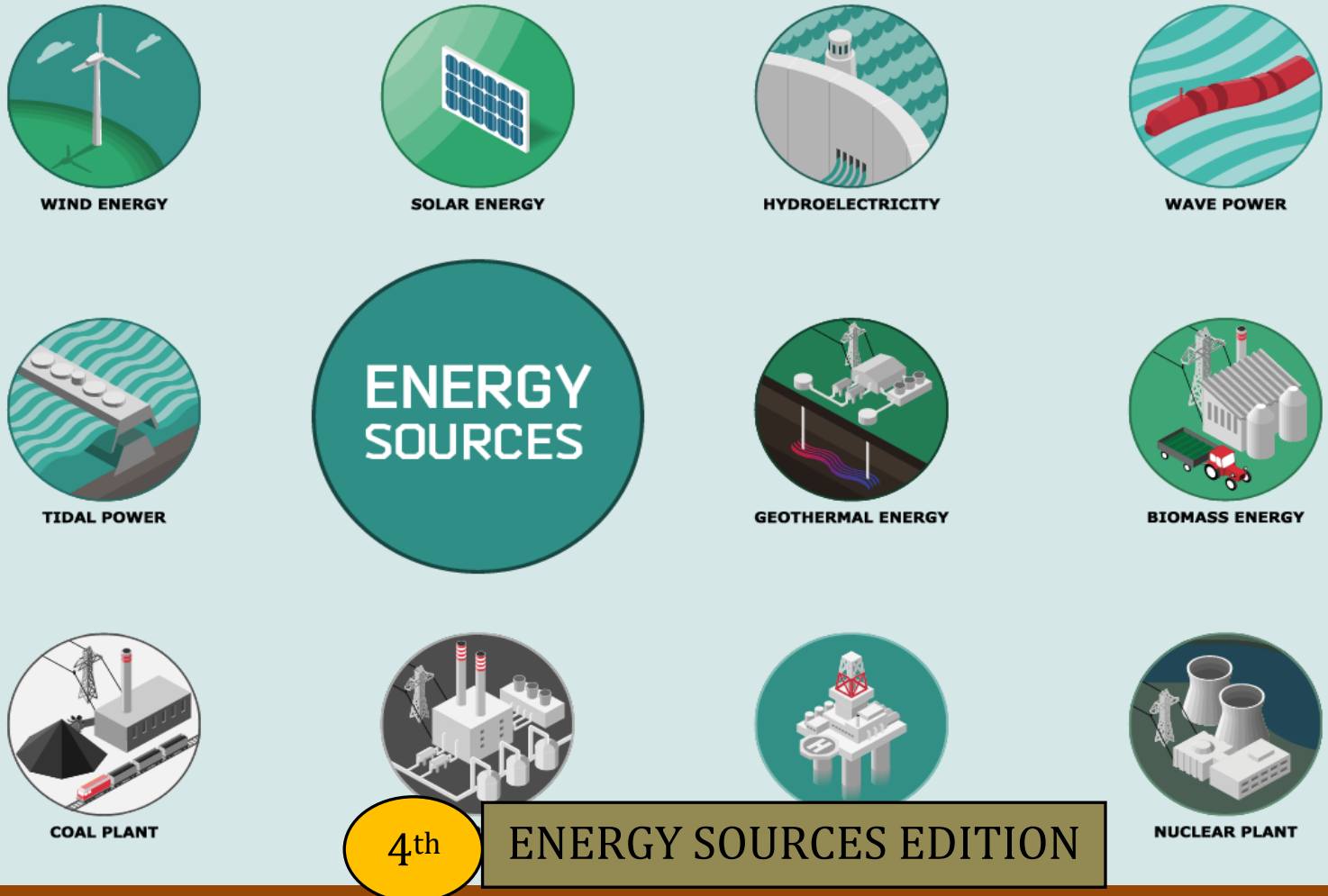
MET.TEL NEWSLETTER

METALLURGY DEPARTMENT

DR. S. & S. S. GHANDHY COLLEGE OF ENGINEERING & TECHNOLOGY, SURAT



4th ENERGY SOURCES EDITION

JULY 2021

Message From the Desk of Head of The Department

Dear Colleagues and Students,

As we embark on the fourth edition of our Metallurgy Department Newsletter, I am delighted to address you all with a message of resilience, progress, and unity in the face of unprecedented challenges. This year, our focus revolves around the pivotal theme of energy sources, a topic that holds immense significance in shaping the future of our field.

Undoubtedly, the past year has been arduous for us all, with the COVID-19 pandemic disrupting our routines and presenting numerous hurdles, especially in transitioning to online teaching. However, with unwavering determination and the invaluable support of platforms like Microsoft Teams, we successfully navigated through these challenges, ensuring the continuity of education through online lectures and seminars.

I am immensely proud of our faculty members who exhibited remarkable adaptability and dedication by participating in online training sessions to augment their expertise and ensure the delivery of quality education to our students. Moreover, our department took proactive steps by organizing a compelling webinar series on "Recent Trends in Metallurgy" spanning five days, which garnered significant participation and appreciation.

In addition to academic pursuits, we remained committed to our social and environmental responsibilities. We commemorated World Environment Day by organizing various activities, including poster competition on environment, engaging our students in fostering awareness and appreciation for our natural surroundings.

As we reflect on our collective achievements and challenges overcome, let us remain steadfast in our commitment to excellence, innovation, and sustainability in the field of metallurgy. Let us continue to harness the power of collaboration and knowledge exchange to propel our department to new heights of success and significance.

I extend my heartfelt gratitude to each and every member of our department for their unwavering support, resilience, and dedication. Together, let us embrace the opportunities that lie ahead and continue to inspire and empower one another towards a brighter future.

