GOVERNMENT ENGINEERING COLLEGE

GANDHINAGAR

|| कर्ममयं ज्ञानं एवं ज्ञानमयं कर्म ||

NEWSLETTER

BIOMEDICAL DEPARTMENT

(January 2020 to June 2020)

MESSAGE FROM EDITOR DESK

Warm greetings to everyone on behalf of the Biomedical Engineering Department GECG'n!!! Now that we're in remote mode, most of us are feeling a little extra challenge in engaging with our work. As we're operating with much less structure in our life than usual, the increased stress of the outbreak, and less contact with others than we normally have, all of this can make it hard to stay motivated. Although this is a challenge, there are few activities that our department peers have taken to feel more inspired and keep themselves involved in the work. In this edition of the department's newsletter, we share with you the great accomplishments of our students as well as faculties. This edition covers the happenings in the department from January to June 2020. We highlight the achievements of the students and competitions and Hackathon, conferences.

- Prof. Manan M. Nanavati (Associate Editor)

MESSAGE FROM HOD

Greetings to everyone!!!! Hope you and your family are staying safe! We are in a situation where a big pause button is pressed to the happenings of the whole world due to this invisible enemy, the most spelled word of the year, the COVID-19, trying to engulf all the day to day activities of our beautiful world bringing it to a big stall. When it all started somewhere is some corner months back, we never imagined a situation like this. I remember sympathizing with the lockdown in Wuhan, totally unassuming of the fact that we would face similar situations. Such happenings make us realize how we keep running behind an uncertain life, all through our life. It is easy to get lost in depression when such unforeseen issues crop up. But it is wise to use the time very effectively and cheer our inner selves to build strength to fight anything that hinders your growth and peace. I am happy that the faculty and students of the Department of Biomedical Engineering have stood strong and fought this viral slowdown by many fulfilling achievements in the technical front. It gives me great pleasure in writing the forward for our department's newsletter. This issue highlights the notable activities on or off the campus and in the department of biomedical engineering. It also highlights the accomplishments of faculty and students from Jan to June 2020. Stay safe stay healthy.

- Prof. Dr. Vimal V. Prajapati (HOD)

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 administered by the 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.

ABOUT THE DEPARTMENT

The Department of Biomedical Engineering has been functional in the college since 2004. It offers Bachelor of Engineering as well as Master of Engineering programs in the Biomedical field at Undergraduate and Graduate levels. The department has excellent infrastructure with laboratories stocked with equipment for Therapeutic Instrumentation, Diagnostic Instrumentation, Biomedical Imaging, Biomedical Signal Processing, Biomedical EMC, Digital Electronics, and Biomedical Embedded Systems.

Students learn their skills in Biomedical Instruments – Diagnostics & Therapeutic, Biomechanics, Rehabilitation Engineering, Medical Imaging Techniques, Virtual Biomedical Instrumentation, Biomedical Signal & Image Processing, Python Programming etc. Students are provided with a practical perspective to provide solutions to the most pressing medical challenges. Students are challenged to analyze and solve problems from both engineering and biological perspectives. Upon completion of the program, students are well-prepared to enter the top graduate, medical, and professional schools or begin a rewarding career in industry.

VISION OF THE INSTITUTE

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

MISSION 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 the future.

To produce quality engineers, entrepreneurs, and leaders to meet the present and future needs of society as well as the environment.

VISION OF THE DEPARTMENT

To play a pivotal role in promoting human health through the best of current and future technologies from the field of engineering and medical science to bridge the gap between medicine and engineering

MISSION OF THE DEPARTMENT.

To serve the fundamental principles of engineering to human health care and well-being for medical industries, health care providers, governmental agencies, and academic entities.

To create a linkage between content generation, research in critical areas, and imparting education for integrating our knowledge with the advancements in Hospitals and Industries.

To obtain and maintain the competitive edge in hospitals and industries, for identification and nurturing of talent and learning in academic entities.

ABOUT FACULTIES

Prof. Dr. Vimal Prajapati received his B.E. degree in Mechanical Engineering from Gujarat University, Gujarat, India in 2005. He received his M.E. degree from Gujarat University, Gujarat, India in 2007 and completed his Ph.D. in Mechanical Engineering in 2018. Currently, Prof. Vimal Prajapati has been Head of the Biomedical Engineering Department since 2015, also he is associated with this institute since 2010 as Associate Professor. Prof. Prajapati has vast experience of more than 20 years in teaching undergraduate and postgraduate students.

He published more than 5 papers in peer revived international journals and has attended more than 10 Faculty Development Programmes of 1-2 week durations at the state and national in his career.

Prof. Ghanshyam Parmar received his B.E. degree in Biomedical Engineering from Hemchandracharya North Gujarat University, Gujarat, India in 2005. He received his M.E. degree from Gujarat University, Gujarat, India in 2007. He joined the Department of Biomedical Engineering, Government Engineering College, Gandhinagar as Assistant Professor in 2010. He has 3 years of research experience in biomedical engineering. Also, he has 10 years of experience in teaching undergraduate and postgraduate students in biomedical engineering.

Prof. Ghanshyam has research interests in Biomedical Image Processing and Analysis, Biomedical Imaging Modality Design, and Virtual Reality in Biomedical Engineering. He published more than 14 papers in peer revived international journals and has attended more than 12 Faculty Development Programmes of 1-2 week durations at the state and national in his career.

Prof. Piyush Patel was born in Gujarat, India in the year 1988. He received his Bachelor of Engineering degree in Biomedical Engineering from Government Engineering College, Sector-28, Gandhinagar, Gujarat, India (2009). He has completed Masters of Engineering in Biomedical Engineering with Gold Medal from Government Engineering College, Sector-28, Gandhinagar affiliated to Gujarat Technological University, Ahmadabad. He is currently doing his Ph.D. at Gujarat Technological University.

