



RSM POLY NEWSLETTER – APRIL 2021

ABOUT MVP SAMAJ

The **Maratha Vidya Prasarak Samaj** is one of the most prestigious centers of learning in the State of Maharashtra. It manages 485 educational units and is one of the premier educational hub in the Nashik district.

At present, more than 2 lakhs of students are pursuing education. Over past 106 years, the institute has stood the test of time to become legend of unparalleled stature. History says that the credit for the birth of M.V.P. Samaj goes to the young, enthusiastic & devoted team of social workers and educationists who were inspired by the lives of Mahatma Jyotiba Phule, Savitribai Phule and Rajarshi Shahu Maharaj of Kolhapur. These young leading lights include Karmaveer Raosaheb Thorat, Bhausahab Hire, Kakasaheb Wagh, Annasaheb Murkute, Ganpat Dada More, D. R. Bhonsale, Kirtiwanrao Nimbalkar and Vithoba Patil Khandalaskar, who laid the foundation of the Samaj. They were the men who envisioned the culture and knowledge centric society. The great visionaries of MVP Samaj rightly laid the "Well being and happiness of masses" as the motto for the Samaj.

ABOUT RSM POLYTECHNIC

The **Rajarshi Shahu Maharaj Polytechnic** has been established in the year 2008, at the central place in Nashik. It is affiliated to MSBTE, Mumbai and approved by Government of Maharashtra, DTE Mumbai and the AICTE, New Delhi. The Polytechnic is in the process of Accreditation and Gradation. The Polytechnic has well-equipped and well-furnished laboratories, workshop and hostel facilities. Every department has separate computational facilities along with LAN, Wi-Fi and necessary software. At present the RSM Polytechnic provides three-year courses leading to Diploma in Engineering of MSBTE, Mumbai in the five disciplines: Mechanical Engineering, Computer Technology, Electronics and Telecommunication Engineering, Information Technology and Electrical Engineering.

VISION AND MISSION

VISION:

- To Empower the Common Masses by providing Quality Technical Education.

MISSION:

- To create and implement innovative best practices to achieve academic excellence.
- To enhance the overall development of students by imparting essential skills.
- To inculcate principles of professional activities by promoting industry institute interaction and entrepreneurial skills.
- To create an environment awareness for sustainable development.

MVP RSM Polytechnic

- **Karmveer Dr. Vasantao Pawar Birth Anniversary (4th Apr 2021)**



The birth anniversary of Karmveer Dr. Vasantao Pawar was celebrated as “Prerna Din” by faculties and supporting staff members.

- **E-Yantra Orientation Streaming the Grand Finale (30th Mar 2021 to 3rd Apr 2021)**



E-Yantra Orientation Streaming the Grand Finale from 30th March to 3rd April, 2021 for all students of RSM Polytechnic Nashik. The session conducted by IIT Bombay, e-Yantra and coordinated by e-Yantra Team, RSM Polytechnic Nashik

- **Tree Plantation Program (7th Apr 2021)**



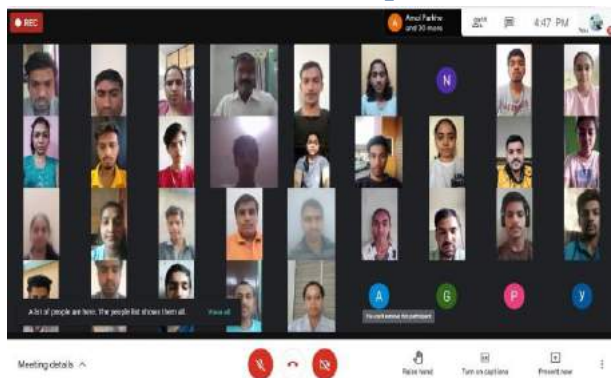
The Tree plantation program had organized in MVPS's RSM Polytechnic. Principal, all the HODs, Teaching and Non-Teaching staff were present for Program in College Campus.

- **Conducted Online School Connect Programme (16th Apr 2021)**




Online School Connect Programme had organized by MVPS's RSM Polytechnic, Nashik for 10th students. Mrs. Neelimatai Pawar, Sarchitnis, MVP Samaj and Prof. Akshay Joshi, Deputy Secretary, Divisional Office, Aurangabad, Dr. S. K. Shinde and Dr. N. S. Patil, Education Officer, MVP Samaj were Guest for Program. The event was coordinated by Prof. D. B. Mogal.

■ **Online Felicitation of Toppers of MSBTE Winter 2020 Exam (17th Apr 2021)**




MVPS's Rajarshi Shahu Maharaj Polytechnic has felicitated the Toppers of MSBTE Winter 2020 Exam. Ms. Mansi Patil secured the 1st rank with 99.33%. Mast. Umer Khan secured 2nd rank with 98.74%. and Mast. Yash Pagar secured 3rd rank with 98.67%.

■ **Conducted Guest Lecture on World Book Day (23rd Apr 2021)**



Maratha Vidya Prasarak Samaj's
Rajarshi Shahu Maharaj Polytechnic, Nashik
Udaji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13

Guest Lecture on "WORLD BOOK DAY"



Prof. B. K. Gavil
Resource Person
LIBRARIAN
PDEA SBC, NASARAPUR, PUNE


Organised by
LIBRARY

Objectives:

- To Encourage Student to Read
- To Celebrate the world book Day

Outcomes:

- Participants will be able to understand importance of books
- Participants will be able to classify the good books



Mr. V. D. Bhoje
Co-ordinator

Schedule
Date : 23rd April 2021
Time : 04.00 PM

Mr. V. D. Bhoje
Librarian

For First Year Students of Mechanical Engineering

STAY HOME, STAY SAFE

Google Meet Link
<https://meet.google.com/mtf-mgls-kvi>

Dr. D. B. Uphade
PRINCIPAL

Online Guest Lecture on World Book Day had organized by Library Dept. for First Year students and staff. Prof. B. K. Gavil, PDEA, SB College, Pune delivered Lecture. The event was coordinated by Mr. V. D. Bhoje.

■ **Conducted Guidance session on FOSSEE Summer Fellowship 2021 (30th Apr 2021)**



Maratha Vidya Prasarak Samaj's
Rajarshi Shahu Maharaj Polytechnic, Nashik
Udaji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13

Expert Guidance Lecture on FOSSEE Summer Fellowship 2021



Prof. N. A. Gade
e-Yantra Team Leader

Objectives:

- Enhance and expand the student's knowledge of a particular area of Robotics and Automation
- To learn a Free/Libre and Open Source Software (FLOSS)
- To Complete screening tasks on Open Source Software

Outcomes:

- Explore career alternatives prior to graduation
- Exposes knowledge and practical skills in area of Automation
- Enhanced technical skill for making sustainability



30th April 2021
01.00 PM to 02.00 PM

Prof. M. S. Aware
ITR Co-ordinator

Second Year Students All Departments

STAY HOME, STAY SAFE

www.rsmpoly.org

<https://meet.google.com/ktf-bhcn-aag>

Dr. D. B. Uphade
PRINCIPAL

Online Guidance session on FOSSEE Summer Fellowship 2021 had organized by MVP RSM e-Yantra and ITR Team for Second Year students. Prof. N. A. Gade, Team Leader, MVP RSM e-Yantra delivered Lecture. The event was coordinated by Prof. M. S. Aware.

■ **NPTEL Local Chapter**



Maratha Vidya Prasarak Samaj's
RAJARSHI SHAHU MAHARAJ POLYTECHNIC, NASHIK
UDAJI MARATHA BOARDING CAMPUS, NEAR PUMPING STATION, GANGAPUR ROAD, NASHIK-13
AFFILIATED TO MSBTE MUMBAI, APPROVED BY AICTE NEW DELHI, DTE MUMBAI & GOVT. OF MAHARASHTRA, MUMBAI

DEPARTMENT OF MECHANICAL ENGINEERING





SHARVARI VIJAY GHORPADE
TYME 2020-2021

HEARTY CONGRATULATIONS
FOR GETTING TOPPERS RANK with **"GOLD MEDAL"** IN
NPTEL COURSE OF "PRODUCT DESIGN AND DEVELOPMENT"

0253 231 1018 www.rampoly.org ndarvprmpoly@gmail.com

MVPS'S Rajarshi Shahu Maharaj Polytechnic, Department of Mechanical Engg Student, Ms. Sharvari Ghorpade has secured TOPPERS Rank in Product Design and Development of NPTEL Course.