Warm regards,
Mrs. Bindu H. Goyal
Head of the Metallurgy Department

STAFF MEMBERS

Mrs. B. H. Goyal (HOD)
ME-Industrial Metallurgy

Mr. S. F. Parmar (LME)
ME- Material Technology

Ms. S. M. Patel (LME)
ME- Material Technology

Mr. M. J. Joshi (LME)
ME-Material Technology
PhD (Pursuing)

Mr. T. K. Kyada (LME)
ME-Industrial Metallurgy

Mr. R. D. Dave (LME)
ME-Welding Technology

Mr. N. G. Patel (LME)
ME-Industrial Metallurgy

Mr. A. M. Gautam (LME)
ME-Material Technology

Ms. J. B. Lad (Lab. Asst.)
Diploma Mechanical

INSIDE THIS ISSUE

VISION OF THE INSTITUTE

"To be a unique center of excellence in technical education & innovation for sustainable growth of industry and society."

MISSION OF THE INSTITUTE

- To impart globally viable technical core competencies and skills.
- To respond effectively to the ever-changing needs of industry and community at large.
- To promote conducive campus environment and resources for qualitative education and innovation.
- To inculcate moral, ethical and professional values amongst all internal stakeholders.

VISION OF THE DEPARTMENT

"To lead in diploma metallurgical engineering education with focus on innovation and sustainable development of industry and society".

MISSION OF THE DEPARTMENT

- To impart and empower students with relevant knowledge, competence and creativity with special emphasis on metallurgical engineering.
- To promote conducive environment for all round development of students.
- To promote linkages with external agencies to meet changing needs of industry and society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- The metallurgy diploma graduate will be able to make successful career in metallurgical industry to meet ever changing needs of industry.
- To enable diploma graduate for lifelong learning and higher studies.
- Identifying and engage in innovation, become an entrepreneur for sustainable development of society.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- Apply the fundamental knowledge of metallurgy for the benefit of society, industries and research organizations.
- Diploma holders will be able to select suitable techniques for testing of metals and alloys.

FACULTY DEVELOPMENT PROGRAM

SR. NO.	NO. OF FACULTY PARTICIPATED	START DATE	END DATE	TRAINING NAME	ORGANIZER
1	08	28/07/2020	18/08/2020	UDAYAM (Unlimited Digital Advanced Yearlong Academic Method of Learning) E-Content Development	KCG/EDUCATION DEPTT/ GOG
2	08	06/07/2020	14/09/2020	COMPREHENSIVE ONLINE INTELLECTUAL PROPERTY RIGHTS (IPR)	KCG/EDUCATION DEPTT/ GOG

SR. NO.	FACULTY NAME	START DATE	END DATE	TRAINING NAME	ORGANIZER
1.	Mr. S. F. Parmar	14/09/2020	04/12/2020	Powder Metallurgy	NITTTR Madras
2.	Mr. S. F. Parmar	18/01/2021	23/03/2021	Principle of Casting Technology	Mooc, NPTEL
3.	Ms. S. M. Patel	10/09/2020	11/11/2020	Orientation towards Technical Education & Curriculum Aspects Module 1	National Initiative For Technical Teachers Training (NITTT-2021)
4.	Mr. M. J. Joshi	10/09/2020	11/11/2020		
5.	Mr. A. M. Gautam	08/09/2020	24/10/2020	Nurturing Innovation & Startup Ecosystem	Gujarat Start Up & Innovation Hub (I – Hub) , KCG Gujarat

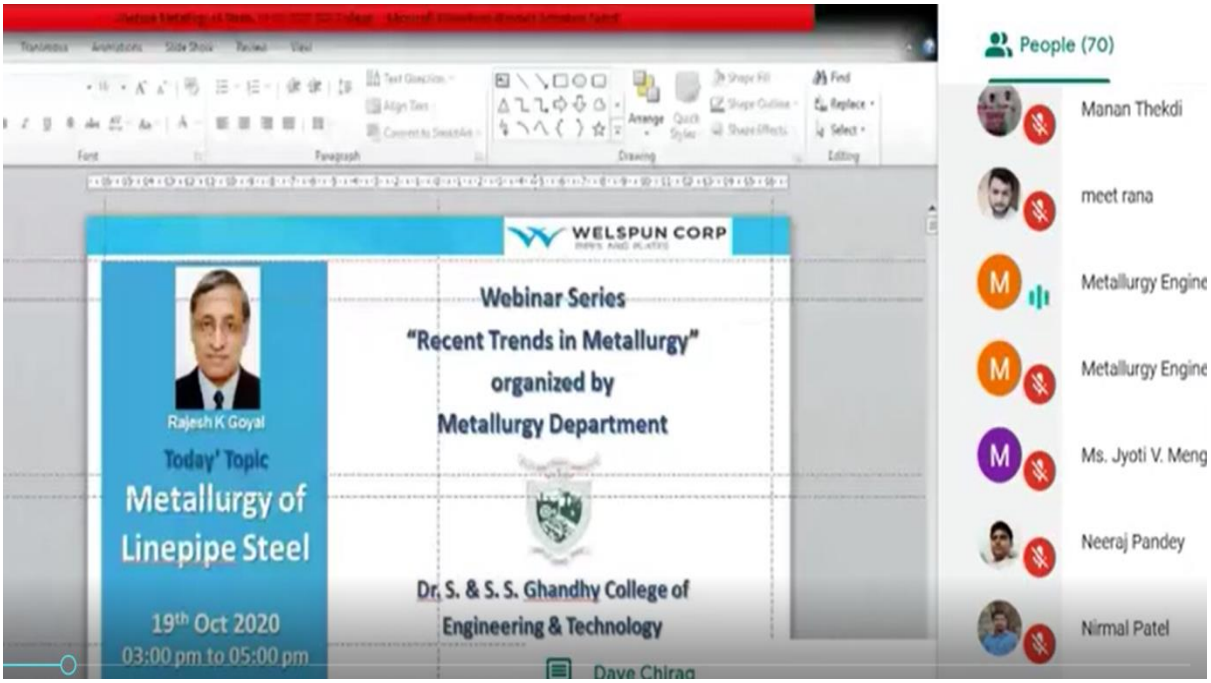
GLIMPSES OF WEBINAR SERIES
"RECENT TRENDS IN METALLURGY"

Five days webinar series on "Recent Trends in Metallurgy" was organized for students, faculties, and industry personnel by Metallurgy Department from 19/10/2020 to 23/10/2020. 162 candidates participated in this webinar series.