Prof. Piyush joined the Biomedical Department, Govt. Engg. College, Gandhinagar, in the year 2010 as Assistant Professor, Class-II Gazette Officer. He has published 9 research papers in International Journals and Conferences. He has attended more than 12 Faculty Development Programmes of 1-2 weeks at various State and National Institutes.

Prof. Dr. Mitul Patel received his B.E. degree in Biomedical Engineering from Hemchandracharya North Gujarat University, Gujarat, India in 2006. He received his M.E. degree from Gujarat University, Gujarat, India in 2007. He also completed his Ph.D. in Instrumentation & Control from Gujarat Technological University in the year 2018. He joined the Department of Biomedical Engineering, Government Engineering College, Gandhinagar as Assistant Professor in 2010. Dr. Patel's research interests are Biomedical Signal Processing and Biomedical Instrumentation.

Dr. Patel till today has supervised more than 10 Master's dissertation work and currently 3 Ph.D. scholars are doing their doctoral study under his guidance. Dr. Patel is having a total of 11 research publications in a reputed international journal.

Prof. Dr. Vijay Dave received his B.E. degree in Biomedical Engineering from Hemchandracharya North Gujarat University, Gujarat, India in 2005. He received his M.Tech. degree in Biomedical Engineering and a Ph.D. degree in Biomedical Engineering from the Indian Institute of Technology (IIT), Bombay, India in 2012, and 2018 respectively. His primary research interest includes Computational Neurophysiology, Bio-potentials Instrumentations, and Rehabilitation Engineering. He is working on the computational investigation of the CA1 pyramidal neurons for Alzheimer's disease.

Dr. Dave till today has supervised a total of 3 Master's dissertation work and currently 3 Ph.D. scholars are doing their doctoral study under his guidance. Dr. Dave is having more than 5 research publications in a reputed international journal.

Prof. Dr. Chintan Shah is currently working as an Assistant Professor in the Biomedical Engineering Department at Govt. Engg. College, Gandhinagar. He has completed his graduation in the biomedical engineering branch from GEC, Gandhinagar affiliated to Gujarat University in 2009. He has completed his master's degree with Biomedical Instrumentation as a specialization subject from COE, Pune affiliated to Pune University in 2011. He is awarded a Ph.D. from GTU in 2019; his primary research area is Medical signal analysis and Artificial Intelligence. His area of interest also includes Embedded systems, Biomedical Image processing, and Decision Support System. He has also guided a startup project and applied for a Provisional patent. He is also part of different departmental activities like Time-Table Coordinator, IT Portfolio, SSIP team member, and Student mentoring.

Prof. Maulindu Patel joined the teaching field in 2017 at GEC, Gandhinagar. He has completed his Bachelor of Engineering in Biomedical Engineering from Hemchandracharya North Gujarat University, Gujarat. Master of Science in Biomedical Engineering from The University of IOWA, USA. He is currently pursuing a PhD in Biomedical Engineering from GTU.

He is also a faculty who has about 6 years of field experience before he started his teaching career. He had worked as a biomedical engineer with Faber Sindoori Management Services Pvt. Ltd. and was posted at Apollo Hospitals, Ahmadabad. Then he joined Philips India Ltd. as a Field Service Engineer for MRI. Later on, he joined as a biomedical engineer at Gujarat Medical Services Corporation Ltd. (an undertaking of the Health Department, Government of Gujarat). His primary fields of interest are Biomechanics, Medical Imaging Techniques, and programming.

Prof. Hetal Mehta was born in Gujarat, India in the year of 1988. She has completed her bachelor in Biomedical and instrumentation engineering from C.U. Shah Engineering College, Surendranagar, Gujarat (2009). She has completed her M.E. in Biomedical Engineering from Government Engineering College, Gandhinagar, Gujarat (2013).

Prof. Hetal has been serving at Government Engineering College, Gandhinagar since 2017, as an assistant professor in the biomedical department. She is having an Experience of 5 years in the teaching field. Her research interest fields are like Biomedical image processing, biomedical instrumentation. She has published 4 research papers in National Journal. She has attended more than 6 training programs of 1-2 weeks at various national institutes. She has attended more than 2 webinars in various areas.

Prof. Rutu Nayak has received her Bachelor of Biomedical Engineering Degree in 2008 from L.D. College of Engineering Ahmadabad affiliated to Gujarat University. She has received her Master's Degree in Biomedical Engineering in 2012, from Government Engineering College, Sector-28, Gandhinagar affiliated to GTU. She is pursuing her Ph.D. from Gujarat technological University.

Prof. Rutu has been working for the last 10 years in the field of Education. Her major areas of Research are Biomedical Instrumentation, Diagnostic Instrumentation, and Biomaterials. Prof. Rutu has Published One research paper on "Eye Controlled Wheelchair" in International Journal. In Her academic tenure she has six Joint Research Publication with Master Students.

Prof. Manan Nanavati was born in Gujarat, India in the year 1990. He received his Bachelor's in Biomedical Engineering in the year 2011 from Gujarat University. He has completed in Master of Engineering in Biomedical Engineering from Martin Luther University, Halle & Anhalt University of Applied Sciences, Koethen – Germany in the year 2014. He is currently doing in Ph.D. in Biomedical Engineering from Gujarat Technological University. Prof. Nanavati joined the Biomedical Department as Assistant Professor in the year of 2018, he is having more than 5 years of teaching experience. His areas of interest are Biomedical Signal and Image Processing, Rehabilitation Engineering, and Decision Support Systems.

He has published 3 research papers in International Journals and Conferences. He has attended 5 Faculty Development Programmes of 1-2 weeks at various State and National Institutes.