▪ **Felicitation of MSBTE Scholarship awardee**



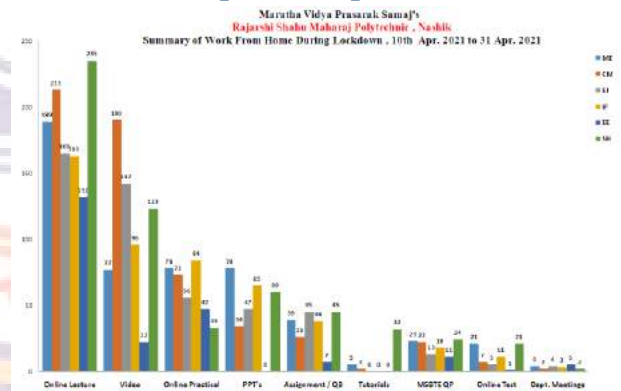
MVPS'S Rajarshi Shahu Maharaj Polytechnic has felicitated the MSBTE Scholarship awardee of 2020-2021.

▪ **Felicitation of Blue Cross Scholarship awardee**



MVPS'S Rajarshi Shahu Maharaj Polytechnic has felicitated the Blue Cross Scholarship awardee of 2020-2021.

▪ **Summary of Work from Home during Lockdown upto 31st April 2021**



MVPS'S Rajarshi Shahu Maharaj Polytechnic's Faculty and Staff had conducted Online Lectures and other activity for students of AY 2020-2021. E-study material prepared by faculty and staff and uploaded on his/her Wordpress blog and Youtube channel and circulated in students.

RSM POLY



NEWSLETTER: APRIL 2021

| Mechanical Engineering Department | | | Computer Technology Department | | |
|-----------------------------------|---|---------------------------|-----------------------------------|--|--|
| Sr # | Activities | Date(s) | Sr # | Activities | Date(s) |
| 1. | Conducted Webinar on Entrepreneurship Development | 3 rd Apr 2021 | 1. | Organized Campus Recruitment Drive-2021 | 3 rd Apr 2021 |
| 2. | Organized Campus Recruitment Drive-2021 | 5 th Apr 2021 | 2. | Conducted Guest Lecture on 8086 Microprocessor | 27 th Apr 2021 |
| 3. | Organized Campus Recruitment Drive-2021 | 15 th Apr 2021 | 3. | Conducted Guest Lecture on Data Structures in Python | 28 th Apr 2021 |
| 4. | MVPS's RSM Polytechnic Received mHawk Diesel Engine. | 21 st Apr 2021 | | | |
| 5. | Conducted Guest Lecture on Capstone Project Execution and Report Writing. | 22 nd Apr 2021 | | | |
| 6. | Organized Webinar on Indian Automobile-Cars | 30 th Apr 2021 | | | |
| Electronics & Telecomm Department | | | Information Technology Department | | |
| 1. | Conducted Expert Lecture on CNC Programming | 30 th Apr 2021 | 1. | Conducted Guest Lecture Cyber Security | 17 th Apr 2021 |
| | | | 2. | Conducted Expert Lecture on Guidelines for Publishing Papers | 28 th Apr 2021 |
| | | | | | |
| Electrical Engineering Department | | | Science and Humanity Department | | |
| 1. | Conducted Guest Lecture on Introduction of Arduino Programming | 28 th Apr 2021 | 1. | Conducted Guest Lecture on Personality Development | 15 th Apr 2021 |
| | | | 2. | Conducted Guest Lecture on Personality Development | 15 th Apr 2021 |
| | | | 3. | Attended FDP on SI UHV Online Workshop | 19 th Apr 2021 to 23 rd Apr 2021 |
| | | | | | |

Mechanical Engg. Department

- Conducted Webinar on Entrepreneurship Development (3rd Apr 2021)



Department of Mechanical Engineering Organizing Webinar on "Entrepreneurship Development"



Saturday 3rd April 2021
02:30 pm To 03:30 pm

**CORDIALLY WELCOME OUR
SPEAKER**



Dr. Dadasaheb Baburao Karanjule
Sr. Lecturer in Mechanical Engineering at
Government Polytechnic Ahmednagar

Dr. H. K. Mishra CO-ORDINATOR Prof. B. S. Deshmukh HOD-ME Mr. Subodh Murkewar PRESIDENT, NASHIK CHAPTER Dr. B. K. Uphade PRINCIPAL

The Webinar on Entrepreneurship Development had organized by Mech. Engg. Dept. for Second and Third Year students of ME and Staff. Dr. Dadasaheb Karanjule (Sr. Lecturer in G. P. Ahmednagar) delivered Lecture. The event was coordinated by Dr. H. K. Mishra.

- Organized Campus Recruitment Drive-2021 (5th Apr 2021)



MVPS's RSM Mechanical Engg. Dept. had organized Campus Drive of VIP Industries Ltd., Nashik for ME Dept. Students. The Drive was Organized and coordinated by Prof. Y. R. Kodhilkar.

- Organized Campus Recruitment Drive-2021 (15th Apr 2021)

Urgent Vacancy for Diploma Mechanical [Info X](#)

Gadgil, Swarnida <swarnida@gadgil.com>
to yojesh.kodhilkar@rsmpoly.org, me, Anil, (Bushi) *

Dear Sir,

We having urgent vacancy for Diploma Mechanical candidates. They will engaged as Diploma Apprentices under BOAT (Board Of Apprenticeship Training). The candidate must be 2020 pass out having all marksheets of each semester. The company shall pay a stipend of 12000/- P.M. The training period will be of One Year.

Kindly share good, talented and needy students from your college AEAP.

Regards,

Swarnida Gadgil

HR Department

EATON, Nashik

909015271

EATON

Powering Business Worldwide

MVPS's RSM Mechanical Engg. Dept. had organized Campus Drive of EATON Systems India Pvt. Ltd., Nashik for ME Dept. Students. The Drive was Organized and coordinated by Prof. Y. R. Kodhilkar.

- Mahindra & Mahindra Ltd., Nashik donated mHawk Diesel Engine (21st Apr 2021)



MVPS's Rajarshi Shahu Maharaj Polytechnic has received A Scorpio mHawk Diesel Engine from Mahindra and Mahindra Ltd. Nashik for Educational Purpose.



Maratha Vidya Prasarak Samaj's Rajarshi Shahu Maharaj Polytechnic, Nashik

Udaji Maratha Boarding Campus, Near Pumping Station, Gangapur Road, Nashik-13.

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- Conducted Guest Lecture on Capstone Project Execution and Report Writing (22nd Apr 2021)



Maratha Vidya Prasarak Samaj's
Rajarshi Shahu Maharaj Polytechnic, Nashik
Udaji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13

**ONLINE GUEST LECTURE ON
CAPSTONE PROJECT EXECUTION & REPORT WRITING**

**CORDIALLY WELCOME OUR
SPEAKER**



Thursday 22nd April 2021
1:00 pm To 2:00 pm

Prof. A. S. Parkhe
CO-ORDINATOR

0253 231 1018

www.rsmpoly.org



Prof. Y. M. Halde
Lecturer, Mechanical Engineering Dept.

Zoom id:- 968 5734 7437
Password:- 692605

Dr. D. B. Uphade
PRINCIPAL

ndmvprsmpoly@gmail.com

Online Guest Lecture on Capstone Project Execution and Report Writing had organized by Mech. Engg. Dept. for Third Year students of ME. Prof. Y. M. Halde delivered Lecture. The event was coordinated by Prof. A. S. Parkhe.

- Organized Webinar on Indian Automobile-Cars (30th Apr 2021)



Maratha Vidya Prasarak Samaj's
Rajarshi Shahu Maharaj Polytechnic, Nashik
Udaji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13
Tel: 0253 2311018 www.rsmpoly.mvps.edu.in ndmvprsmpoly@gmail.com

**Department of Mechanical Engineering
Organizing Webinar on "Indian Automobile-Cars"**

**CORDIALLY WELCOME OUR
SPEAKER**



Friday 30th April 2021
11:00 am To 12:00 noon
Join with Google Meet:
<https://meet.google.com/sib-xtrn-nbc>

Dr. H. K. Mishra
CO-ORDINATOR

Prof. B. S. Deshmukh
HOD-ME



Adv. Abhay K. Raje
Asstt. Governor- RID 3132
Rotary Club of A'Nagar Midtown

Dr. D. B. Uphade
PRINCIPAL

Webinar on Indian Automobile-Cars had organized by Mechanical Engg. Department for Third Year students. Adv. Abhay K Raje, Asstt. Governor, RID 3132, Rotary Club of A'Nagar delivered Lecture. The event was coordinated by Dr. H. K. Mishra.