This webinar series was mainly focused on recent trends in steel industries, ceramics and composites materials, mechanical testing, and non-ferrous industries. Eminent speakers from esteemed organizations shared their knowledge with participants in this series.

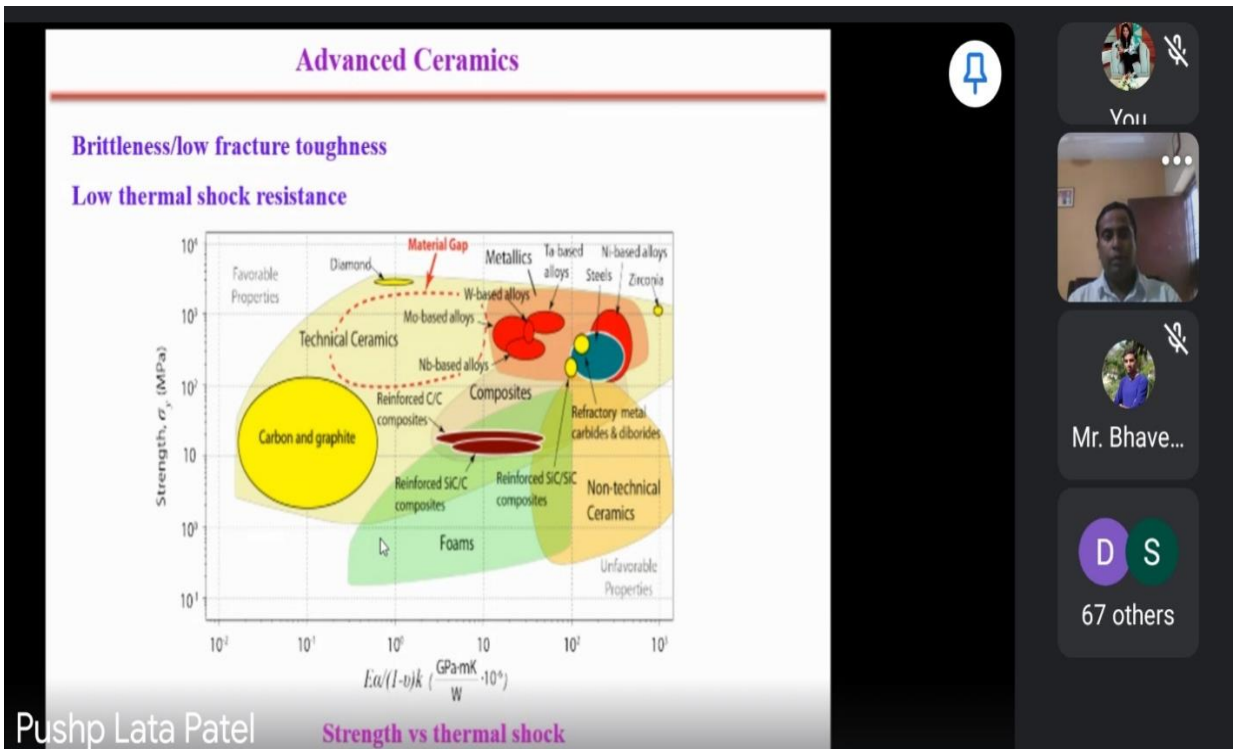
DAY 1

Day 1 session “Metallurgy of Line Pipe Steel” was conducted by Mr. Rajesh Goyal, Assistant Vice President, Welspun Corp., Anjar.



