



Shri Vileparle Kelvani Mandal's



Dwarkadas J. Sanghvi College of Engineering

(Approved by AICTE and Affiliated to the University of Mumbai)

ACADEMIC BULLETIN

2018-2019



**DEPARTMENT OF
BIOMEDICAL ENGINEERING**

INDEX

- 1) About the department
- 2) Workshops and Seminars
- 3) Student Chapter: Pacemaker's Symposium
- 4) Achievements by the Students and Staff

ABOUT THE DEPARTMENT

Biomedical Engineering Programme is to provide high quality education for transforming the armatures into professionals, capable of applying knowledge of Basic Sciences and Fundamental Engineering, to take up the challenges in health care sector and instil in them the attitudes, values and vision for continued training and inculcate leadership abilities in their chosen careers

It aims to develop skills enabling Biomedical Engineers to serve the Hospitals, National and International Industries and Government Agencies. It builds a strong foundation and develops technical skills to work professionally in the areas such as Nanotechnology and Microsystems, Rehabilitation Engineering, Biomedical Signal and Image Processing, Medical Instrumentation, Medical Imaging, Nuclear Medicine Robotics in Medicine, Networking and Information systems in hospitals; to develop core competency in the field of Biomedical Engineering to gain technical expertise in biology and medicine for effective contribution in the development and improvement of health care solutions & to train and motivate students for pursuing higher education and research for developing cutting edge technologies.

Vision

To strive for academic excellence to develop responsible, competent professionals, equipped with advanced technical knowledge and high professional ethics to support healthcare industry.

Mission

1. To provide high quality education through innovative teaching learning processes.
2. To provide a forum for industry institute interaction, with a view to groom budding engineers as employable Biomedical Engineering professionals.
3. To inculcate research interest to develop sustainable diagnostic and life supporting tools/ systems that cater to the needs of medical profession.
4. To empower the students and instil in them a sense of belongingness and responsibility towards the society.

Program Outcomes

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

STUDENT CHAPTER

PACEMAKER



Workshops and Seminars

- On 17th July 2019 a guidance lecture was conducted for further studies in U.S.A by Ms. Shaileen Parikh organized by Prof. Mrunal Rane
- On 8th July 2019, a guest lecture on microcontroller system was conducted by Mr. Manish Adavade, organized by Prof. Mrunal Rane.
- On a guidance lecture was conducted for further studies in Germany by Ms. Shreya Bhandarkar organized by Prof. Vaibhvi Sonetha and Prof. Vivek Deodeshmukh

Visit to All India Institute of Physical Medicine (AIIPMR)



A visit to the All India Institute of Physical Medicine & Rehabilitation (AIIPMR) was arranged by the Biomedical Department of Dwarkadas J. Sanghvi College of Engineering for the S.E. students. It was held on 21st September, 2018. The students were instructed to arrive at AIIPMR, Block A around 9:00 am. This visit was organized in order to give the students a better idea about the biomechanics of various prostheses and orthoses.



The visit was organised by Prof. Mangal Dandekar for S.E. students. It was highly advantageous to the students of semester 3 and semester 7, as they had subjects like biomaterials, prosthetics, and orthotics. It was held on- 14 September 2017 for S.E. students and went on for 2 hours 2:00 pm-4:00 pm. The department of prosthetics was explained and showed to the students. The explanation included a brief on different prosthetics and rehabilitation processes.

Visit to Nanavati Hospital to Radiology, Physiotherapy and Pathology Departments



TE Biomedical: 19-20

A visit to the Nanavati Hospital was arranged by the Biomedical Department of Dwarkadas J. Sanghvi College of Engineering for the B.E. and T.E students. It was held on 29th August 2019. The senior physiotherapist demonstrated the various therapeutic equipments used in their department.

The college expresses its gratitude towards the Biomedical as well as Physiotherapy Department of the Nanavati hospital for providing the B.E. and the T.E. students with an opportunity to see the various biomedical modalities used in health care.

The objective of attaining practical as well as theoretical knowledge was attained by the hospital visit. Students got to know the actual working and manufacturing of various machines used in the hospitals. Since Nanavati is one of the premier hospitals, students were acquainted with the latest machines and got equipped with it.

