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GOVERNMENT ENGINEERING COLLEGE
GANDHINAGAR
॥ कर्ममयं ज्ञानं एवं ज्ञानमयं कर्म ॥

STUDENTS' SOCIETY OF METALLURGY ENGINEERING GANDHINAGAR
SSMEG
ESTD-2012
Regd.No. GUJ/2051/Gandhinagar

NEWSLETTER

METALLURGY DEPARTMENT

January 2018 to June 2018

METALLURGY

GOVERNMENT ENGINEERING COLLEGE
SEC-28. GANDHINAGAR

ABOUT THE INSTITUTE

Established in 2004, Government Engineering College, Gandhinagar (GEC-Gn) takes pride in its highly motivated students. Our students are life-long assets that help this institute to continuously evolve and work towards its Vision. Approved by AICTE. The College is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar. GEC Gn is affiliated to Gujarat Technological University. GEC-Gn offers its students a wide range of courses like Biomedical, Computer, Electronics & Communication, Instrumentation & Control, Information Technology and Metallurgy.

VISION OF THE INSTITUTE

To be a premier engineering institution, imparting quality education for innovative solutions relevant to society and environment.

MISION OF THE INSTITUTE

- To develop human potential to its fullest extent so that intellectual and innovative engineers can emerge in a wide range of professions.
- To advance knowledge and educate students in engineering and other areas of scholarship that will best serve the nation and the world in future.
- To produce quality engineers, entrepreneurs and leaders to meet the present and future needs of society as well as environment.

METALLURGY

ABOUT THE DEPARTMENT

The Metallurgy Department since its inception in 2008 is a backbone of GEC-Gandhinagar's events, research activities and initiatives. It is a unique initiative of Government of Gujarat in the present science and technology education and research scenario of India. At present, the department offers a four year undergraduate course in engineering. Faculty members are good blend of industrial/ academic research experienced, studied from national and state reputed institutes. Department has developed COQ (Centre for Quality) NDT which established under "Vibrant Gujarat–2019"- Financial MOU in collaboration with Gulfnde along with various well equipped metallurgical laboratories.

Currently, the focus of department activities are multi-directional with an emphasis on both research and education. Our collaborations with FCIPT, CFER, INDUS University, PUPU, IIM–Baroda Chapter, IIF- Ahmedabad Chapter, ASM International - Gujarat Chapter, IE–Gujarat Section, etc. Students are encouraged and supported to actively participate in various curricular and non-curricular activities at different level.

HEAD OF DEPARTMENT'S MESSAGE

Metallurgy department of GECGN has recorded consistent improvement in its academic, research and placement performance. We are only institute in government of Gujarat offering this innovatively designed program whose curricula are constantly updated to meet the changing requirement of the industry and also to meet the needs of stakeholders. The department has well qualified, young and dedicated faculty. During study at the department, the students are encouraged to get hands-on experience through internship projects/ training with reputed organizations. We believe that our students have been well accepted in their job profiles and have consistently exceeded expectations of the corporate world

With this brief introduction, we wish a great success not only to this maiden issue of the newsletter but coming issue too. Hope Metallurgy Department Newsletter will be informative to all stake holders.

Dr. I. B. Dave

Professor & Head

Metallurgy Department

METALLURGY

VISION OF THE DEPARTMENT

Developing excellence in Metallurgy Engineering education through research, development innovation and team work for the benefit of society and environment.

MISION OF THE DEPARTMENT

- To prepare competent metallurgy engineers who can apply metallurgical fundamentals to control and manage different metallurgical and materials processing operations to produce quality metals products in industries.
- To deliver information about current trends in the field of metallurgy and materials to the students.
- To encourage students to work on innovative projects related to metallurgy engineering for managing defects free, economical, energy efficient products, processes or devices to best serve the nation to fulfil the socio-economic, techno-commercial and environmental needs.

LIST OF FACULTY MEMBERS WITH QUALIFICATION

Sr. No.	Name of Faculty	Qualification	Designation
1	Dr. I. B. Dave	Ph.D., MSU, Vadodara	Professor & Head
2	Prof. S. I. Patel	ME (Met. & Mat. Engg.)	Assistant Professor
3	Prof. D. G. Sharma	M. Tech (Metallurgy)	Assistant Professor
4	Prof. H. H. Jadav	ME (Metallurgy)	Assistant Professor
5	Dr. P. K. Nanavati	ME (Met. & Mat. Engg.)	Assistant Professor
6	Prof. D. V. Mahant	ME (Met. & Mat. Engg.)	Assistant Professor
7	Prof. B. R. Rana	ME (Met. & Mat. Engg.)	Assistant Professor
8	Prof. M. S. Dani	ME (Metallurgy)	Assistant Professor