Computer Department

- Organized Campus Recruitment Drive- 2021 (3rd Apr 2021)



MVPS's RSM Computer Technology Dept. had organized Campus Drive of Callibers Infotech, Nashik for CM Dept. Students. The Drive was Organized and coordinated by Prof. S. V. Sarode.

- Conducted Guest Lecture on 8086 Microprocessor (27th Apr 2021)



Maratha Vidya Prasarak Samaj's
Rajarshi Shahu Maharaj Polytechnic, Nashik
Udaji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13

Guest Lecture on **"8086 MICROPROCESSOR"**

**Organised by
Computer Department**

Objectives:

- To introduce the programming and interfacing techniques of 8086 microprocessors.
- To introduce the architecture of advanced microprocessors.
- To illustrate the architecture of 8085 and 8086 microprocessors.

Outcomes:

- Describe the Intel 8086 microprocessor architecture with explanation of internal organization of some popular microprocessors.



Mr. R. S. Derle
Coordinator



Mr. P. P. Shinde
Resource Person

Schedule
Date: 27th March 2021
Time: 11:00 AM

Mr. P. D. Boraste
HOD, CM

**For Second Year
Students of CM
Department**

STAY HOME, STAY SAFE

Google Meet ID#
meet.google.com/uqj-vmkp-rdh

Dr. D. B. Uphade
PRINCIPAL

Online Guest Lecture on 8086 Microprocessor had organized by Computer Department for Second Year students of CM Dept. Prof. P. P. Shinde, Asst. Professor, MVPS's KBTCE, Nashik delivered Lecture. The event was coordinated by Prof. R. S. Derle.

Conducted Guest Lecture on Data Structures in Python (28th Apr 2021)



Organised by
Computer Department

Objectives:

- To understand why Python is a useful scripting language for developers
- To learn how to design and program Python applications
- To learn how to use lists, tuples, and dictionaries in Python programs

Outcomes:

- Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language

Schedule
Date : 28th March 2021
Time : 11:00 AM

For Third Year Students of CM Department

Google Meet ID#
meet.google.com/oga-uswb-txe

Mr. R. S. Derle
Coordinator

Ms. Kiran R. Borade
Resource Person

Mr. P.D. Boraste
HOD, CM

Dr. D. B. Uphade
PRINCIPAL

STAY HOME, STAY SAFE

Online Guest Lecture on Data Structures in Python had organized by Computer Department for Third Year students of CM Dept. Ms. Kiran Borade, Trainer, Calibers InfoTech, Nashik delivered Lecture. The event was coordinated by Prof. R. S. Derle.

E & TC Engineering Department

Conducted Expert Lecture on CNC Programming (30th Apr 2021)



Expert Lecture on CNC Programming

Objectives:

- To enhance lean manufacturing by significantly
- Reducing the cycle time of processes and increasing flexibility
- Improving the overall quality of the work.

Outcomes:

- Use an understanding of general and machine (G & M) code
- To generate or edit a program which will operate a CNC lathe.
- Apply mathematical methods to calculate Cartesian coordinates.

Schedule
Date : 30th Apr 2021
Time : 10:00 AM to 11:00 AM

For Third Year E.J Departments

Google Meet ID#
https://meet.google.com/tpg-ghf-ntco

Mr. Y. R. Kodhilkar
Lecturer, ME Dept.

Mr. S. A. Suryawanshi
Coordinator E.J

Dr. D. B. Uphade
PRINCIPAL

STAY HOME, STAY SAFE

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Online Expert Lecture on CNC Programming had organized by EJ Department for Third Year students of EJ Dept. Prof. Y. R. Kodhilkar, Lecturer, MVPS's RSM Polytechnic, Nashik delivered Lecture. The event was coordinated by Prof. S. A. Suryawanshi.

Information Technology Department

Conducted Guest Lecture Cyber Security (17th Apr 2021)



Expert Lecture on "CYBER SECURITY"

Organised by
Information Technology Department

Objectives:

- To learn Cyber Security Basics
- To learn various terminology in Cyber Security
- To understand various Cyber Security Threats

Outcomes:

- Participants will able to Cyber Security Basics
- Participants will able to understand Threats in the Cyber Security
- Participants will able implement Cyber Security

Schedule
Date : 17th April 2021
Time : 1:00 pm

For Second Year Students of Information Technology and Computer Technology

Google Meet id
szd-yqnc-irt

Mr. Amar Thakare
Resource Person
FOUNDER AND CO-FOUNDER
LUMIVERSE SOLUTIONS


Mr. V. K. Khedkar
HOD, IF

Dr. D.B. Uphade
PRINCIPAL

STAY HOME, STAY SAFE

Online Guest Lecture on Cyber Security had organized and conducted by Information Technology Department under CSI for Second Year students of CM and IF Dept. Mr. Amar Thakare, Founder and Co-founder Lumiverse Solutions delivered Lecture. The event was coordinated by Prof. V. K. Khedkar.

Conducted Expert Lecture on Guidelines for Publishing Papers (28th Apr 2021)



Expert Lecture on Guidelines for Publishing Papers

Objectives:

- To create awareness about IEEE format.
- To understand the IEEE format and the contents to be used in it.
- To learn how to access IEEE paper.

Outcomes:

- Participants will be able to search IEEE paper.
- Participants will be able access IEEE paper.
- Participants will be able write paper using IEEE format.

Schedule
Date : 28th April 2021
Time : 2:00 PM to 3:00 PM

For Third Year Students of All Departments

Google Meet ID#
act-4mge-qzm

Mr. V. K. Khedkar
Speaker

Mr. V. K. Khedkar
HOD, IF

Dr. D. B. Uphade
PRINCIPAL

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Online Expert Lecture on Guidelines for Publishing Papers had organized and conducted by Information Technology Department under INTECH association for



Maratha Vidya Prasarak Samaj's Rajarshi Shahu Maharaj Polytechnic, Nashik

Udoji Maratha Boarding Campus, Near Pumping Station, Gangapur Road, Nashik-13.

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Third Year students of all Dept. Prof. V. K. Khedkar, Lecturer, MVPS's RSM Polytechnic, Nashik delivered Lecture. The event was coordinated by Prof. V. K. Khedkar.

Electrical Engineering Department

- Conducted Guest Lecture on Introduction of Arduino Programming (28th Apr 2021)

Maratha Vidya Prasarak Samaj's
Rajarshi Shahu Maharaj Polytechnic, Nashik
Udoji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13

Guest Lecture on "INTRODUCTION OF ARDUINO PROGRAMMING"

Organized by
Electrical Engineering Department

Objectives:

- To provide basic Knowledge of Arduino
- To know the features of Arduino
- To provide a complete Knowledge about Programming of Arduino

Outcomes:

- Arduino Programming gives the knowledge about how to install the first program of LED Blinking, How to make temperature controller using Arduino.

Mr. Amit Lekurwale
Resource Person

Prof. A. S. Parkhe
Co-ordinator

Schedule
Date : 28th April 2021
Time : 11:00 AM

For Third Year Students of EE Department

Zoom ID#
<https://us02zoom.us/j/92532311018>

Mr. P. R. Gangurde
HOD, EE

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www.rsmpoly.org

Dr. D. B. Uphade
PRINCIPAL

Online Guest Lecture on Introduction of Arduino Programming had organized by Electrical Engg. Department for Third Year students of EE Dept. Mr. Amit Lekurwale, SmartXprokits, Nashik delivered Lecture. The event was coordinated by Prof. A. S. Parkhe.

Science and Humanity Department

- Conducted Guest Lecture on Personality Development (15th Apr 2021)

Maratha Vidya Prasarak Samaj's
RAJARSHI SHAHU MAHARAJ POLYTECHNIC, NASHIK
Udoji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13
Affiliated to MSBTE, Mumbai, Approved by AICTE, New Delhi, DTE, Mumbai & Govt. of Maharashtra

Guest Lecture On "Personality Development"

Organized by
Department of Science & Humanity

Objectives:

- To increase the availability and widen the distribution of life-sustaining goods.
- 1) Increase and improve self confidence. 2) Be a good human being. 3) Be positive. 4) Learn to lead in face the challenges.