Visit to KEM Hospital for S.E Biomedical Students



S.E Biomedical: 2018-19

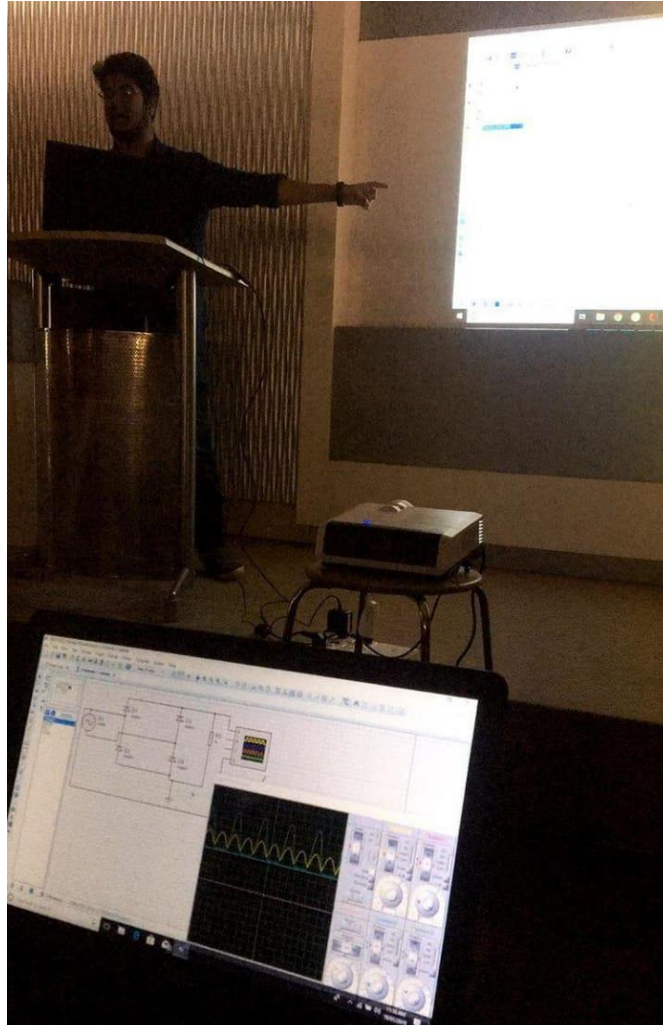
A visit to 'Department of Anatomy' at K.E.M hospital was arranged by Dwarkadas J Sanghvi College of Engineering for S.E Biomedical students for four days. This visit was to give the students more practical knowledge about the study of human anatomy and physiology. The visit was organised by Prof. Purva Badhe who coordinated with the hospital and arranged lectures by Dr. Rashmi Patil and Dr. Abhijeet Dhende. The visit took place from 27th to 30th August and about 30 students had come for the visit

Workshop on X-Ray and Ultrasound Machine by Siemens



A 3-day workshop on X-Rays and Ultrasound conducted by Siemens was organized by Pacemaker from 23rd to 25th July 2018 for fourth year students. This helped in gaining a hands-on experience on various components of X-Rays and it's designing. They also gave a practical approach for ultrasound machine and its components.

A workshop on Proteus conducted by



Workshop on Proteus, a software used for electronic circuit designing by Pacemaker, on 29th January was conducted by Pacemaker. Students were taught to design various operational amplifiers which also helped them to understand it practically. From installation of the software to the application of difficult circuits was made easy in this workshop.

PACEMAKER'S SYMPOSIUM 2019

'Connecting Technology to Life'



Pacemaker Committee 2018-19 with the faculty of Biomedical Department

Symposium was an event held on 25th March 2019 in Dwarkadas J. Sanghvi College of Engineering by Pacemaker, a committee from biomedical department. Symposium provided a platform for knowledge exchange between the industry and the students, with keynote speakers from all parts of the industry coming in with their excellence and companies coming in with their innovations.

The conference was graced with the presence of dignitaries like:

- Mr. Vishwanath Eadulapalli (HOD, Biomedical Department, Jaslok Hospital)
- Dr. Ravi Mohanka (Chief Surgeon, Global Hospitals)


It also provided, for the students, a stage to present their projects, research papers and compete with aspiring innovators from around the country and showcase their proficiency and leading-edge contribution to the field of biological sciences.


The Poster Competition organized along with saw 12 teams from all over Mumbai participating in the competition.

Student Achievements


Sr No	Name	CGPA	Year of Passing
1	Shreya Bhandarkar	9.37	2018
2	Anju Nambiar	9.36	2018
3	Priyank Lapsiya	8.77	2018

Staff Achievement

 INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

 भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)


क्रमांक : 022104568
SL No :




पेटेंट सं. / Patent No.	:	311881
आवेदन सं. / Application No.	:	58/MUM/2011
फाइल करने की तारीख / Date of Filing	:	07/01/2011
पेटेटी / Patentee	:	INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY
आविष्कारक (जहाँ लागू हो) / Inventor(s)	:	1.PROF. JAYESH BELLARE 2.DR. BHARAT DALVI 3.MRS. VAIBHAVI A SONETHA 4.MR. MEGHA AGRAWAL 5.MR. SATYAJEET PARAKH

प्रमाणित किया जाता है कि पेटेटी को उपरोक्त आवेदन में यथाप्रकटित AN INTRADUCTAL PATENT DUCTUS ARTERIOSUS OCCLUSION DEVICE AND METHOD FOR MAKING THE SAME नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 7th day of January 2011 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled AN INTRADUCTAL PATENT DUCTUS ARTERIOSUS OCCLUSION DEVICE AND METHOD FOR MAKING THE SAME as disclosed in the above mentioned application for the term of 20 years from the 7th day of January 2011 in accordance with the provisions of the Patents Act,1970.

 INTELLECTUAL PROPERTY INDIA
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अनुदान की तारीख : 29/04/2019
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 7th day of January 2013को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।
Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 7th day of January 2013 and on the same day in every year thereafter.

Our Professor Dr. (Mrs.) Vaibhavi Sonetha was granted a patent for her project