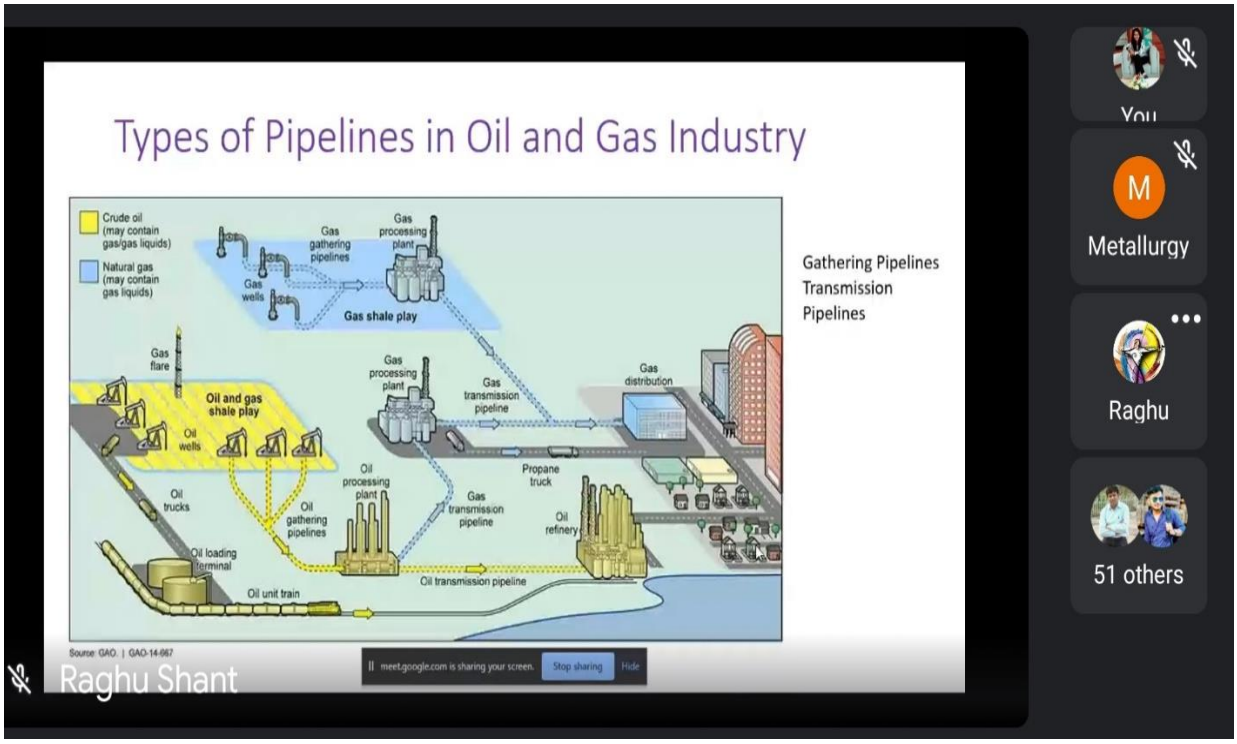
DAY 2

Day 2 session “Advanced Ceramics & Composites” was conducted by Dr. Manish Patel, Scientist E, DMRL, Hyderabad.



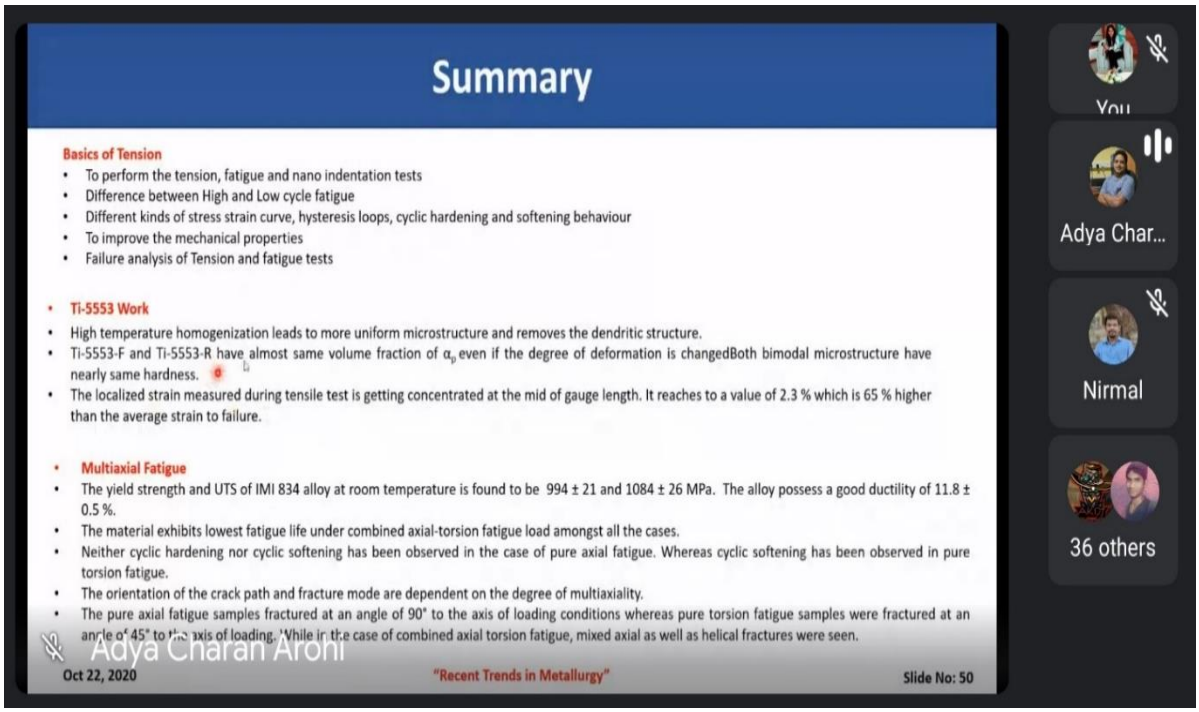
DAY 3

Day 3 session “Corrosion in Linepipe Steel” was conducted by Mr. Raghu Shant, Assistant General Manager, JSW Steel, Karnataka.



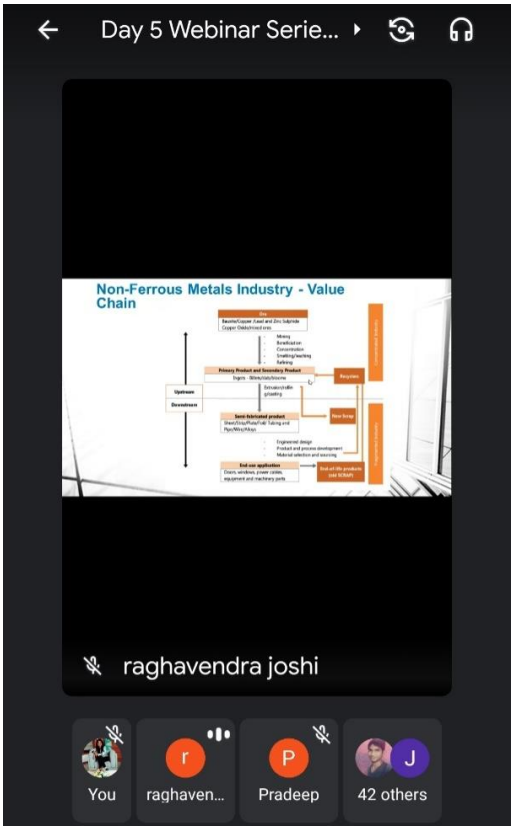
DAY 4

Day 4 session “Mechanical Testing of Metals & Alloys” was conducted by Mr. Adya Charan Arohi, Research Scholar, IIT Kharagpur, West Bengal.