Outcomes:

- Students will possess the personality development techniques and communication skills.
- Students will possess knowledge about leadership.

Prof. Anil K. Bachate
Resource Person
Assistant Professor

For First Year Students of Mechanical Engineering & Information Technology.

Schedule
Date: 15th April 2021

Time
12:00 pm to 1:30 pm

GOOGLE Meet Link
<https://meet.google.com/kio-nyff-eml>

Prof. S. P. Jagtap
Co-ordinator

Prof. T. K. Thange
HOD-SH

Dr. D. B. Uphade
PRINCIPAL

0253 231 1018 www.rsmpoly.org ndmvrsmpoly@gmail.com

Online Guest Lecture on Personality Development had organized by Science and Humanity Department for First Year students of ME and IF Dept. Prof. A. K. Bachate delivered Lecture. The event was coordinated by Prof. S. P. Jagtap.

- Conducted Guest Lecture on Introduction of VLab (15th Apr 2021)

Maratha Vidya Prasarak Samaj's
RAJARSHI SHAHU MAHARAJ POLYTECHNIC, NASHIK
Udoji Maratha Boarding Campus, Near KBTCE, Gangapur Road, Nashik-13
Affiliated to MSBTE, Mumbai, Approved by AICTE, New Delhi, DTE, Mumbai & Govt. of Maharashtra

Guest Lecture on "INTRODUCTION OF V-LAB"

Organized by
Department of Science & Humanity

Objectives:

- To provide remote-access to Labs in various disciplines of Science and Engineering
- To enhance students to conduct experiments by accessing their university.
- To provide a complete Learning Management System around the Virtual Labs.

Outcomes:

- VLab is able to enhance students' problem solving, critical thinking, creativity, conceptual understanding, science process skills, lab skills, motivation, interest, perception and learning outcomes.

Prof. S. P. Jagtap
Resource Person

For First Year Students of E & Tc Engineering & Electrical Engineering.

Schedule
Date: 15th April 2021

Time
12:00 pm to 1:30 pm

GOOGLE Meet Link
<https://meet.google.com/nph-ibce-yag>

Prof. S. P. Jagtap
Co-ordinator

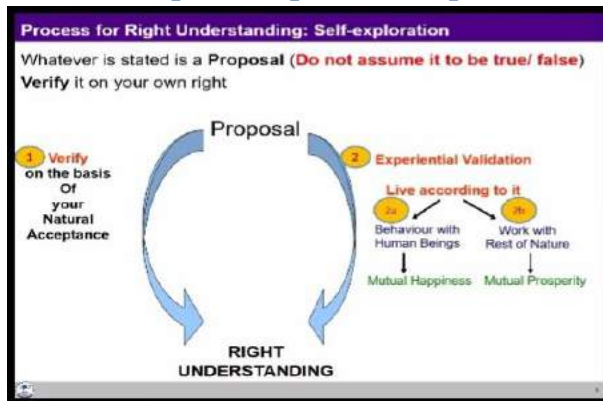
Prof. T. K. Thange
HOD-SH

Dr. D. B. Uphade
PRINCIPAL

0253 231 1018 www.rsmpoly.org ndmvrsmpoly@gmail.com

Online Guest Lecture on Introduction of VLab had organized by Science and Humanity Department for First Year students. Prof. S. P. Jagtap delivered Lecture. The event was coordinated by Prof. S. P. Jagtap.

■ **Attended FDP on SI UHV Online Workshop (19th Apr to 23rd Apr 2021)**



Online FDP on SI UHV Online Workshop had attended and SH Department. FDP was organized by AICTE. The event was coordinated by Prof. V. R. Patil.

Trending Technology:

Windows Double as Solar Panels:



The solar power industry has found a way for solar to energize homes through windows too. Using one or all of these forms of solar energy, homeowners and companies can save tremendous amounts of money and reduce their carbon footprint.

Solar-powered windows were created by a company called Physee. With a diverse and innovative team comprised of chemists, engineers, researchers, and business-savvy individuals, Physee found a way to put Solar panels on existing window glass to produce energy and improve energy efficiency. In addition to providing a convenient way for homes and buildings to create solar energy, these new solar panels are growing in popularity because they fit right on the surface of just about any window and don't stand out like traditional solar arrays. Solar windows were created for several reasons. One is aesthetics. While everyone enjoys having the energy savings and environmental benefits that traditional solar PV systems produce, not everyone likes the sight of a large solar energy system on a roof or a property. This can be a problem for businesses looking to attract customers and clients. It can also spark conflict between homeowners and their neighbors. But discreet window-based solar panels, which channel sunlight into solar energy near the window frame, offset fossil fuel-based energy consumption without altering

the appearance of a building or landscape. Solar-powered windows can also supplement clean electricity produced by conventional PV systems. Traditional solar systems work best on south-facing buildings. This is great for buildings with plenty of daytime sun exposure. For those without ideal light exposure, however, it is much more difficult to generate solar energy. The advantage of using a glazed window to absorb solar energy is that it can capture sunlight throughout the day using solar cells. This is much better than using solar technology that's limited to channeling light from a certain direction or angle. The numbers alone might not mean much to you, but they make more sense put into a practical perspective. Each solar window can produce anywhere between eight and 10 watts daily, depending on the volume of solar lights absorbed through its cells. This power generation is enough to fully charge one cellphone per meter twice a day. This means that everyone in the office can power their phones! Any excess energy that the windows produce that you don't need to use in a day is sent into a battery, where it remains stored until you need to use it. Notable solar window projects include the installation of solar windows at the headquarters of Rabobank in the Netherlands, where more than 300 square feet of windows have been outfitted with thin silicon panels that absorb solar energy and convert it to energy.

- **Corporate headquarters**
- **Commercial buildings**

The Future of Solar Windows

Other commercial business buildings and apartment complexes in the Netherlands have also had solar windows installed. This clean energy technology is also gaining traction with the rest of the world, including the US. What sets solar windows apart from other types of solar is the fact that they are easy to install and require little or no modification of an existing structure. This is an especially significant advantage for buildings with older roofs that might otherwise need to get a roof replacement or have roof work done before installing solar. Both options can be expensive!

Mr. B. S. Deshmukh
HOD-ME

Metallic Glass



Metallic glasses represent one kind of advanced material, very popular in recent decades. These materials are very adaptable like plastics for their manufacturability in very complex shapes. TPF (Thermoplastic forming) based processes seem very good method to process them. These materials can compete

with plastics but have metallic properties. They behave as magnetic materials with less hysteresis loss and less eddy current loss making them suitable for transformer and MEMS (Micro-Electromechanical System) applications. These materials exhibit good corrosion resistance, hardness and toughness. Chemical composition and kinetics of supercooling of these materials are the areas where young researchers can focus attention with a view to their improvement. According to atomic arrangement, we can categorize the existing and man-made solid materials into two main groups: crystalline and amorphous. When there is a proper ordered arrangement of atoms then we say it is a crystalline material. If there is a random arrangement of atoms, then the material is called amorphous.

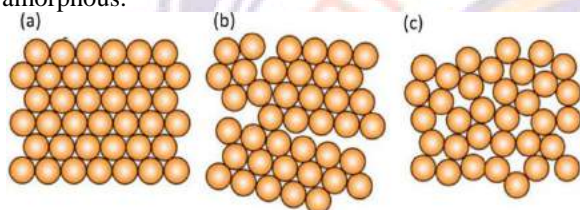


Fig1. The atomic arrangements

To get such randomness, the sizes of the atoms are very important. Much difference in the atomic radius of the components leads to more randomness in the atomic arrangement. When metallic alloys are cooled at a very fast rate, possibilities of getting an ordered arrangement are poor. The glass transition temperature (Generally denoted as " T_g ") characterizes amorphous/glass nature of materials. This is more easily understood in the case of a polymer. This kind of phenomenon occurs in amorphous metals too. In case of metallic glasses, we can say that T_g is the temperature at which material gets soft from hard upon heating or get hard upon cooling. This definition for polymers and metals looks similar but it is restricted to amorphous and semicrystalline metals only. The best way to explain the process of getting an amorphous metal or metallic glass is by supercooling the metal from its liquid state. During the formation of glass, the material should avoid the route of crystallization. Crystallization happens during the cooling of material below its liquidus temperature. The difference in Gibbs free energy between liquid and crystalline state is an important factor for the ability of a metal to crystallize or to become amorphous. Whenever there is a transformation between liquid to the solid-state of a material, the phase transformation at constant enthalpy gives a crystalline material. If enthalpy varies in that process, then the material escapes from the crystalline route and becomes amorphous.