ACHIVEMENTS OF THE FACULTIES

Dr. I. B. Dave Prof. & Head (Metallurgy), represented metallurgy department as Member of Panel Discussion on "Industry Institution Interaction" at 66th Indian Foundry Congress on 10/1/2018

Prof. P. K. Nanavati Presented paper on " An Experimental comparative review of ferrite measurement techniques used in Duplexx Stainless steel welds." in Indian welding Journal Vol 51, in April, 2018

Expert Talk by Prof. Devang Mahant at Uka Tarsadia University, Bardoli in Mechanical and Automobile Dept. On "Advanced Polymer Matrix Composite" on 29/1/2018

Presented papers in International Conference on IC-RAMSD at M S University of Baroda, Vadodara on " Processing parameters of EPS patterns and its refractory coatings on surface finish of lost foam casting of Aluminium " and " Mechanical property and microstructural comparison of wrought and cast 7075 Al alloy" by Prof. Devang Mahant on 2/2/2018

Presented paper in International Conference on IC-RAMSD at M S University of Baroda, Vadodara on "Development of ceramic based material by utilisation of ferrous slag" by Prof. Prof. B. R. Rana on 2/2/2018

Presented paper in International Conference on IC-RAMSD at M S University of Baroda, on " Friction Stir Processing of AZ 91 Mg Alloy by Al metal Powder" by Prof. M. S. Dani and Prof. I. B. Dave on 2/2/2018

TRAINING/ACTIVITY ATTENDED BY FACULTY

Sr. No.	Name of the Faculty	Title of Training/Activity	Duration	Venue
1	Dr. I. B. Dave	Attended International Exhibition of Indian Foundry Congress	10/1/2018	Exhibition Ground Gandhinagar
2	Prof. D. G. Sharma	Inaugural Ceremony of IIW-PDPU Student Chapter	19/1/2018	PDPU, Gandhinagar
4	Prof. H. H. Jadav	Inaugural Ceremony of IIW-PDPU Student Chapter	19/1/2018	PDPU, Gandhinagar

GLIMPSES OF 66TH IFC CONFERENCE ATTENDED BY FACULTIES

Faculties of Metallurgy Department attended 66th IFC and Dr. I. B. Dave Prof. & Head (Metallurgy), represented the department as Member of Panel Discussion on "Industry Institution Interaction" at 66th Indian Foundry Congress on 10/1/2018.

GLIMPSES OF VARIOUS "EXPERT LECTURES"

GLIMPSES OF "CAMPUS DRIVE AT METALLURGY DEPARTMENT"

- Campus Drive at Met. Dept., GEC, Gandhinagar on 31/1/2018 by "Torrecid India Pvt. Limited" .

- Campus drive at Metallurgy Dept. by Sakar Industries Ltd., Santej on 21/4/2018.

INDUSTRIAL VISITS

- 6th Semester 47 students have visited RBD Engineers Foundry along with Prof. B. R. Rana on 26/3/2018.
- 6th and 8th semester 29 students visited "S Plus Tube Tech" at Chhtral GIDC,along with Prof. D. V. Mahant) on 27/3/2018.
- 6th semester 54 students have visited FCIPT IPR Gandhinagar accompanied by Prof. I. B. Dave and prof. Prof. D. G. Sharma on 13/4/2018.
- 6th semester 52 students have visited "COE welding Lab, MEch. Dept. LDCE, Ahmedabad, along with Prof. P. K. Nanavati on 11/4/2018.

EXPERT LECTURES

Sr. No	Semester	Subject	Venue	Present Students
1	All Semesters	Expert Talk on **on** "Nano Tech. & Scope of Edu. In Australia" by Shri. Shubhneet Tyagi	GEC Gandhinagar	31
2	All Semesters	"Advance Materials – Super alloys" by Dr. G. H. Upadhyay	GEC Gandhinagar	83
3	All Semesters	Expert talk & hands on practice on "NDT" by Mr. Ashish Patel	GEC Gandhinagar	83
4	Sem 6	Expert lect. On "Safety Practices in Welding shops" by Prof. Dhaval K. Patel	GEC Gandhinagar	52
5	Sem 6	Expert Talk on "Application of Plasma in Surface Modification" by Mr. Satya Prakash, Scientist –D, IPR	FCIPT Gandhinagar	54

INDUSTRY VISITS TAKEN BY STUDENTS

Industrial Visit at "RBD Engineers Foundry" at Khatraj, Sem – 6 (47 Students along with Prof. B. R. Rana)

Industrial Visit at "S Plus Tube Tech" at Chhatral GIDC, Sem – 6 & 8 (29 Students along with Prof. D. V. Mahant)

Industrial Visit at COE- Welding Lab, Mech. Dept., LDCE, Ahmedabad sem–6 (52 Students along with Prof. P. K. Nanavati & Prof. D. A. Patel)

