



Shri Vileparle Kelvani Mandal's



Dwarkadas J. Sanghvi College of Engineering

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

ACADEMIC BULLETIN
(2014 - 2015)



DEPARTMENT OF
BIOMEDICAL ENGINEERING

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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 instill 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.

Programme Educational Objectives

To provide sound knowledge of basic sciences, human anatomy, human physiology, electrical and electronic systems, building a strong foundation for career advancement.

To develop a logical approach, analytical thinking and problem solving capabilities in order to make the learner competent to face and address the global challenges in their chosen field.

To impart technical knowledge and competency skills to perform in various areas like sales & marketing, product engineering, research-development, hospital administration, regulatory affairs and also to venture into entrepreneurship.

To develop proficiency in various soft skills and bring awareness about social obligations and professional ethics to pursue professional career in a healthcare industry.

Motivate to pursue research and specialization in a plethora of domains in the field of Biomedical Engineering covering disciplines such as, Medical Instrumentation, Neuroscience, Computational Engineering, Robotics Engineering, Medical Signal and Image processing, Rehabilitation Engineering, VLSI, Nanotechnology and Biosensors, etc.

Programme Specific Outcomes

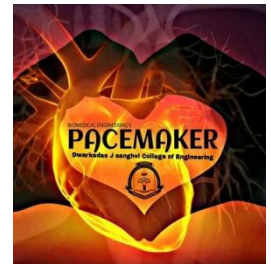
Learners will be able to:

Conduct servicing and maintenance of various medical equipments used in health care industry. Analyse, design and develop analytical, diagnostic, therapeutic and life-saving medical devices.

Serve the society as Sales and Marketing Manager, Product Manager, Application Specialist, Biomedical Engineer, etc. in the field of medical industry.

Contribute in the field of Research & Development in the areas of Medical Imaging, Medical Signals and Image Processing, Biomaterials and Implantable Devices, Rehabilitation Engineering, Healthcare Data management, etc.

STUDENT CHAPTER **PACEMAKER**



Committee Members:

Chairperson

Kavya Subramanium

Members:

Kevin Shah
Krishma Vithalani
Drishti Kanakia
Rushabh Shah
Parita Savla
Yash Shah
Parth Repe

Workshops and Seminars

- Guest Lecture by :
Mr. Shrikant Patole and Mr. Mandar from Alliance Transfusion on “**Blood Bank Operation**” on 22/08/2014. 80 students attended the seminar.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Mr. Kevin Shah and Mr Gururaj Masli From Practo Medicals on “**Product Development**” on 23/08/2014. 80 students attended the seminar.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Ms. Samata Kakkad from John Hopkins Baltimore USA “**Current Research on Biomedical Engg. And Higher Studies in USA** on 02/09/2014. 85 students attended the seminar.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Mr.Chandrajeet Singh from DeVillbiss Healthcare on “**Oxygen Concentrator** on 13.09.2014. 80 students attended the lecture.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Mr. Sushu Hate on “**ISO**” held on 15.09.2014. 25 students attended the seminar.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Dr. Sameer Tapiawal MD healthyou.com on “**Electronic Medical Records** on 11.09.2014. 25 students attended the seminar.
Venue : Biomedical Department, 4th Floor

- Guest Lecture by :
 Mr. Shailendra Jariwala Technical Implementation Services
 Manager, ASEAN at Vital Images, Inc Singapore “**Advances in
 Medical Informatics**” held on 13.09.2014. 25 students attended
 the lecture.
 Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
 Mr. Purohit (CEO Maquet) and Mr. Joglekar (GM Maquet)
 delivered lecturer on **Ventillator** and demonstrated the operation
 of **Ventillator** Which they had donated to Biomedical Engg. Dept.
 for TE and BE held on 26.09.2014. 25 students attended the
 lecture.
 Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
 Mr. Sahastrbuddhe a consultant held on 07.10.2014
 26 students attended the lecture.
 Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
 Prof. Mrunal Rane and Prof. Purva Nanivadekar and final year
 students for SE and TE on 07.10.2014. 26 students attended the
 lecture.
 Venue : Biomedical Department, 4th Floor
- Guidelines for Technical Paper and Poster presentation by :
 Prof. Mrunal Rane and Prof. Purva Nanivadekar and final year
 students for SE and TE held on 17.01.2015. 55
 Venue : Biomedical Department, 4th Floor
- Alumni Meet :
 Students perusing higher studies and Working abroad and in India
 for SE and TE held on 08/01/2015. 60 students attended the Meet.
 Venue : Biomedical Department, 4th Floor

- Orientation Programme for TE Teachers on 14/01/2015 on Faculties of various colleges discussed the revised syllabus of TE Biomedical Engineering Subject
10 members attended the meeting.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Mr. Kaustubh Dere for third year students on 07.10.2014
36 students attended the lecture.
Venue : Biomedical Department, 4th Floor
- Guest Lecture :
About study in Germany and German Language
Mrs. Ujjwal Anil on 23.01.2015 for third year biomedical department students.
30 students attended the lecture.
Venue : Biomedical Department, 4th Floor
- Guest Lecture by :
Prof. Mrunal Rane and Prof. Purva Nanivadekar and final year students for SE and TE on
Date : 07.10.2014
No. of students : 26
Venue : Biomedical Department, 4th Floor
- ANSYS Seminar by Mr. Yash Shah on 28 Jan 2015 and 5, 6, and 9 Feb 2015 (6Hrs. 30 Min) for TE Biomedical Engg. Students.
7 Students were present for the seminar.
Venue : Biomedical Department, 4th Floor
- PROTEUS Training :
For TE Biomedical Engineering Students on 7 March 2015 by Prof. Rashmi Ravikumar. 31 Biomedical Engineering students attended the training.
Venue : Biomedical Department, 4th Floor