Prof. Priyank Shah was born in Gujarat, India in the year of 1987. He has completed his Bachelor of Engineering degree in Biomedical Engineering from Government Engineering College, Sector 28, Gandhinagar affiliated to Gujarat University, Ahmadabad, Gujarat (2009). He has completed his Master of Technology degree in Instrumentation Control Engineering with a specialization in Biomedical Instrumentation from College of Engineering, Pune (COEP) affiliated to Pune University, Maharashtra (2012).

Prof. Shah has joined Biomedical Department, Government Engineering College, Gandhinagar as an Assistant Professor in the year 2012. He has published one research paper in International Journal. He has attended more than 8 Faculty Development Programs of 1-2 weeks at various state and National Institutes.

Prof. Navdeepsinh Limbad has completed his graduation with first class in 2011 from Govt. Engg. College, Gandhinagar & post-graduation (Biomedical Engineering) in 2014 with first-class distinction from the same institute. He has received Gold Medal in his Post-Graduation Program. He has a total of 6 Years of academic experience. Previously he has worked as a lecturer in Biomedical Engg. at a Government Polytechnic, Ahmadabad for 2.5 Years. Currently, he is working in this institute from July 2018 as an Assistant Professor. His research interest are Biomedical Instrumentation, Control System and Signal Processing. He has attended more than 4 training programs at various state and national institute.

Mr. Mitul Khandhedia is the lecturer of the Instrumentation and Control Department at Government Polytechnic Gandhinagar and currently being deputed at Biomedical Department since 2016.

He has completed his Master's degree in Electronics & Communication and Bachelor's degree in Instrumentation & Control. He has teaching experience of 17 years. His area of research is the control system and programming of controllers. He has presented/published 7 research papers in National/International Conferences/Journals.

FACULTY ACHIEVEMENTS

- Prof. Vijay Dave along with his students; Dave V., Shrimankar A., Gokani D., Dashora A., wrote a research paper on 'Mathematical Modeling Of Magnesium Block Driven NMDA receptor Response In CA1 Pyramidal Neuron For Alzheimer's Disease' which was published in 'Proceedings of the 5th International Conference on Nanoelectronic Circuits and Communication Systems 2019' as well as 'Lecture Notes in Electrical Engineering, vol 692. Springer, Singapore'.
- Prof. Vijay Dave along with his student Sonupriya wrote a review on 'Modelling Aspect of Ryanodine Receptor in CA1 Neuron' which was published in International Journal of Engineering Research & Technology, Vol. 9, 153-157, 2020.
- Prof. Chintan P. Shah received his PhD degree in Instrumentation and Control with specialization in Brain Signal Analysis under guidance of Prof. Dr. Vipul A. Shah from Gujarat Technological University in January 2020.
- Prof. Piyush V. Patel was honored with a Juror seat for evaluating teams of participants in regional round of Smart Gujarat for NEW India Hackathon 2019-20 on 27-28 February, 2020 held at IITRAM, Ahmadabad.
- Prof. Ghanshyam Parmar and Prof. Dr. Mitul B. Patel were honored with a Juror seat for evaluating teams of participants in regional round of Smart Gujarat for NEW India Hackathon 2019-20 on 27-28 February, 2020 held at CHARUSAT, Changa.

TRAINING ATTENDED BY FACULTIES

In order to provide a quality education, the teaching staff must be well trained in every aspect of the academic structure. Therefore the faculty staff of Biomedical Engineering Department takes it very seriously, and in order to cope with the rapidly evolving education world they regularly attend various training sessions. Below listed are the training sessions attended by the faculties in first half of this year.

	Name of Faculty	Topic of Training	Organization	Duration
1	Prof. Piyush V. Patel	SSIP Faculty Development Program	EDI, Ahmedabad	06/01/2020 – 10/01/2020
2	Prof. Piyush V. Patel	Biomedical Signal Processing	NPTEL - MOOC	20/01/2020 – 25/04/2020
3.	Prof. Hetal K. Mehta	Course Design in Context of NBA	Government MCA College, Ahmedabad	20/01/2020 – 24/01/2020
4.	Prof. Hetal K. Mehta	Effective Engineering Teaching In Practice	NPTEL - MOOC	27/01/2020 – 21/02/2020
5.	Prof. Hetal K. Mehta	Induction Phase – I	NITTTR, Bhopal (Online)	15/06/2020 – 26/06/2020
6.	Prof. Mitul R. Khandhedia	Digital Signal Processing	NITTTR, Bhopal	27/01/2020 – 31/01/2020
7.	Prof. Manan M. Nananvati	Applied Ergonomics	NPTEL - MOOC	20/01/2020 – 25/04/2020
8.	Prof. Navdeepsinh V. Limbad	Biomedical Signal Processing	NPTEL - MOOC	20/01/2020 – 25/04/2020
9.	Prof. Dr. Vijay P. Dave	Enhancing Employability Skill	NITTTR, Bhopal	30/12/2019 – 03/01/2020
10.	Prof. Dr. Chintan P. Shah	Induction Phase – II	NITTT, Bhopal (Online)	15/06/2020 – 26/06/2020

DEPARTMENT ACHIEVEMENTS

Below listed projects were funded by SSIP from 1st Jan to 30th June 2020.