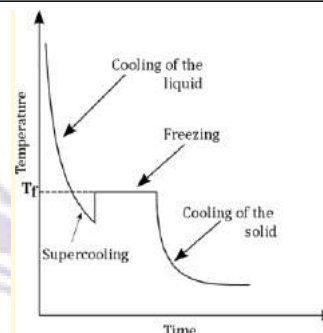


Fig2.TT Diagram

a supercooling does not exist in the case of getting a crystalline material. On the other hand, in the case of supercooling, the enthalpy of transformation changes gradually. Therefore, during the manufacturing of the metallic glasses kinetics of the supercooling has a great impact on the quality of the glasses.

**Mast. Aditya Shinde
Student, TYME**

Audio engineering and advanced technologies



Looking back at how audio engineering has changed over the years is incredible to say the least. These changes can, in large, be attributed to the rising demand for more technologically sophisticated recording techniques and audio-based products for the everyday consumer.

Recording Studio Technology

Recording sessions in music studios have seen many changes due to the advancements of technology that have the potential to alter the way some audio engineers conduct their work.

Touch Screens

Touch screen capabilities are taking over everything digital. From your smartphone to your tablet, even to your desktop computer, touch screens are one of the biggest technology trends to hit the market.

It makes sense that touch screens would spill over into audio engineering. Digital audio mixing consoles can now be controlled with the smooth responsive touch of a control panel that improves user interaction.

Wireless Equipment

Setting up equipment without the tangle and hassle of cable wires is the next big thing when it comes to recorded or live music performances. Effortless set up via a wireless connection will make things look better, work better, and will save a ton of time!

Cloud Computing

Another big trend to make technological waves is the use of cloud storage for audio engineers. No more hardware storage is necessary when you can access the cloud of files from any device, anywhere, anytime. The cloud solution is also helpful for growing companies because the cloud easily scales with company growth without having to acquire additional hardware to store information.

Audio Engineering

As an audio engineer, there are many different career options to choose from. Some of the most obvious (studio recording engineer, live recording engineer, or installation technician) are very popular among students attending audio engineering classes.

But many students are unaware of the specialty audio engineering careers available and how technological advancements have improved these careers over time.

Gaming Audio Engineer

Responsible for creating the soundtracks for a video and/or computers games, a gaming audio engineer might develop compose, score, or record music, sound effects, character voices, spoken instructions, and more. With technology's increased integration of user interaction (Wii Remote), touchscreen capabilities (iOs and Android), and even non-contact technologies (PlayStation Eye) to video and computer games, the need for effective and high-quality audio is more important than ever. Audio engineers must keep up with these new technologies and understand how to incorporate their expertise into these products.

Automotive Audio Engineer

As cars become further infused with technology, the need for audio engineers remains consistent. High-quality music and talk technologies are finding their way into average, non-luxury brand vehicles and require the expertise of audio engineers. Built-in voice recognition systems, specific audio for silent electric cars such as "engine start" and "engine running" sounds, and state-of-the-art sound systems all require specialty audio engineering knowledge.

Audio-based Consumer Products

Being an audio engineer is more than just managing the volume and sound quality of a recording session using technology; it's what those techniques can bring to the consumer that have a major impact as well. Here are some great trends in consumer products that require the expertise of audio engineers:

Soundbars

One of the simplest and least expensive ways to get surround sound in your living room is to make use of a soundbar.

Consumers will enjoy all of the hard work and dedication audio engineers have put into the television

shows, films, or song recordings of their favorite artists in the comfort of their own home.

Wireless Headsets

When Beats by Dre hit the stores, consumers were quick to pick up on the amazing sounds recorded by none other than audio engineers. Wireless technology, specifically when it comes to headsets and how consumers will listen to their favorite songs, has been revolutionized and major audio companies are jumping on this trend quickly.

Google Cast

Google's newest streaming protocol is aiming to compete with Apple's AirPlay by streaming music from smartphone devices straight to wireless speakers. This intuitive technology forces recording studios to produce the highest quality sounds they can because consumers are coming to expect only the best when they invest in such advanced technologies to listen to their music.

Being an audio engineer can be complex. There are many avenues a career in audio engineering can take you and the effect your work has on the music industry, the field of audio engineering, and products developed with significant audio components is exciting. As technology continues to progress and consumers demand more high-tech products, audio engineers have an excellent opportunity to take advantage of those demands and create beautiful audio for everyone to enjoy.

**Mrs. J. P Patil,
TACM**

Augmented and Mixed Reality



Abstract-XR is a term that has become more prominent in the last few years. It encapsulates virtual, augmented, and mixed reality topics. The definition of each of these has become saturated in the past decade, with companies using

their own definitions for each to describe their products. The study Report, Augmented, Mixed and Virtual Reality 2020-2030 distills this range of terms and products, compares the technologies used in them, and produces a forecast for the market next decade. This article discusses AR (augmented reality) and MR (mixed reality) in more **Detailed information about Augmented and Mixed reality.** Augmented Reality (AR) and Mixed Reality (MR) are two technologies which have become more prominent in the past ten years. AR is the use of computer technology to superimpose digital objects and data on top of a real-world environment. MR is similar to AR, but the digital objects interact spatially with the real-world objects, rather than being superimposed as "floating images" on

top of the real-world objects. AR and MR are also closely related to VR. There is a cross-over in application and technology, as some VR headsets simulate the real space and then add in extra artificial content for the user in VR. But for this article, AR and MR products are considered those which allow the user in some way to directly see the real-world around them. The main target sectors of AR and MR appear to be in industry and enterprise markets. With high costs of individual products, there appears to be less penetration into a consumer space.

Comparison

The report compares both augmented and mixed reality products and splits them into three categories: PC AR/MR, Standalone AR/MR and Smartphone/mobile AR/MR. PC products which need a physical PC attachment, standalone products which do not require a PC, and smartphone products - those which use a smartphone's capabilities to implement the immersive experience. Standalone AR/MR have had more distinct product types in the past decade, and this influences the decisions made when forecasting the future decade to come.

Report discussion

The report discusses 83 different companies and 175 products in VR (virtual reality), AR (augmented reality) and MR (mixed reality) markets. This promotional article specifically discusses the findings from this report of the augmented and mixed reality markets

Application

AR and MR products are being used in a variety of settings. One way they are being used is to solve a problem called "the skills gap". This describes the large portion of the skilled workforce who are expected to retire in the next ten years, leading to a loss of the knowledge and skills from this workforce. This knowledge needs to be passed on to new, unskilled, employees. Some companies propose that AR/VR technology can fill this skills gap and pass on this knowledge. This was one of the key areas discussed at some events IDTechEx analysts attended in 2019, in researching for this report.

Mast. Yaduraj Hingne
Student, TYCM

What is 5G and how prepared is India to adapt to this tech?



The Department of Telecommunications (DoT) has sought inputs from Telcos and other industry experts on the sale and use of

radio frequency spectrum over the next 10 years, including the 5G bands.

What is 5G?

5G offers exponentially faster download and upload speeds. Five-G will deliver multi Gbps peak rates, ultra-low latency, massive capacity, and more uniform user experience.

Where does India stand in the 5G technology race?

All the three private telecom players, Reliance Jio Info-comm, Bharti Airtel and Vi have been urging the DoT to lay out a clear road map of spectrum allocation and 5G frequency bands, so that they would be able to plan the roll out of their services accordingly. One big hurdle, however, is the lack of flow of cash and adequate capital with at least two of the three players, namely Bharti Airtel and Vodafone Idea. On the other hand, Reliance Jio plans to launch an indigenously built 5G network for the country as early as the second half of this year.

What is the global progress on 5G?

More than governments, global telecom companies have started building 5G networks and rolling it out to their customers on a trial basis. In countries like the US, companies such as AT&T, T-Mobile, and Verizon have taken the lead when it comes to rolling out commercial 5G for their users.

Conclusion: India's National Digital Communications Policy 2018 highlights the importance of 5G when it states that the convergence of cluster of revolutionary technologies including 5G, cloud, Internet of Things (IoT) and data analytics, along with a growing start-up community, promise to accelerate and deepen its digital engagement, opening up a new horizon of opportunities.