DAY 5

Day 5 session “CHALLENGES & OPPORTUNIITES IN NON-FERROUS FOUNDRIES” was conducted by Mr. Raghavendra Joshi, Partner, Aadhya Engineering Vadodara.



GLIMPSES OF "INDUSTRIAL FOLLOW UP VISITS"

- As per GTU curriculum, students of 6th semester have to undergo industrial training of 14 weeks. As per the guideline's faculties went to respective companies for follow up and routine visit to keep check on their progress report. Metallurgy students went for industrial training at 10 different industries.

A site visit was arranged at Hazira Refractory, Surat on 10/03/2021.

A site visit was arranged at JMT, Sachin, Surat on 10/03/2021.

A site visit was arranged at Crescent Foundry Pvt Ltd, Jambusar, Baroda on 12/03/2021.

A site visit was arranged at Gujarat Switch Gear Manufacturing Com, Khambhat on 12/03/2021.

A site visit was arranged at Vertex Aluminum Extrusion, Kim, Surat on 15/03/2021.

A site visit was arranged at Kalpataru Power Transmission, Gandhinagar on 15/03/2021.

A site visit was arranged at JMT, Udhana, Surat on 16/03/2021.

EXTRA CURRICULAR ACTIVITIES

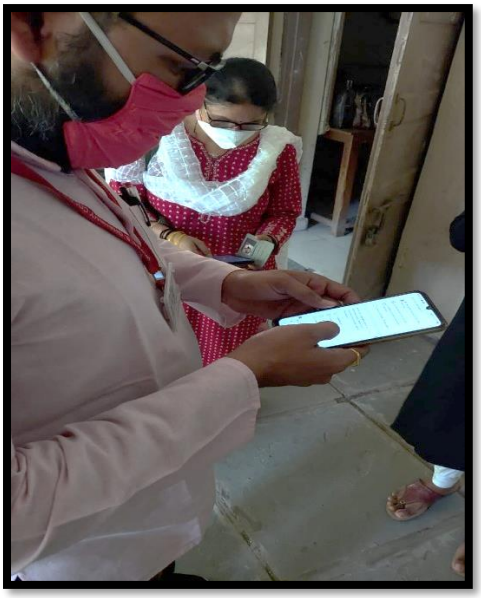
INTERNATIONAL YOGA DAY CELEBRATION

In view of the pandemic situation (COVID-19), this time the International Yoga Day was celebrated under the campaign of “Do yoga Beat Corona”. As part of state-wide public awareness, faculty and staff members along with students were asked to post photographs/video of Yoga posture on social media with a hash tag of #DoYogaBeatCorona, #GujaratStateYogaBoard, #GTU.

Dr. S.& S. S. Ghandhy college of Engg. & Tech. family members were asked to join for yoga practice through Facebook page of Gujarat yoga board on 21/06/2020 at 7:00 am from their residence.

COVID 19 AWARENESS QUIZ

Covid-19 awareness quiz was organized by National Service Scheme (NSS) local unit of Dr. S. & S. S. Ghandhy College of Engg. & Tech., Surat to spread the awareness among faculties and students on 13th October, 2020. All the faculty members of the department and students participated in the quiz.



COVID PLEDGE CEREMONY

प्रतिज्ञा

मैं ---------- संकल्प लेता/लेती हूँ कि मैं कोविड-19 के बारे में सतर्क रहूँगा/रहूँगी और मुझे और मेरे साथियों को इससे जुड़े खतरे को हमेशा ध्यान में रखूँगा/रखूँगी।

मैं इस घातक विषाणु के प्रसार को रोकने संबंधी सभी आवश्यक सावधानियाँ बरतने का वचन देता/देती हूँ। मैं कोविड से जुड़े आचार-व्यवहार का अनुसरण करने और दूसरों को भी इसके लिए प्रोत्साहित करने का भी वचन देता/देती हूँ।

मैं सदैव मॉस्क/फेस कवर पहनूँगा/पहनूँगी, विशेषकर सार्वजनिक स्थलों पर।

मैं दूसरों से कम-से-कम 2 गज की दूरी बनाकर रखूँगा/रखूँगी।

मैं अपने हाथों को नियमित रूप से और अच्छी तरह साबुन और पानी से धोऊंगा/धोऊंगी।

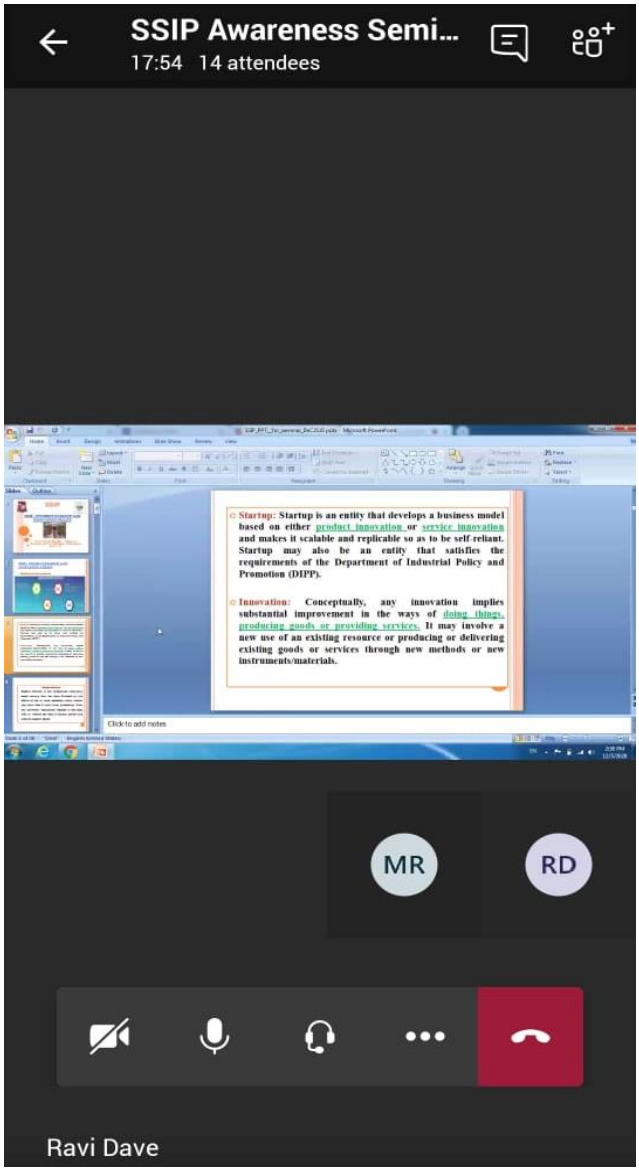
हम एक साथ मिलकर कोविड-19 के खिलाफ इस लड़ाई को जीतेंगे।