❖ SSIP Funded Projects for 2016 – 2020 Batch and ME final year students :

	Enrollment no	Names of students	Title of Project	Faculty Mentor	Fund Approved	Fund Released
1	180130731009	PARTH RABARI	Gaitometer: Portable and inexpensive device for GAIT parameters estimation of Knee-Joint Rehabilitation	G. D. Parmar	₹ 11,160.00	₹ 799.00
2	160130103011	BALDHA PARTH ARVINDBHAI	Video GAIT Analysis	P. V. Patel	₹ 34,280.00	₹ 16,132.98
	160130103013	BHATIYA DARSHAN				
	160130103032	JADVANI RAXIT RAMESHBHAI				
	160130103042	LAD MEETKUMAR				
3	160130103026	GAJERA MIHIR	Urine output measurement for prognosis of AKI	P. V. Patel	₹ 10,600.00	₹ 5,699.00
	160130103076	PATEL VIRAJ JAGDISHBHAI				
	160130103085	PRAJAPATI RAHULKUMAR JAGDISHBHAI				
4	160130103022	DHORAJIYA PARTHKUMAR	Deep Tissue Infrared Light Therapy For Skin Treatment	V. P. Dave	₹ 12,000.00	₹ 12,550.00
	160130103045	MADAAN MANSI				
	160130103061	PARMAR HIMANSHI				
	170133103018	PANCHANI DHVANI RAJESHBHAI				
5	160130103051	MISHRA AJAY HARISHANKAR	Diabetic Foot neuropathy pressure monitoring system using gel socks	V. P. Dave	₹ 15,000.00	₹ 15,200.00
	160130103057	PANCHAL PRANAV				
	160130103060	PAREKH SUNY				
6	160130103001	ACHSAH T	Design and testing of rehabilitative aid for person having auditory and speech disability	M. M. Nanavati	₹ 22,500.00	₹ 5,699.00
	160130103069	PATEL HENAL NAVINCHANDRA				
	160130103081	PINAL TOGADIYA				
	160130103096	SHAH JHANVI MINESHKUMAR				

❖ SSIP Funded Projects for 2017 – 2021 Batch:

Below listed new projects were proposed on 7th March, 2020 and approved for funding.

SR. NO	NAME OF FACULTY	TITLE OF SSIP POTENTIAL PROJECT GUIDED OR TO BE GUIDE BY THE FACULTY	Total Fund Approved
1	M. M. Nanavati	Designing Rehabilitation Aid to provide assistance to speech and Auditory Disabilities	₹ 35,000
2	V. P. Dave	Low cost EEG Device for Analysis of Alzheimer Disease	₹ 35,000
3	P. V. Patel	Wireless Cautery Machine	₹ 25,000
4	P. V. Patel	Multiparameter Analysis Kit	₹ 30,000

❖ Choosing the right University in the right country without overshooting the budget can turn out to be a bit tricky process, and trusting a 'who knows how good' consultant agency blindly for your very precious career does not seem like a very wise decision. But luckily, for the students of the Biomedical Engineering Department, a dedicated cell for "Higher Education" was established under co-ordination of the very proficient Prof. Maulindu P. Patel and Prof. Manan M. Nanavati, who themselves obtained their Post-graduation degree from The U.S. and Germany respectively. The cell deals with explaining and guiding the students aspiring to obtain their higher education from foreign universities, through various processes like: Course/College/Country selection, Necessary Entrance exam, College Application, Drafting a good and unique State of Purpose etc. Many sessions and seminars have already been organised familiarising the aspirants with crucial information like; dos and don'ts, tips and tricks and various challenges and how to overcome them during the whole process along with webinar was also conducted by alumni students who are already studying abroad by sharing their insights to current aspiring students.

STUDENT ACHIEVEMENTS

Achievements are the awards or honors that are earned for doing best in either academics, athletics, or other works areas. In this competitive era, students find themselves lost in the shuffle, which takes determination in true essence to shine in every sphere. Academic accomplishments are what make an individual stand apart. Achievers are self-starters, motivated, and an asset to the college. Here below is the list of achievements of our students in different areas as follows:

1. JAGDISHBHAI DABHI, student of 8th semester Participated in 'Quick Quiz' organized by Rotract Club of Visnagar on 17/5/2020.

2. MILISHA DELIWALA, student of 8th semester participated in TCS iON Digital Learning Hub - TCS Course and had learned some topics like Communication Skills, Business Etiquette, Group Discussion Skills, etc. and also demonstrated her skills by participating in following activities by Sun Consultants – SCBS (organizer): participated in Quiz on "Basics of Temperature (Module 1/5 of SCBS Temperature Measurement & Calibration Series) and Sun Consultants – SCBS (organizer): participated in Quiz on "Sensors & Measurement (Blue Level – Module2 of Temperature Measurement & Calibration Series).

3. NAMIT BHOW, student of 8th semester Secured admission in San Jose State University for a Master's in Bioengineering and Biomedical Engineering program.

4. PRAJAPATI KALPESH, student of 8th semester featured his project in "Project of the Year 2020" under the guidance of Prof. Maulindu Patel at International Level Competition Organized by Dassault Systèmes in the period of 20/4/2020 to 26/6/2020. The project is about the design of a prosthetic foot. In this design, he made a structure for a prosthesis that has a post knee amputation. The design primarily focuses on the foot segment of the prosthesis. In this foot segment, he worked on a structure that would help a patient to have ease of movement with passive mechanical components. He envision out design to be able to respond well to the stages of the GAIT cycle with smooth and responsive inner components.

5. MIT HARSHAD SONI, student of 8th semester successfully completed various online courses offered by Coursera which includes 'Introduction to Cloud Identity' by Google Cloud (14/4/2020), 'Industrial IoT on Google Cloud Platform' by Google Cloud(14/4/2020), 'Build Your First Android App' by CentraleSupelec (24/4/2020), 'Getting Started with AWS Machine Learning' by AWS (29/4/2020), 'Google Cloud Platform Fundamentals for AWS Professionals' by Google Cloud(30/4/2020), 'Computer Vision Basics' by The State University of New York (8/5/2020), 'Neural Networks and Deep Learning' by deeplearning.ai (18/5/2020), 'Improving Deep Learning Neural Networks: Hyperparameter tuning, Regularization, and Optimization' by deeplearning.ai (26/5/2020), 'Structuring Machine Learning Projects' by deeplearning.ai (28/5/2020).