Prof. P. G. Deshmukh
LEJ

ISRO's AstroSat



Context: AstroSat is Ultraviolet and Imaging Telescope spots rare an ultraviolet-bright stars in the massive intriguing the cosmic dinosaur in the Milky Way. The Indian multi-wavelength space observatory AstroSat, launched in September 2015, continues to yield exciting results. Using this observatory, the astronomers from Thiruvananthapuram and Mumbai have identified a new population of ultraviolet stars in the globular cluster NGC 2808.

What are globular clusters?

Globular clusters are collections of thousands to millions of stars, moving as one unit. These stars are tightly held together by gravity of the cluster itself, and are believed to have formed together at roughly the same time. Some globular clusters could be among the

oldest objects in our Milky Way, which hosts over 150 of them.

Significance of the discovery:

Such UV-bright stars are speculated to be the reason for the ultraviolet radiation coming from old stellar systems such as elliptical galaxies which are devoid of young blue stars. Hence, it is all the more important to observe more such stars to understand their properties.

About AstroSat:

It is India's first multi-wavelength space telescope, which has five telescopes seeing through different wavelengths simultaneously visible, near UV, far UV, soft X-ray and hard X-ray. Onboard the

AstroSat is of thirty-eight centimeters wide Ultraviolet and Imaging Telescope (UVIT), which is capable of imaging in far and near-ultraviolet bands over a wide field of view. AstroSat was launched on 28 September 2015 by ISRO into a near-Earth equatorial orbit.

It is the multi institute collaborative project, involving IUCAA, ISRO, Tata Institute of Fundamental Research (Mumbai), Indian Institute of Astrophysics (Bengaluru), and Physical Research Laboratory (Ahmedabad), among others.

This mission has put ISRO in a very exclusive club of nations that have space-based observatories. Only the United States, European Space Agency, Japan, Russia have such observatories in space.

Mast. Bhagwan Sonawane
Student TYEJ

Artificial intelligence (AI)



Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving.

The ideal characteristic of artificial intelligence is its ability to rationalize and take actions that have the best chance of achieving a specific goal. A subset of artificial intelligence is machine learning, which refers to the concept that computer programs can automatically learn from and adapt to new data without being assisted by humans. Deep learning techniques enable this automatic learning through the absorption of huge amounts of unstructured data such as text, images, or video.

Understanding Artificial Intelligence (AI)

When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films and novels weave stories about human-like machines that wreak havoc on Earth. But nothing could be further from the truth.

Artificial intelligence is based on the principle that human intelligence can be defined in a way that a machine can easily mimic it and execute tasks, from the most simple to those that are even more complex. The goals of artificial intelligence include learning, reasoning, and perception.

As technology advances, previous benchmarks that defined artificial intelligence become outdated. For example, machines that calculate basic functions or recognize text through optical character recognition are no longer considered to embody artificial intelligence, since this function is now taken for granted as an inherent computer function.

Impact of Artificial Intelligence

The long-term economic effects of AI are uncertain. A survey of economists showed disagreement about whether the increasing use of robots and AI will cause a substantial increase in long-term unemployment, but they generally agree that it could be a net benefit, if productivity gains are redistributed.

A study by PricewaterhouseCoopers sees the People's Republic of China gaining economically the most out of AI with 26,1% of GDP until 2030.

Mrs. S. U. Shelke
TAIF

Security hacker



security hacker is someone who explores methods for breaching defenses and exploiting weakens in a computer system or network. Hackers may be motivated by a multitude of reasons, such as profit, protest, information gathering, challenge, recreation, or to evaluate system weaknesses to assist in formulating defenses against potential hackers. The subculture that has evolved around hackers is often referred to as the "computer underground". Longstanding controversy surrounds the meaning of the term "hacker". In this controversy, computer programmers reclaim the term hacker, arguing that it refers simply to someone with an advanced understanding of computers and computer networks and that is the more appropriate term for those who break into computers, whether computer criminals (black hats) or computer security experts (white hats). A 2014 article noted that "... the

black-hat meaning still prevails among the general public".

Attacks

Hackers can usually be sorted into two types of attacks: mass attacks and targeted attacks. They are sorted into the groups in terms of how they choose their victims and how they act on the attacks

A typical approach in an attack on Internet-connected system is:

- Network enumeration Discovering information about the intended target

- Vulnerability analysis: Identifying potential ways of attack

- Exploitation: Attempting to compromise the system by employing the vulnerabilities found through the vulnerability analysis. In order to do so, there are several recurring tools of the trade and techniques used by computer criminals and security experts.

Security exploits

A security exploit is a prepared application that takes advantage of a known weakness. Common examples of security exploits are SQL injection, cross-site scripting and cross-site request forgery which abuse security holes that may result from substandard programming practice. Other exploits would be able to be used through File Transfer Protocol (FTP), Hypertext Transfer Protocol (HTTP), PHP, SSH, Telnet and some Web pages. These are very common in Web site and Web domain hacking.



Mast. Ashwin Yadav
Student, IF Dept.

Electrical Vehicle Benefits



Plug-in electric vehicles (also known as electric cars or EVs) are connected, fun, and practical. They can reduce emissions and even save you money. Fueling with electricity offers some advantages not available in conventional internal combustion engine vehicles. Because electric motors react quickly, EVs are very responsive and have very good torque. EVs are often more digitally connected than

conventional vehicles, with many EV charging stations providing the option to control charging from a smartphone app.

Just like a smartphone, you can plug in your EV when you get home and have it ready for you to use the next morning. Since the electric grid is available almost anywhere, there are a variety of options for charging: at home, at work or on the road. By charging often, you may never need to go to a gas station again!

But EVs provide more than just individual benefits. EVs can help the United States have a greater diversity of fuel choices available for transportation. The U.S. used nearly nine billion barrels of petroleum last year, two-thirds of which went towards transportation. Our reliance on petroleum makes us vulnerable to price spikes and supply disruptions. EVs help reduce this threat because almost all U.S. electricity is produced from domestic sources, including coal, nuclear, natural gas, and renewable sources.

EVs can also reduce the emissions that contribute to climate change and smog, improving public health and reducing ecological damage. Charging your EV on renewable energy such as solar or wind minimizes these emissions even more. See the difference in emissions between a conventional vehicle and an EV using the calculator on the right. Learn more about how EVs reduce pollution and their lifecycle emissions.

Prof. A. S. Parkhe
LEE

Nano Trees



One of the emerging nanotechnologies related to renewable energy is nanoleaves and stems of artificially created trees or plants. They are an emerging form of renewable energy through collecting energy from the sun and wind and converting it to electrical energy. The leaves are distributed throughout artificial trees and plants, and when operating at optimum efficiency can supply a whole household with electricity. They are intended to harness energy provided by the wind and sun, thereafter converting it into electrical energy. Moreover, to better understand the fundamental of nanoleaves, we have to dig into an innovative field of technologic development, called Biomimicry.

Overview of Biomimicry Tech

The nanoleaves have been specially designed to imitate the natural process of photosynthesis. A mechanism by which, typical plants absorb the light emitted by the sun and CO₂ in the atmosphere. The artificial trees do even copy the natural recycling process of oxygen. It is very

recent that nanoleaves technology started to reap even more advanced levels. It can now harvest thermal energy as well. Moreover, the leaves fixed on artificial trees are also able to collect energy derived through movement of the wind, known as kinetic energy, which is as well converted into electrical energy. In this Biomimicry theory, the artificial trees are implanted with Nanoleaves, a composite of Nano photovoltaic nanothermovoltaic and Nanopiezo sources transforming light, heat and wind energy into eco friendly electricity. SolarBotanic residential offerings (trees, shrubs, plants etc) will offer up to 50% more energy than traditional solar systems, and in addition will blend in beautifully with your surroundings. SolarBotanic's trees will have the capability of supplying a individual home or can be placed in regions where natural growing bunches of trees would formerly have been utilized. The solar systems can even be positioned on the ground, roof, or parking structures. SolarBotanic's renewable energy contains enormous potential as a additional or substitute to fossil fuels for providing energy marketplaces worldwide in addition to developing countries. The company has received approaches from various Government organizations that will supply leading Research and Development resources and attracted investor groups. This emerging yet brilliant method of energy entrapment is both clean and renewable with a broad range of applications.