*****

Covid pledge was taken by all the department faculty members on 5th November, 2020.

WEBINAR ON SSIP AWARENESS

The Metallurgy Department organized a webinar on SSIP awareness for first-year students, which took place on May 12, 2020. This webinar aimed to familiarize attendees with the SSIP program and its significance in the realm of innovation and entrepreneurship. Through this initiative, students had the opportunity to gain insights into the various aspects of SSIP and how it supports innovative ideas and concepts. The webinar served as a platform for students to understand the role of SSIP in fostering a culture of innovation within the academic and entrepreneurial spheres. Overall, the event provided valuable knowledge and awareness about SSIP to the participants, empowering them with essential information for their academic and professional endeavours. Webinar was attended by a total of thirteen students.



WORLD ENVIRONMENT DAY - 2021

World Environment Day 2021 celebration was organized by EBSB Cell, NCC, NSS Cell and BVM during 05-06-2021 to 10-06-2021. Metallurgy students and staff members celebrated this day planting the trees in campus.

POSTER COMPETITION

To celebrate world environment day 2021, Bhutpurv Vidhyarthi Mandal and Ek Bharat Shreshtha Bharat team of Dr. S. & S. S. Ghandhy College of Engineering and Technology, Surat and Water Management Forum, Ahmedabad jointly organized "Poster Competition" on 05/06/2021 through online mode.

09 metallurgy students were participated in this competition. Maitrik Jadav, student of 5th semester metallurgy got 1st rank in this competition.

The number of co-curricular and extracurricular activities carried out at the institute and departmental level. The details of these activities are:

Sr. No.	Activity	Conducted By	Date
1.	Webinar on Water Management	NSS	21/03/2021
2.	Swachhata Pledge	EBSB	21/03/2021
3.	Quiz on Ek Bharat Shreshtha Bharat	EBSB	30/03/2021
4.	Webinar Tourism & Culture of Chhattisgarh	EBSB	15/04/2021
5.	Poster Competition on Eco System Restoration	BVM, WMF. EBSB	05/06/2021
6.	72th Republic Day Celebration	NCC	26/01/2021
7.	Poster Making of Covid 19 Awareness	NCC	14/04/2021
8.	Vaccination of Cadets and Volunteer at Vaccination Center	NCC	11/05/2021 to 15/05/2021
9.	Ek Mai Sau Keliye	NCC	20/05/2021 to 30/06/2021

PROJECT OFFERED IN 5TH SEMESTER

GROUP	PROJECT TITLE	GUIDE
1	Heat Treatment Furnaces	Mrs. B. H. Goyal
2	Testing of molding sand with different testing methods	Mr. S. F. Parmar
3	Comparative study of various Mg-Alloys for different applications	Ms. S. M. Patel
4	Nano material reaction	Mr. M. J. Joshi
5	Review on impact testing method for ferrous material.	Mr. T. K. Kyada
6	Comparative study of SMAW and GTAW process	Mr. R. D. Dave
7	Corrosion of different metals	Mr. N. G. Patel
8	Advanced ceramic material for high temperature applications.	Mr. A. M. Gautam

INDUSTRIAL TRAINING IN 5TH SEMESTER

Sr. No.	Industry Name & Address
1.	Hazira Refractory Ichhapore G.I.D.C Surat
2.	Jay Metal Cast (JMT) Blok No A/15 Plot No 6/7/8 Udhna, Surat
3.	JMT India Inc. 59/60 Plot Sachin, Surat
4.	Everlite Batteries, Surat
5.	Surat Aluminium Co. Surat
6.	Vertex Aluminium Extrusion Co. 68-A Ekta Ind. Pipodra G.I.D.C Kim Surat
7.	L & T Heavy Engineering, Surat
8.	Theis Precision Steel Indian Pvt. Navsari
9.	Cresent Foundry, Jambusar
10.	Gujarat Switch Gear, Khambhat
11.	Kalptaru Power Transmission, Ghandhinagar
12.	Perfect Metal CTM Char Rasta, Ahemedabad

STUDENT SPOTLIGHT

Vekatesh Sindham, Student of Metallurgy Department, Dr. S. & S. S. Ghandhy College of Engineering & Technology, Surat secured 1st position in Gujarat Technological University in 2020.