6. MANSI CHOKSHI, student of 7th semester successfully completed an online course offered by Coursera which includes 'ANATOMY OF MUSCULOSKELETAL & INTEGUMENTARY SYSTEMS' by the University of Michigan (13/05/2020) and 'INTRODUCTION TO CYBERSECURITY' by IBM (18/05/2020).

7. TWISHA DAVE, student of 7th semester is designated as one of board member-A new generation directors in an organization named "Rotaract club of Ahmadabad Narol" and she participated in an event named "talk masters" which was a public speaking contest for professional growth of an individual on 1/3/2020, and also in an orientation program on "WOMEN, INNOVATION, IP AND ENTREPRENEURSHIP" by Gec Gandhinagar on 18/1/2020 and also participated in drawing competition on the occasion of National Youth Day held at C.V Raman Hall, GEC, Gandhinagar on 11 Jan 2020.

8. KHYATI GANDHI, student of 7th semester participated in Finishing School Webinar Series – Upskills during Lockdown (11/6/2020 to 14/6/2020) and also successfully completed an online course offered by Coursera which includes 'Ai for everyone' by deeplearning.ai, 'Data Science Math Skill' by Duke University,

'Image processing with python' by Coursera Project Network, and 'Python for Everybody' by the University of Michigan.

9. RIYA PATEL, student of 7th semester served as Vice-President at an International Organization called "Rotaract club of Ahmadabad Narol" working for the betterment of the society along with personal development.

10. SMITKUMAR PATEL, student of 7th semester participated and Secured "S+ Grade" in a One Week National Level Online Short Time Training Program on the topic of "MATLAB FOR ALL" during 04/06/2020 to 08/06/2020 which was Organized by the Department of Electrical and Electronics Engineering, SIR M VISHVESVARAYA INSTITUTE OF TECHNOLOGY, Bangalore.

11. VIBHUTI PATEL, student of 7th semester participated in Blood donation camp as volunteer at Thalassemia test free check-up camp as a coordinator at our college from 17th to 20th February 2020 organized by Indian Red Cross Society, Ahmadabad and also participated in NSS Special Camp at Randheja Village (Gandhinagar)for 7 days activity like Yoga session in Fresh air, street play on women empowerment, Assembling With kids of Rangtaal School, 'Swatch Bharat' rally with the pre-primary kids of Rangtaal School, Plastic-free India campaign, Village Survey, Explaining the benefits of having cards, School teaching, Check-up camp by IRF(India Renal Foundation), Sports &fun activities with primary school girls & boys, Explaining the use of NVSP application in village, creating awareness against tobacco, etc. during 27/12/2019 to 02/01/2020.

12. SIMRAN SHARMA, student of 7th semester participated and obtained a Grade A performance in Quiz on "Basics of Temperature (Module 1/5 of SCBS Temperature Measurement & Calibration Series organized by Sun Consultants – SCBS

13. SAURAVSUMAN PODDAR, student of 5th semester is working as a City Leader of Gandhinagar in a Known National NGO named "Zomato Feeding India". With his team, he regularly conducts several late night drives and flaunts his motto and mission of #nomorehunger #zerohunger. Under the campaign "FEED THE DAILY WAGERS" he has distributed 700+ ration kits in Gandhinagar and 300 kits in Surat along with his team in this Lockdown period.

14. DHARMVEER MODI, student of 7th semester participated and won the 'IT WIZ QUIZ' organised by the Computer Engineering Department of GEC, Gandhinagar on 5th March-2020 and successfully completed various online courses offered by Coursera. Which includes 'Creative Writing: The Craft of Plot' by Wesleyan University (9/5/2020), 'Academic English: Grammar and Punctuation' by University of California, Irvine (9/5/2020), 'Tricky American English Pronunciation' by University of California, Irvine (9/5/2020) and also successfully completed an online course for 'Creative Writing' offered by Internshala.

TRAINING ATTENDED BY STUDENTS

Here in the Biomedical Engineering Department we encourage the students to gain knowledge beyond the conventional classroom learning. Our student during the period has shown their interest to excel themselves and improved their skills from below listed trainings or webinars:

Sr. no	Name of Student	Title of Training and Activity	Duration	Organizer
1	Anjali Jain	Workshop on Python	22/02/2020	TOPS Technologies
2	Ashna Malik	Webinar on Medical Oxygen Concentrator	27/06/2020	AISSMS Institute
3	Chiranjit Rathod	Internship	1/11/2019-31/01/2020	DBREATH Medical Devices
4	Jagdish Dabhi	Webinar on Fundamental of MATLAB and SIMULINK	28/05/2020	Balaji College
5	Khyati Gandhi	Webinar on Medical Image Processing using Python	16/06/2020	Saveetha Engineering College
6	Milisha Deliwala	Webinar on Managing Clinical Teams	07/06/2020	Mindray India
7	Priyanshi Hirapara	Hospital Internship	14/12/2019-14/01/2020	SMS Hospital, Chandkheda
8	Shubam Lunagariya	Workshop on Professional Leadership & Management	06/05/2020-07/05/2020	Christ Institute of Management
9	Simran Sharma	Volunteering Internship	23/05/2020	Hamari Pahchan NGO
10	Vishal Patel	Workshop on 3D EM Simulation	08/06/2020-09/06/2020	Jyoti Electronics & GTU Ahmedabad

STUDENT PLACEMENT

As a part of a campus recruitment program held every year in our college, many prestigious names in the industry come here and recruit the best of us. Below listed are the students who were recruited under this program from the Biomedical Engineering Department.