Mast. Atharva Kasar
Student, TYEE

Liquid gating membrane



The development of structural materials has brought impetus to every industrial revolution. The value and uses of structural materials follow primarily from their mechanical properties rather than their optical, electronic, magnetic or chemical properties. Conventionally thinking, structural materials are solid, with a fixed structure and good stability, which could include the materials response to an applied force. At the macroscale, the answer is no: a liquid has too much mobility, and its molecular interactions are not as strong as those in solids. It has no inherent shape that can form a stable structural material. At the microscale. In that case a liquid can be stable if confined in space by capillary forces, albeit while being reconfigurable using applied forces. Then the liquid can be used as a stable structural material with new functions and applications membrane-based materials are selected as a representative example to discuss the possibility of using liquid as a structural material and its bright application prospects. Membrane science plays a central

role in fields ranging from desalination to medicine, but still current studies are limited in handling the complex sorting and multiphase substances needed in numerous real-world applications.

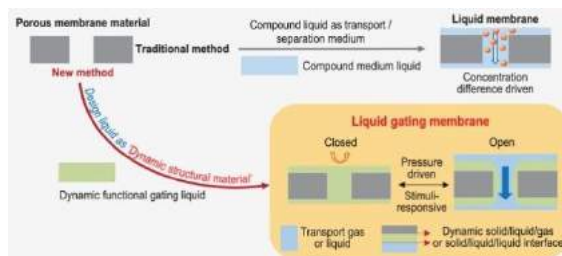


Fig.1 The difference between a liquid membrane and a liquid gating membrane

The liquid gating membrane was first proposed in 2015. Distinct from liquid membranes, which are based on the chemical potential driving mechanism, the liquid gating membrane as a structural material is the liquid-based membrane materials response to an applied force as a pressure-driven system. The difference between liquid gating membranes with other structural materials is mainly based on their liquid properties, including the benefits of lower transmembrane pressure, tunable multiphase selectivity, mobility and incompressibility, non-covalent binding, defect-free material interface, molecular scale ultra-smooth surface, self-recovery, self-adaption, anti-fouling, anti-icing, etc. The current frequently-used pore sizes of liquid gating membranes are at the microscale. Until now, liquid gating membranes for filtration applications that can selectively process complex material flows, precisely separating liquids, gases, and solids without clogging and with significant energy savings, is in the process of real business promotion. The responsive liquid gating system represents a new regime in the study to transform the basic scientific issues of the membranes from the solid-liquid/solid-gas interface to the liquid-liquid/liquid-gas interface for bringing more possibilities to the design of smart functional systems. To further illustrate this, the liquid-constructed interface is molecularly smooth, and the liquid can transform constantly to adapt to the external environment, which makes it a good desired dynamic structural material to open and close solid membranes.

Mrs. D. B. Mogal
LSH

Dual-ion batteries



Dual-ion batteries (DIBs), as one such type of high energy density and low-cost electrical energy storage device, have attracted much attention in recent years. A “green” and stable material, graphite, is adopted for DIBs as both cathode and anode material, so that

DIBs were initially known as dual-graphite batteries. One of the most noticeable distinctions between DIBs and LIBs is that the cathode material in DIBs can be intercalated by the anions in a suitable voltage range. The operation of this so-called dual-graphite cell is based on the shuttling mechanism of HSO₄⁻ anions between two graphite electrodes during the charge-discharge process. Importantly, this dual-graphite cell also laid the groundwork for the design and progress of the well-known LIB, which works by shuttling Li⁺ between cathode and anode. In 1968, a highly stable non-aqueous solvent of dimethyl sulfide was studied in different anion intercalation cells. In 1981, a systematic investigation was conducted on the anodic intercalation of the anions HSO₄⁻, ClO₄⁻, and BF₄⁻ into graphite cathode in aqueous systems. In the 1990s, McCullough et al. reported the first dual-graphite cell based on cation and anion intercalation in non-aqueous electrolyte. They deemed it wise to call this battery a “dual-ion cell” or “dion” cell, which is likely to be the first time that this concept was mentioned. LIBs. Upon charging, the cations (such as Li⁺) and anions (such as PF₆⁻) simultaneously intercalate into the anode and cathode materials, respectively. They then migrate back to the electrolyte during the discharging process. Thus, the specific electrode reactions in the dual-graphite cell could be summarized as

follows: Anode: $C + xLi^+ + xe^- \leftrightarrow Li_xC$ Cathode: $C + xA^- \leftrightarrow AxC + xe^-$ Overall cell reaction: $xLi^+ + xA^- + C + C \leftrightarrow Li_xC + AxC$

Based on the operational mechanism of DIBs, both the cations and the anions in the electrolyte of the DIB system can be considered as the active materials that make a contribution to the capacity. The anions are usually ignored in the “rocking chair” cells, however. This DIB technology offer new opportunities for designing green miniaturized energy storage devices with high operating voltage (>4.5 V) and long cycling stability, which are enabling DIBs to become a highly promising alternative to LIBs for stationary energy storage.

Mast. Ujjwal Falane
Student, SH

RSM in News:



Daily Lokmat newspaper 05.04.2021

Page No. 4

सकाळ

शाहू महाराज पॉलिटेक्निकच्या शर्वरीने पटकावले सुवर्णपदक

सकाळ वृत्तसेवा



नाशिक, ता. १६ : मराठा विद्याप्रसारक समाज संस्थेच्या राजर्षी शाहू महाराज पॉलिटेक्निकमधील शर्वरी घोरपडे हिने यश मिळविले आहे. यांत्रिकी विभागातील तिसऱ्या वर्षात शिकणाऱ्या शर्वरीने एनपीटीईएल ऑनलाइन सर्टिफिकेशन कोर्समध्ये 'ग्रीडकट डिझाइन ऑन्ड डेव्हलपमेंट' विषयाच्या परीक्षेत सुवर्णपदक पटकावले.

तंत्रनिकेतनमध्ये 'स्वयम-एनपीटीईएल लोकल सेंटर' कार्यान्वित आहे. या अंतर्गत विविध प्रशिक्षण दिले जातात. १२६ प्राध्यापक व विद्यार्थी यांनी सहभाग प्रशिक्षणांत सहभाग घेतला. त्यापैकी सुमारे ६८

तिद्यांची कॅम्पसद्वारे निवड

राजर्षी शाहू महाराज पॉलिटेक्निक येथे थायसन ग्रुप इलेक्ट्रिकल स्टील प्रायव्हेट लिमिटेड, गोदे यांनी कॅम्पस ड्राइव्ह घेतला. या बहुराष्ट्रीय कंपनीमध्ये तंत्रनिकेतनमधील तिद्या विद्यार्थ्यांना नोकरीची संधी उपलब्ध झाली आहे. मॅकेनिकल विभागातील तृतीया वर्षात शिक्षण घेत असलेल्या विद्यार्थ्यांच्या कॅम्पस मुलाखती घेतल्या. सूचित चोरडिया, नलीन पवार व धीरज भामरे या तिद्यांची कंपनीतर्फे निवड झाली. कॅम्पस ड्राइव्हसाठी प्राचार्य डॉ. डी. बी. उफाडे, यांत्रिकी विभागप्रमुख प्रा. बी. एस. देशमुख, टीपीओ अधिकारी प्रा. योगेश कोडिलकर आदींनी प्रयत्न केले.

प्राध्यापक व विद्यार्थ्यांनी वेगवेगळे कोर्स यशस्वीरीत्या पूर्ण केले.

शर्वरीचा संबंधित विषयाचा कोर्स सप्टेंबर-ऑक्टोबर २०२० कालावधीत झाला. गृहपाठ व अंतिम परीक्षेच्या कामगिरीच्या आधारावर मूल्यमापन झाले. अंतिम परीक्षा डिसेंबर २०२० मध्ये झाली. या परीक्षेसाठी १२६ प्राध्यापक

व विद्यार्थ्यांनी सहभाग नोंदवला होता. शर्वरीला एनपीटीईएलचे समन्वयक प्रा. पी. आर. चौधरी, सहसमन्वयक एम. एस. गावधनी, आयटीआरचे समन्वयक प्रा. वाय. आर. कोडिलकर व यांत्रिकी विभागाचे विभागप्रमुख प्रा. बी. एस. देशमुख यांचे मार्गदर्शन लाभले.