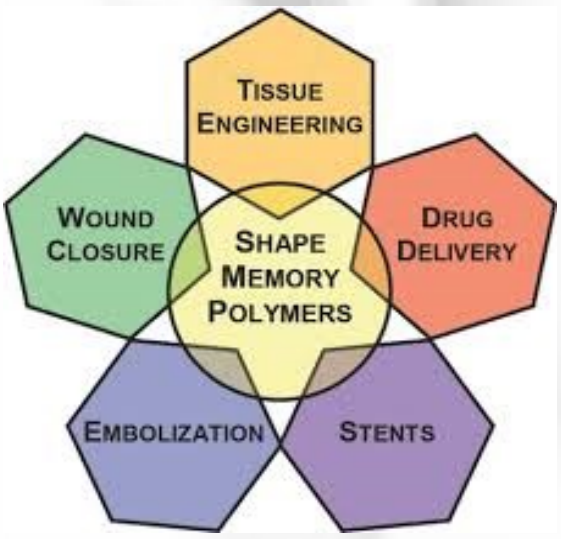
- By, Prof B. R. Rana, Asst. Prof. Metallurgy Department

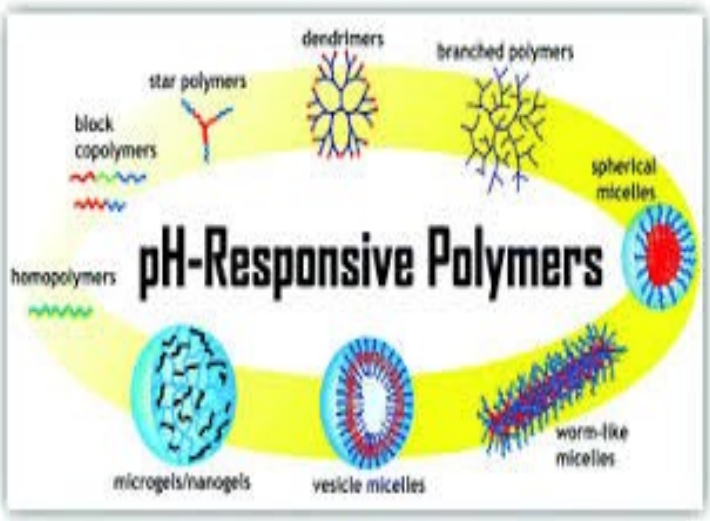
Smart Polymers

Smart polymers, stimuli-responsive polymers or functional polymers are high-performance polymers that change according to the environment they are in. Such materials can be sensitive to a number of factors, such as temperature, humidity, pH, chemical compounds, the wavelength or intensity of light or an electrical or magnetic field and can respond in various ways, like altering colour or transparency, becoming conductive or permeable to water or changing shape (shape memory polymers). Usually, slight changes in the environment are sufficient to induce large changes in the polymer's properties. Smart polymers appear in highly specialized applications and everyday products alike. They are used for sensors and actuators such as artificial muscles, the production of hydrogels, biodegradable packaging, and to a great extent in biomedical engineering. One example is a polymer that undergoes conformational change in response to pH change, which can be used in drug delivery. Another is a humidity-sensitive polymer used in self-adaptive wound dressings that automatically regulate moisture balance in and around the wound.

The nonlinear response of smart polymers is what makes them so unique and effective. A significant change in structure and properties can be induced by a very small stimulus. Once that change occurs, there is no further change, meaning a predictable all-or-nothing response occurs, with complete uniformity throughout the polymer. Smart polymers may change conformation, adhesiveness or water retention properties, due to slight changes in pH, ionic strength, temperature or other triggers.

The pharmacy industry has been directly related to the polymer's advances. In this field, polymers are playing a significant role, and its advances are helping entire populations around the world. The human body is a machine with a complex system and works as a response to chemical signals. Polymers play the role of drug delivery technology that can control the release of therapeutic agents in periodic doses. Smart polymers get into the field to play and take advantage of the molecular recognition and finally produced awareness systems and polymer-carriers to facilitate drug delivery in the body system.





- Project fair (Poster presentation) for Identification of Potential project for SSIP was organized on 9/3/2018.

Yes,! I am a Teacher

Yes,! I am a Teacher,
From the alphabets, then to the words,
I set for them, the steps forth,
To emerge into a youth that is worth;
I act as the torch bearer;
Yes,! I am a Teacher.
I teach them science and history,
Sort their minutest of queries,
Inculcate in them wondrous abilities;
I am their guide, their philosopher;
Yes,! I am a Teacher.
Wealthiest I feel, of all I am,
For my wealth is not of the green and gem,
But of the knowledge that I impart and enhance
And raise the nation further;
Yes,! I am a Teacher.
With pride I flaunt my being,
As I see myself leading
The generations fading and budding;
I set the blocks for future;
Yes,! I am a Teacher.

-Compiled by
Prof. D. G. Sharma

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Metallurgy Department

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