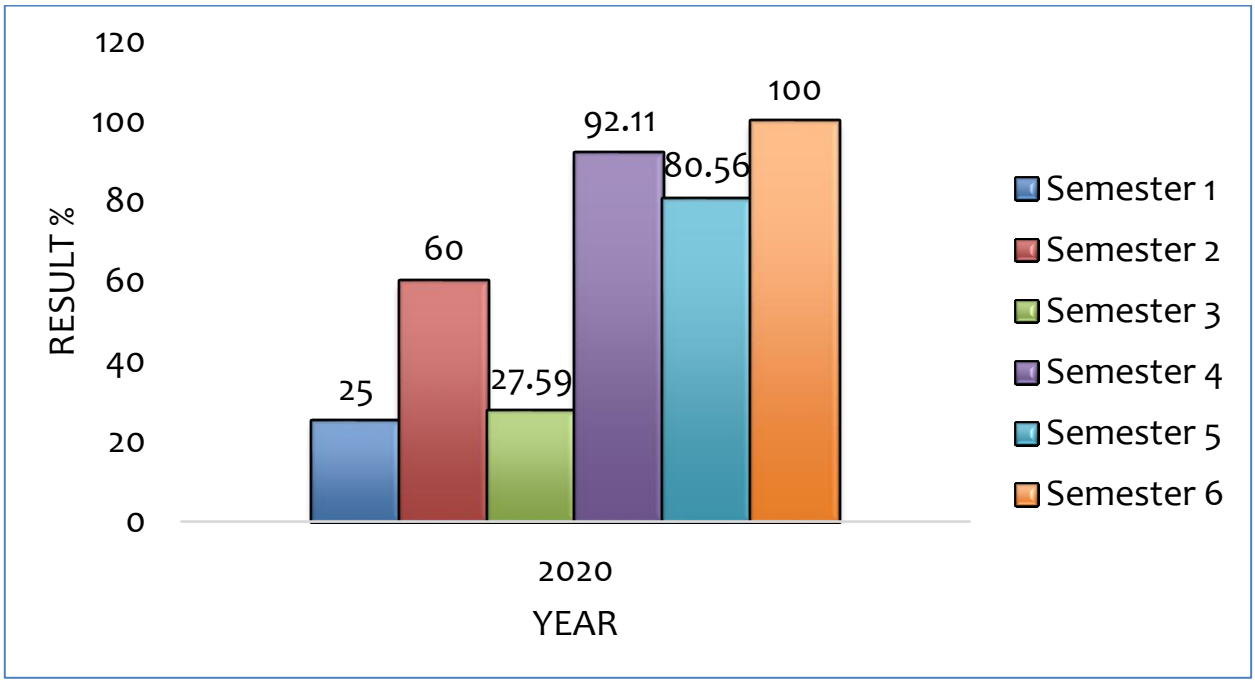
STUDENT PARTICIPATION

SR. NO.	NAME OF STUDENT	DATE	TYPE OF ACTIVITY	ORGANIZER
1	Mr. Kush K. Rajput	09/08/2020	Training on "Industrial NDT & Welding Practices & ASME Standards"	Metallurgy Dept., GEC Gandhinagar
2	Mr. Meet C. Rana	09/08/2020	Training on "Industrial NDT & Welding Practices & ASME Standards"	Metallurgy Dept., GEC Gandhinagar
3	Mr. Trushar S. Rana	09/08/2020	Training on "Industrial NDT & Welding Practices & ASME Standards"	Metallurgy Dept., GEC Gandhinagar
4	Mr. Dhaval J. Kangriwala	09/08/2020	Training on "Industrial NDT & Welding Practices & ASME Standards"	Metallurgy Dept., GEC Gandhinagar
5	Mr. Mann G. Parmar	15/09/2020	Quiz on Material Science	Metallurgy Dept., GEC Gandhinagar

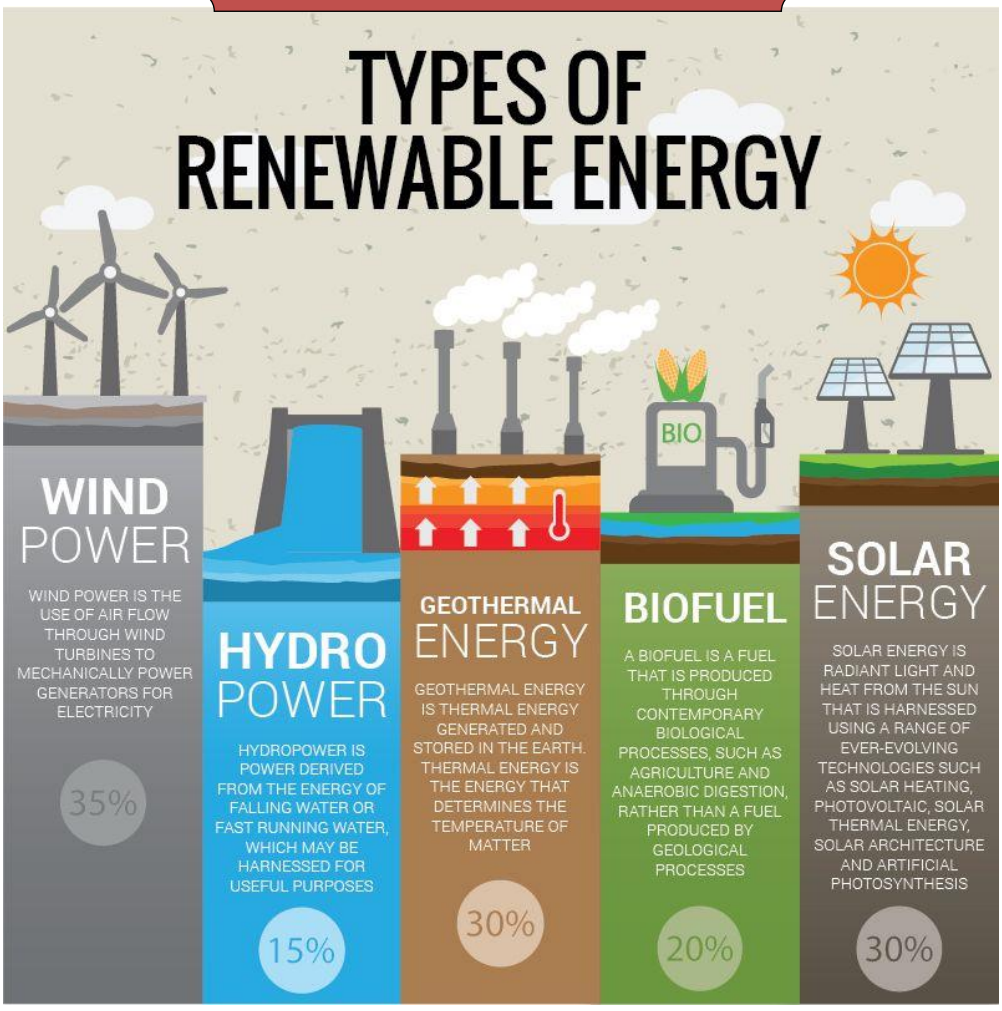
STUDENT PARTICIPATION IN NCC

Sr. No.	Name of Students
1	Lawaniya Adep
2	Jenish

RESULT OF 2020 EXAMINATION



TECHNICAL GALLERY



By Payal Patel

Title: A Comprehensive Review of Energy Sources: Advancements, Challenges, and Opportunities