Nashik, Nashik-Today
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Daily Sakal newspaper 17.04.2021 page no 4

Lokmat Times

Campus interview at RSMP

Three students from final year placed at TKES India

LOKMAT NEWS NETWORK NASHIK, APR 16

A campus placement drive in association with ThyssenKrupp Electrical Steel India Private Limited (TKES India) was successfully organised at the Rajarshi Shahu Maharaj Polytechnic. HR officials from the company were present for the interviews. Steel making is considered to be one of the oldest and most elemental businesses. ThyssenKrupp Electrical Steel India Private Limited (TKES India) is one of the Cold Rolled Electrical Steel Manufacturer in India. Rajarshi Shahu Maharaj Polytechnic has always motivated students to do their best in life. Providing opportunities to students



in various fields, the college organised these campus interviews. The campus interview was organised for the students studying in the third year of the mechanical department. Suchita Chordiya, Nalin Pawar and Dheeraj Bhamre were the three selected students. MVP general secretary Nilima Pawar, principal Dr D Uphade and other teachers guided the students for the interview session and also congratulated the selected students.

Daily Lokmat time newspaper 17.04.2021

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शर्वरी घोरपडेचे यश

नाशिक : मविप्र संस्थेच्या राजर्षि शाहू महाराज पॉलिटेक्निक महाविद्यालयात 'स्वयं - एनपीटीईएल लोकल चेंबर' अंतर्गत विविध कोर्सेस पूर्ण केले जातात. त्यात १२६ प्राध्यापक व विद्यार्थ्यांनी सहभाग घेतला. यांत्रिकी विभागातील तिसऱ्या वर्षात शिकणाऱ्या शर्वरी घोरपडे हिने सुवर्णपदक पटकावले. सप्टेंबर-ऑक्टोबर २०२० या कालावधीत ही परीक्षा घेण्यात आली.

विद्यार्थ्यांना रोजगारसंधी

नाशिक : मविप्रच्या राजर्षि शाहू महाराज पॉलिटेक्निकमध्ये बहुराष्ट्रीय कंपनीसाठी झालेल्या कॅम्पस ड्राइव्हमध्ये मेकॅनिकल विभागात तृतीय वर्षाचे शिक्षण घेत असलेल्या सुचिता चोरडिया, नलीन पवार व धीरज भामरे या तीन विद्यार्थ्यांची कंपनीने निवड केली.

Daily Maharashtra Times newspaper

18.04.2021

4/17/2021

Divya Marathi e-Paper

divyamarathi.com

तंत्रनिकेतनच्या विद्यार्थ्यांना कॅम्पस ड्राइव्हद्वारे प्लेसमेंटची संधी

नाशिक । मविप्र समाज संचालित राजर्षी शाहू महाराज पॉलिटेक्निक महाविद्यालयात थिसिंकूप इलेक्ट्रिकल स्टील प्रायव्हेट लिमिटेड इंडिया या बहुराष्ट्रीय कंपनीद्वारे कॅम्पस ड्राइव्हचे आयोजन करण्यात आले. मेकॅनिकल विभागातील तृतीय वर्षात शिक्षण घेत असलेल्या विद्यार्थ्यांच्या कॅम्पस मुलाखती घेण्यात आल्या. सूचित चोरडिया, नलीन पवार व धीरज भामरे या तीन विद्यार्थ्यांची कंपनीतर्फे निवड करण्यात आली. संस्थेच्या सरचिटणीस नीलिमा पवार, अध्यक्ष डॉ. तुषार शेवाळे, प्राचार्य डॉ. डी. बी. उफाडे, यांत्रिकी विभागाचे विभाग प्रमुख प्रा. बी. एस. देशमुख, टीपीओ अधिकारी प्रा. योगेश कोढीलकर यांचे मार्गदर्शन लाभले.

Daily Divya Marathi newspaper 17.04.2021

Student brings laurels to college

Secures a gold medal at NPTEL exams

LOKMAT NEWS NETWORK NASHIK, APR 18

Rajarshi Shahu Maharaj Polytechnic College, had started a Local Chapter, NPTEL in their college premises. This programme was started for the development and to make teachers and the students of the college technologically advanced.



NPTEL (National Programme on Technology Enhanced Learning) is a joint initiative of the IITs and IISc. Through this initiative, there are various online and certification courses offered in various subjects. To take this initiative forward and to encourage more students across colleges to participate in this initiative, NPTEL chapter in colleges (termed as NPTEL - Local Chapters) was setup by NPTEL which will be under the mentorship of a faculty member of the college, who would be our Single Point of Contact (SPOC). 126 professors and

students from the college enrolled their names in various courses, out of which about 68 professors and students successfully completed various courses. Sharwari Ghorpade, a student of third year Mechanical department, appeared for product design and development courses. She won a gold medal in the examination. A total of 926 professors and students had registered for this examination. The course coordinator, principal and management team congratulated her for her achievement.

Daily Lokmat time newspaper 19.04.2021

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मविप्र तंत्रनिकेतनचे बोर्ड परीक्षेत यश

नाशिक : मविप्र संस्था संचालित राजर्षी शाहू महाराज तंत्रनिकेतनमधील सर्व विभागांतील प्रथम आलेल्या विद्यार्थ्यांचा तंत्रनिकेतनचे प्राचार्य डॉ. डी. बी. उफाडे यांच्या हस्ते ऑनलाइन पद्धतीने सत्कार करण्यात आला.

मानसी पाटील हिने ९९.३३ टक्के गुण मिळवून महाविद्यालयात पहिली आली. तर उमेर अहमद खान हा ९८.७४ टक्के गुण मिळवून याने दुसरा क्रमांक मिळविला. तर यशोधन पगार याने ९८.६७ टक्के गुण मिळवून महाविद्यालयात तिसरा क्रमांक पटकावला. याप्रसंगी तंत्रनिकेतनचे या शैक्षणिक वर्षामध्ये संक्रमणामुळे पूर्णपणे अभ्यासक्रम हा ऑनलाइन पद्धतीने घेण्यात आला.

कार्यक्रमाप्रसंगी तंत्रनिकेतनचे विभागप्रमुख प्रा. टी. के. ठाणगे, प्रा. बी. एस. देशमुख, प्रा. पी. डी. बोरस्ते, प्रा. एस. एन. शेळके, प्रा. व्ही. के. खेडकर, प्रा. पी. आर. गांगुर्डे व एस. टी. निकम उपस्थित होते. कार्यक्रमाचे नियोजन प्राचार्य डॉ. डी. बी. उफाडे यांच्या मार्गदर्शनाखाली प्रा. टी. के. ठाणगे यांनी केले. प्रा. एन. ए. गाडे यांनी प्रास्ताविक केले.

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मविप्र तंत्रनिकेतनच्या तिघांची निवड

नाशिक : मविप्र संस्था संचालित राजर्षी शाहू महाराज पॉलिटेक्निकच्या वतीने थिसिकूप इलेक्ट्रिकल स्टील प्रायव्हेट लिमिटेड इंडिया (गोंदे) या बहुराष्ट्रीय कंपनीमध्ये कॅम्पस ड्राइव्हचे आयोजन करण्यात आले होते. त्यामध्ये मेकॅनिकल विभागातील तृतीय वर्षात शिक्षण घेत असलेल्या विद्यार्थ्यांच्या कॅम्पस मुलाखती घेण्यात आल्या. सूचित चोरडिया, नलिन पवार, धीरज भामरे या तीन विद्यार्थ्यांची कंपनीतर्फे निवड करण्यात आली. या विद्यार्थ्यांनी महाविद्यालयाच्या विविध उपक्रमांमध्ये भाग नोंदवून चांगली कामगिरी केलेली होती. निवड झालेल्या विद्यार्थ्यांचे संस्थेच्या सरचिटणीस नीलिमा पवार, अध्यक्ष डॉ. तुषार शेवाळे, सभापती माणिक बोरस्ते, चिटणीस डॉ. सुनील डिकले, उपसभापती राधोनाना अहिरे, शिक्षणाधिकारी डॉ. एन. एस. पाटील यांनी कौतुक केले. कॅम्पस ड्राइव्हसाठी प्राचार्य डॉ. डी. बी. उफाडे, यांत्रिकी विभागाचे विभागप्रमुख प्रा. बी. एस. देशमुख, टीपीओ अधिकारी प्रा. योगेश कोढीलकर आदींनी परिश्रम घेतले.

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**Happy International Women's Day,
Rangpanchami, World Health Day,
World Earth Day, World
Intellectual Property Day and
World Book Day to All Readers
on the behalf of
Principal, Faculty, Supporting Staff
and Students.**

**Dr. D. B. Uphade
Principal**

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