SR.NO.	Name	Company/Hospital	Position	City
1	Chavda Vishwa	Phillips Medical (Dealer)	Service Engineer	Rajkot
2	Nirmal Patel	Bioteknika health Care Pvt. Ltd.	Sales and Service Engineer	Ahmedabad
3	Mamta Kotnani	Silverline Meditech Pvt. Ltd.	Demo Specialist & Sales Coordinator	Ahmedabad
4	Damini Vanzara	Sajanand Laser Technology Ltd.	In Process Quality Control	Gandhinagar
5	Priyank Limbasiya	New Civil Hospital	Biomedical Engineer	Surat
6	Sapna Mane	TatvaSoft	Content Writer	Ahmedabad
7	Himanshi Parmar	Dr. Catalyst	Medical Biller	Ahmedabad
8	Mansi Madaan	Dr. Catalyst	Medical Biller	Ahmedabad
9	Parth Patel	Dr. Catalyst	Medical Biller	Ahmedabad
10	Rohan George	Dr. Catalyst	Medical Biller	Ahmedabad
11	Parth Shah	Dr. Catalyst	Medical Biller	Ahmedabad
12	Ajay Mishra	Dr. Catalyst	Medical Biller	Ahmedabad
13	Aman Shah	Dr. Catalyst	Medical Biller	Ahmedabad
14	Mohit Aggarwal	Dr. Catalyst	Medical Biller	Ahmedabad
15	Tarang Parmar	Dr. Catalyst	Medical Biller	Ahmedabad
16	Pranav Panchal	Dr. Catalyst	Medical Biller	Ahmedabad
17	Sunny Parekh	Dr. Catalyst	Medical Biller	Ahmedabad
18	Harsh Bhagat	Dr. Catalyst	Medical Biller	Ahmedabad

ACTIVITIES IN DEPARTMENT

Learning is not limited to the classroom, in fact learning in the classroom is a very tiny part of all the knowledge student's gain in their academic career. Therefore the Biomedical Engineering Department always comes up with witty ideas to bring learning out of the classroom make it more interesting. Below are the various activities organized by the department in the first half of this year.

માતૃભાષા દિવસની ઉજવણી:

On this auspicious day celebrating our Mother Tongue 'Gujarati', a debated focused on the importance of Gujarati in our life was arranged in which more than 50 students passionately participated.

Glimpses of QUENCH 2020:

Quench is a massive Tech-Fest event celebrated across the whole college, where every department organizes various activities for the students to take part in. It is a great way to increase interdepartmental interaction. This year the BM Department organized a Quiz competition based on the basic knowledge of biology named 'Mad Medicos'. Fun right?

Expert seminar on "Woman Entrepreneurship":

Ms. Siddhi Vora, Founder at DBreath Medical Devices Ltd, Ahmedabad shared her inspiring as well as roller coaster journey of her start-up with pre-final year students. Total 30 number of students participated in this Expert Seminar.

Glimpses of OPEN HOUSE – 2020:

Event was organized in every Department of our college. It was scheduled on 7th March, 2020. Main objective behind organizing this event was to present the ideas of students by presenting the poster regarding the project idea. Many students had also demonstrated their projects to External Industry-Academia Experts. More exciting thing was that to get an Rs.50,000 funding to design prototype from the Student Start-up and Innovation Programme(SSIP), if an idea/solutions accepted by the examiner.

Finishing School (10/02/2020-20/02/2020):

Finishing School emphasizes training in all round personality development, cultural and social activities. It is an Employability Enhancement Initiative of the Education Department of Government of Gujarat for imparting training on Skill development for the students of Higher and Technical Education to make them Industry-ready.
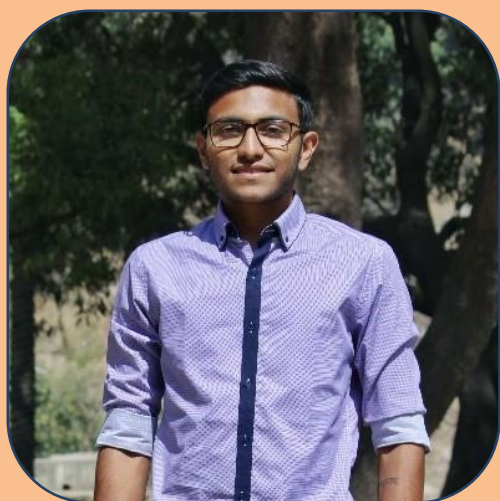
When asked to share their experience with the Department our current students and our Alumni's had this to say…

The journey so far in this college cannot be narrated in few words. I still remember when I selected this college, I was a resident of Jammu and going out of my city to study and stay there was new to me. When I first came to this college, I liked the infrastructure and the way faculties of the department helped me very much. Now I am in the last year and I do not know whether I will get to come back to Gujarat or not, but my department and my teachers have taught me a lot, not only the knowledge related to academics but also the ways of life. Our faculties help us in everything, from our small doubts or guidance for career. The best thing about this department is that our faculties care about every student. They do not want any student to be left behind in any way whether it is a career race or life. If we talk about the studies, then every faculty has a different way of teaching. But we are taught in all kinds of ways, such as oral lectures, power-point presentations, hands-on experiences, etc. In lab sessions we are taught through all types of instruments and all types of software are also provided for practicing and learning. Not only that, but different events are also organized by our department like Women Empowerment, Startup events etc. Overall, our department sets right example for the biomedical field, here we are completely into our field and get inspiration to learn something new all the time.