Trushar Rana, Yuvraj Kharwar, Dhaval Kangriwala

Introduction:

In light of increasing global energy demands and environmental concerns, the exploration of sustainable energy sources has gained paramount importance. This comprehensive review provides an in-depth analysis of various energy sources, examining their potential, challenges, and advancements in the quest for a sustainable energy future.

Renewable Energy:

Renewable energy sources, including solar, wind, hydro, and biomass, offer promising alternatives to fossil fuels. Solar energy, with ongoing advancements in photovoltaic technologies and concentrated solar power systems, demonstrates significant potential for widespread adoption. Similarly, wind energy continues to evolve, driven by innovations in turbine design and grid integration, albeit facing challenges related to intermittency and site availability. Hydroelectric power, while a longstanding renewable energy source, confronts environmental concerns and ecosystem disruptions, prompting exploration of low-impact technologies. Biomass energy presents opportunities for biofuel production and waste-to-energy conversion, yet considerations for resource availability and emissions remain critical.

Nuclear Energy:

Nuclear energy, characterized by its high energy density and low greenhouse gas emissions, remains a contentious yet influential player in the energy landscape. Despite its potential, nuclear power faces challenges regarding safety, waste management, and proliferation, necessitating ongoing research and technological advancements to address concerns and enhance public acceptance.

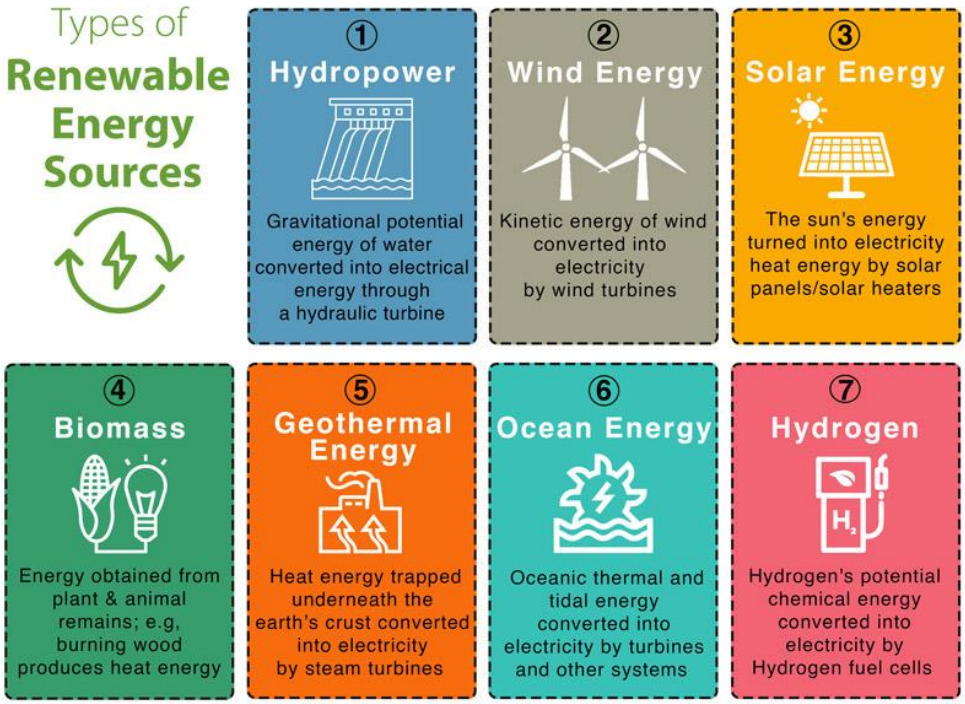
Emerging Technologies:

Beyond traditional renewables and nuclear power, emerging technologies such as tidal and geothermal energy offer novel approaches to sustainable energy generation. Tidal energy harnesses the kinetic energy of ocean currents, while geothermal energy taps into the Earth's heat for electricity production and heating applications, demonstrating significant potential for further development and deployment.

Conclusion:

In conclusion, this comprehensive review underscores the importance of diversifying energy sources and fostering innovation to achieve a sustainable energy future. By leveraging advancements in renewable energy technologies, alongside prudent utilization of nuclear and emerging sources, societies can mitigate climate change, enhance energy security, and foster socio-economic development on a global scale. However, addressing challenges and realizing the full potential of these energy sources will require concerted efforts from policymakers, researchers, and industry stakeholders to navigate the complexities of the energy transition successfully.

By Shloka Patel, Manav Patel



METALLURGY DEPARTMENT

MET.TEL

EDITORIAL TEAM

PATRON

Mrs. Bindu H. Goyal
(H.O.D. Metallurgy)

EDITOR IN CHIEF

Ms. Sonam M. Patel
(Lecturer in Metallurgy)

MEMBER EDITOR

Mr. Tushal K. Kyada
(Lecturer in Metallurgy)

STUDENT MEMBERS

Mr. Trushar Rana
Ms. Neha Patel

CONTACT US

Majura Gate,
Ring Road, Surat

Contact No.: (0261) 2655799
Mail: enewsletterssg@gmail.com
Website: www.ssgc.cteguj.in