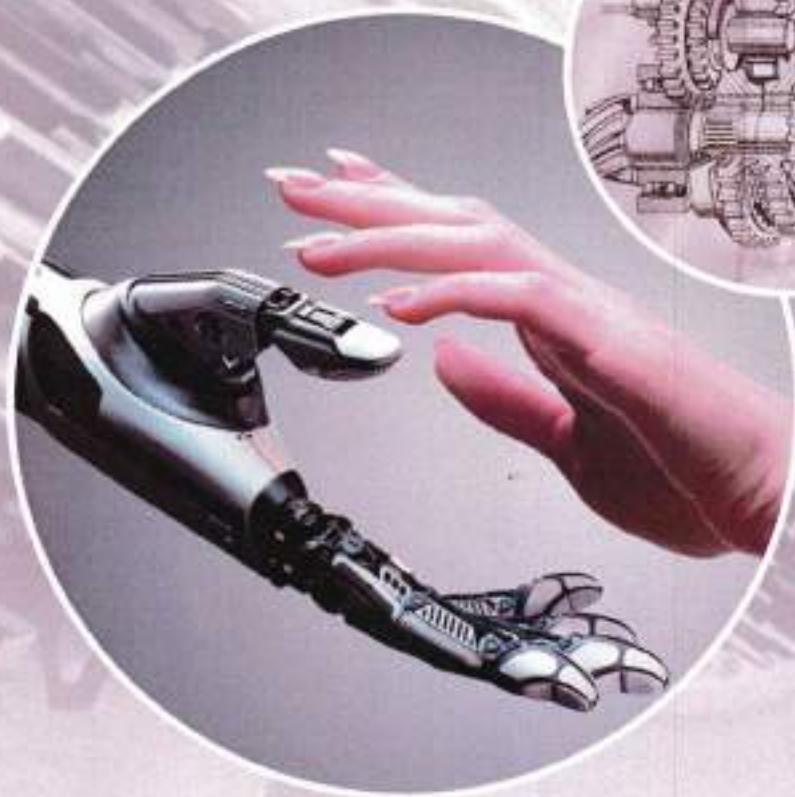
Sr.No.	Class	Name of Subject	Specification of Visit	In-charge faculty	Visit Date	No. of Students	Visit Place
1	TTE-A	Manufacturing Processes-II (Beyond Syllabus)	Manufacturing Processes	Mr.S.B. Kamble	24/3/2021	58	Yash Tools, Shirol
2	TTE-B	Manufacturing Processes-II (Beyond Syllabus)	Manufacturing Processes	Mr.S.S. Patil	25/3/2021	52	Yash Tools, Shirol
3	TTE-A	Refrigeration and Air conditioning	Cold Storage	Mr. D.D.Patil	1/4/2021	40	Gomtesh Cold Storage Miraj, MIDC
4	TTE-B	Refrigeration and Air conditioning	Cold Storage	Mr.A.S.N.Husainy	2/4/2021	45	JK Ice Plant Miraj, MIDC



CONSULTANCY

Sr.No	Name of Company	Type of Work	Amount in Rs.
1	Monarav Shinde SSK.Ltd,Araj	Energy Audit	50000
2	Sharad Sahakari Sakhar Karkhana Ltd	Energy Audit	185000
3	Shree Jadhanga Vedganga S.S K Ltd. Bidri	Energy Audit	225000
4	Sharad Sahakari Sakhar Karkhana Ltd	Material Testing	3000
5	Arihant Sugar Industries Limited	Material Testing	2000
6	Arihant Sugar Industries Limited	Material Testing	5000
7	Arihant Sugar Industries Limited	Material Testing	2000
Total			472000





Shri Shamroo Patil (Yadavkar) Educational & Charitable Trust's

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Yadav (Ichalkaranji), Dist.-Kolhapur (Maharashtra)

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