-Simran Sharma, 7th Sem Student

Biomedical department of GEC, Gandhinagar has been an integral part of my undergraduate career. Not only this department provided me with invaluable experience in the field, but it has also given me insight in the intersections of biology and computer science, digital electronics and its possibilities. During my bachelor, I have attended labs, which focus on the practical knowledge and interaction with other peers on some project. Outside of lab, I daily attended lectures led by experienced and knowledgeable faculties of biomedical department. I was unsure of whether I would commit myself to research, medicine, or software engineering, but the information offered by my faculties was enlightening and helped me determine my next steps for when I complete my graduation. Some of the faculty members also helped me choose my higher education program abroad. They also wrote the LOR in order to get admission in reputed foreign universities/colleges. Apart from this, the department and faculties are very helpful to provide job opportunity to students by placement cell, as department has its own placement coordinator. That's how biomedical department of GEC, Gandhinagar is helpful in personal or career related problem students may be facing.

-Baldha Parth, 2020 Passout Student

Talking about my experience with the department, so I want to say that our biomedical department is the best amongst all because whenever there's any problem regarding anything, the professors are very much helpful to us, any time if we need any help, they are always there to support us. Talking about the academics, the professors are very much helping and they serve us their best not only from the books but also they provide us some practical knowledge too so we can acquire more knowledge and perform our best in the exams and also talking about the faculties, so they are doing their best to provide us each and every comfort so we can study well and in a peaceful environment. I heartily thank all the faculties for helping us and motivating us whenever we needed.

-Panchal Dhruvi, 7th Sem Student

From past 3 years I have been part of the biomedical department of government engineering college Gandhinagar. I consider myself grateful for being associated with such department. Academically there's nothing lacking, all faculties are fully supportive not just academically, but they also provide us different professional activities/opportunities to reach our destination which enhances one's knowledge and skills. I have gained many opportunities due to university sessions which builds many professional contacts which would be very helpful in corporate life, also there are different activities based on soft skill development that encourage personality and professionalism. Even during lockdown, college studies are on track, all of activities and academics work has been allotted virtually. Essential guidance has been given from every aspect. I'm glad and proud being a student at such an institute.

-Dave Twisha, 7th Sem Student

Government engineering college Gandhinagar is the first college I had searched for joining in biomedical department and I was impressed by its outlook. After joining I had Supportive seniors and faculties, beautiful campus, quality education, real world experience, and amazing friends. My two years at GECG have been excellent and I have made memories to cherish for a lifetime. Studying at GECG brought an extra value to my life. It gave me an opportunity to meet different kind of people and learn number of things. I thank faculties for putting in all efforts to groom us and make us professionals. It is a wonderful experience at Biomedical Engineering Department of Government Engineering College, Gandhinagar.

-Panchal Aayush, 5th Sem Student

As an ICCR scholar student I got an opportunity to study in the Biomedical Engineering Department, GEC, Gandhinagar, Gujarat, India. First I thought language would be problem for me, but no problem arose because every subject was taught with proper language (English). I got very thorough knowledge in every area related to biomedical side in both software and hardware. I had the best experiences in a period of four years.

-Kasuri Balasooriya (2013 – 2017 Batch)

It's been an amazing journey...starting even before the orientation day to the end of the convocation. All the faculties of the department walked an extra mile to complete the course term well before the exam through extra lectures arranged under the aegis of our honorable principal Dr C B Bhatt. The batch of 2013-2017 can take pride to be the only batch to receive the farewell arranged by Faculties (Faculty's favorite batch). Well those who started their engineering courses in 2013 were altogether a different breed. They were the most experimented batch right from Standard 10 exam pattern changed followed by introducing the semester system board exams for 11-12 Science. SPFU introduced in sem 1-2 of B.E. to back to GTU. Well all the course content really made us fundamentally strong and it was easy for the companies to hire us and train further to develop the core competencies to carry out the work effectively as well as efficiently. We were provided best of the industrial exposure as well as academic visits to nearby University and research centers. It was pretty easy to get NOC

for internship in Hospital as well as MNCs. Subjects never became favourite until a faculty comes puts his/her undying efforts to explain it to you so well that you start loving that subject and figure it out how you can take it ahead in your final year project till your Ph.D. All the faculties of GEC Biomedical Engineering department has put those efforts that's was the main reason we did so well in all the subjects irrespective of our subject. A Humble Request: Please share the timetable I want to attend the lectures and meet all the amazing faculties again.

-Arminder Singh Dhiman (2013 – 2017 Batch)

I had the time of my life there in Gandhinagar studying and making lifelong friends. My experience of working with department prepared me for future career and life. I became more open, communicative and conscientious in my approach. If I am allowed to go back in time, I will always choose to relive those years again.

-Akshar Dobariya (2012 – 2016 Batch)

The professors are experts in their subject and gave industry-grade information during lectures. The curriculum was perfectly designed to get you started with and build a strong fundamental understanding in the field of biomedical engineering. Hands-on practical lab sessions with short assignment deadlines helped me to perform better under pressure. This experience is helping me to handle research work and academics together with dexterity.

-Jay Garg (2015 – 2019 Batch)

It has been the most memorable 4 years of my life being in biomedical engineering department. It was one of the most active departments of the college! Like all the days celebrations, seminars, fresher's and farewell celebrations, we enjoyed a lot! On the other side it was also one of the stricter departments of college like we had 3 midterms so like it consumed most of the time, but it was beneficial in a way that we had not much to worry at the end as most of the syllabus was already covered! So it was like at first we use to frustrate a lot on BM department but ultimately we use to realize it was beneficial for us only! I remember BM was the only department where things were discussed through e-mail and professors were also ready to help or communicate with our doubts through e-mail/whatsApp unlike other departments. We had best professors and sincere labs that we were proud of! We gained that much knowledge and confidence in this department that we all are in good position in life at present. Along with all the fun and knowledge our lives grew much better in BM department. I miss BM a lot! And lastly proud to be a BM engineer!

-Maurvi Baxi (2015 – 2019 Batch)

Creativity Section

The students of Biomedical Department are not just talented in academics and boring stuff, some of them are masters in various creative stuff like; poetry, painting and creative writing. See it for yourself…

Poetry

DEAD has 4 letters, so does LIVE
HATE has 4 letters, so does LOVE
ENEMIES has 7, so does FRIENDS
LYING has 5, so does TRUTH
HURT has 4, so does HEAL
NEGATIVE has 8, so does POSITIVE
FAILURE has 7, so does SUCCESS
CRY has 3 , so does JOY
WRONG has 5, so does RIGHT
POOR has 4 letters, so does RICH
FAIL has 4, so does PASS
IGNORANCE has 9 and so does
KNOWLEDGE

– Riya Patel

It has since been seen in history that,
Someone has been laid into endless slumber,
To awake the nation and it does.
Yesterday it was them wanting to change the perspective and,
Today its you who has changed the perspective.
You took a stand against the unjust,
But where pulled down by the deformities those wretches caused to you;
Just to let the nation stand, for once for you.
Your unheard voice now rings clear!
For once and for all there is nothing to fear.
Every other person has now geared up with resources of anguish,
And awakened sense, the nation has set out as a whole,
Now, the only aim is to win the fight of justice, which you started alone!
So that you may rest in peace forever without a swelled up soul.

– Parmar Himanshi

Creative Writing

News feature on how CoVid-19 affected India's education system

INDIAN ACADEMICS VS COVID-19

The Corona virus Disease 2019 aka CoVid-19 was first detected around November, 2019 in the city of Wuhan of Hubei province in China. It gradually started seeping into different parts of the world, like a silent invasion if you will. The catch was that it was not a very deadly virus, which is why by the time the media reached to it, CoVid-19 had already taken hostage of the most powerful countries in the world. The virus was so elusive that countries like the USA and Brazil weren't even ready to acknowledge its severity at first, and to such an extent that Donald Trump even reportedly said "It's going to disappear. One day — it's like a miracle — it will disappear." But obviously it did not just disappear like a miracle, instead spread more becoming more dangerous by the day. Inevitably the virus came to India too and fortunately we had learnt from the state Covid had left Spain and Italy in. A nationwide lockdown was announced on 3/21, merely 20 days after the first patient was detected with the virus in the country, i.e. on 3 of March, and although the government has lifted the lockdown now, the country has not opened fully yet.

Almost every economic sector was affected during this lockdown period, many of them even shut down completely, and therefore the fate of the education sector was not much different. Schools and Colleges were closed immediately, and the education system of India suddenly came to an abrupt halt, at least that's what the country saw. It was like suddenly the books had ceased to exist in every student's life, we had just gotten an indefinite summer vacation, a dream come true right? But you know the thing about dreams; they don't last long, neither did this. After a month long hiatus from study and books and assignments and exams, this dream turned into a nightmare, as we started to realize that if this doesn't end now we may lose our whole academic year. It is all fun and games until you realize, what a loss of an academic year do to your career. But contrary to popular opinion our education ministry had not stopped working. All this time they were working on plans for resuming the academics of India. The concept of online/distance learning was not very new for India, but it was merely a luxury. The Education Ministry along with the co-operation of various educational institutions, like GTU did their level best to transition online learning into our routine, which had now become a necessity.

The Covid hit India in March i.e. near the end of the academic year, which is why the first challenge on the list was exams. Learning online is one thing, but taking online exams, it had never been done on a mass scale in India. The government had already begun making and testing online portals for exams, many mock tests were taken by the GTU, but it settled for a mass promotion for all students based on the merit of their last semester, but the final year students were excluded from this, as the final year was far more important to be directly promoted. They were told to wait until the government figured out a fair and safe way to

conduct exams. Next were online lectures, for that every institute had a different strategy; Zoom, Google Meet,

Microsoft Teams were only few of many platforms used for conducting online lectures. Pretty soon it was very clear that conducting online lectures is not as easy as it sounds. Every platform came with its challenges; 'no. of participants allowed at once' and 'amount of time permitted per meeting' are few examples of the challenges faced by the faculties while setting up the classes, whereas network issues and lack of internet connection were the challenges faced by the students.

As per GTU guidelines, an online mid-semester exam was conducted via Google classroom by our college; on top of that every department conducted an online viva sessions on Google meet too. The faculties from Bio-medical department preferred a highly sophisticated platform such as Microsoft Teams to conduct the online lectures. To get a better look at how people felt about the way things were being done, I personally approached some students and the faculties. While talking to the students, I learnt that despite faculty's 100% efforts, there was always something that fell short. While appreciating the efforts of the faculties, Mitesh Vaghashia of 7th semester said that 'in order to get a better understanding of the subjects, we require more resource material for the same' whereas Devanshi Chadderwal of the same class pointed out that, due to lack of availability of physical laboratory instruments, it is harder to understand the practices assigned in the syllabus. While talking to the faculties, I learnt that due lack of face to face and non-verbal communication (like facial expressions and attentiveness of the student), delivering lectures properly has become a tough process.

In conclusion, the CoVid-19 pandemic has not been easy on anyone but that does not stop us from trying harder to fight back and come out of this situation victorious. The students and faculties of Biomedical Engineering Department have proved that even though the situations are not ideal right now, but with a little co-operation and sheer will you can achieve almost any goal.

By Dharmveer Modi

Painting

Anshu Mathur

"A man paints with his brains and
not with his hands "

- Michelangelo

Jay Soni

" There are painters who transform the sun
into a yellow spot, but there are others who,
thanks to their art and intelligence,
transform a yellow spot into the sun "

- Pablo Picasso

By Pinali Patel

B M E

COMBINING ENGINEERING PRINCIPLES WITH MEDICAL SCIENCES

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Thank You!