- Workshop on EMBEDDED System by :
Dr. Jonethan Joshi from Eduvance Inc. Attended by TE Biomedical Engineering Students. 31 students attended the workshop.
Venue : Biomedical Department, 4th Floor
- Website Building Workshop by :
Mr. Anmol Pardeshi for TE and SE Biomedical Engineering Students held on 17/3/2015. Students of BE Biomedical Engineering Students conducted workshop.36 students attended the workshop.
Venue : Biomedical Department, 4th Floor
- Career Concealing Seminar :
For BE Biomedical Engg. on 18/3/2015 by Mr. Ashish Shah.28Biomedical Engineering students attended the meeting.
Venue : Biomedical Department, 4th Floor
- Demonstration and Lecture:
For SE and TE Biomedical Engineering students on19/3/2015 by Mr. Nikhil Narayan from Chimco Biomedical. 75 Biomedical Engineering students attended the demonstration.
Venue : Biomedical Department, 4th Floor
- Visit to Nanavati Hospital :
TE Biomedical Engineering Students went for the hospital visit on 30/03/2015. Prof. Purva Nanivadekar visited Nanavati Hospital along with TE Students. 36 Biomedical Engineering students visited the hospital.
Venue : Biomedical Department, 4th Floor
- Guest Lecture :
For TE Biomedical Engineering Students on 07/03/2015 by Miss Sangita Soni (Technical Lead) from Maestros on Telemedicine.36 students attended the lecture.
Venue : Biomedical Department, 4th Floor

Student & Staff activities

- Prof. Manali Godse was Session Chair at International Conference on Nascent Technologies Session chair Fr. C. Rodrigues Institute of Technology Fr. C. Rodrigues Institute of Technology on 10th January 2015.
- Prof. Manali Godse ; Scope of Biomedical Engineering in Hospital and other Fields Scope of Biomedical Engineering in Hospital and other Fields for Diploma in Biomedical Engineering Students Vidya Prasarak Mandal's Polytechnic (VPM Polytechnic)Vidya Prasarak Mandal's Polytechnic (VPM Polytechnic, Thane) on 15th January 2015.
- Anmol Pardesh, Mitul Parekh, Jaspreet Singh Nagi and Vaikhari Marathe
Won First Prize in Poster Competition Project Title : WEB BASED RADIOLOGY VIEWER. Poster Presentation Competition for the Innovative Medical Device Idea in 12TH National Conference and technology exhibition on "Indian Medical Devices & Plastics Disposables/Implants Industry 2015 held in Ahmedabad on 9-10th January 2015.
- Ankita Harmalkar, Shrutika Pradhan and Vedashree Rawalgaonkar
Won Second Prize for Most Innovative Medical Device Idea/Prototype Creatinine Albumin Reader in Sushruta Innovation Award in 12th National Conference and Technology Exhibition on Indian Medical Devices and Plastic Disposables/Implants Industry 2015,Ahmedabad on9-10th January 2015.
- Nazia Noorani secured 1st Position in Table Tennis (Girls) event in Zest 15 for Table Tennis Championship Zest'15 in College of Engineering Pune on 23rd Jan 2015.
- Heli Vora, Hemang Trivedi, Gargi Sabnis, Hardika Ganatra. These students represented Mumbai University for Project Competition Ardens Ratio monitoring for detection of Macular Dystrophy Avishkar 2014-15 (Inter University Level) Avishkar 2014-15, Interuniversity Level, Nagpur University and Animal Husbandry and Fishary held from 21st to 23rd Jan 2015.

- Heli Vora, Hemang Trivedi, Gargi Sabnis, Hardika Ganatra Poster Competition for selecting for Avishkar Inter University Level. These students were selected for Presenting at University Level competition Avishkar to Represent University of Mumbai Ardens Ratio monitoring for detection of Macular Dystrophy University Mumbai University of Mumbai for Avishkar 2015 Presented for District Level and State Level. Inside D.Y. Patil College Campus, RAIT, Nerul (District Level).AC Patil Kharghar (State Level) 23rd December 2014 (District Level) and 27th December 2014 (State Level).

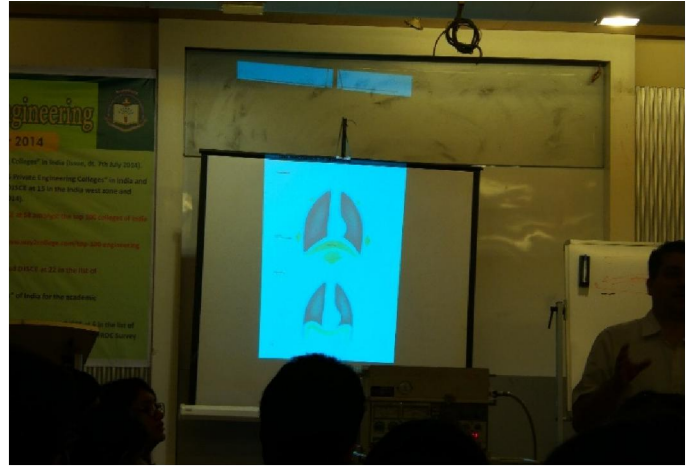
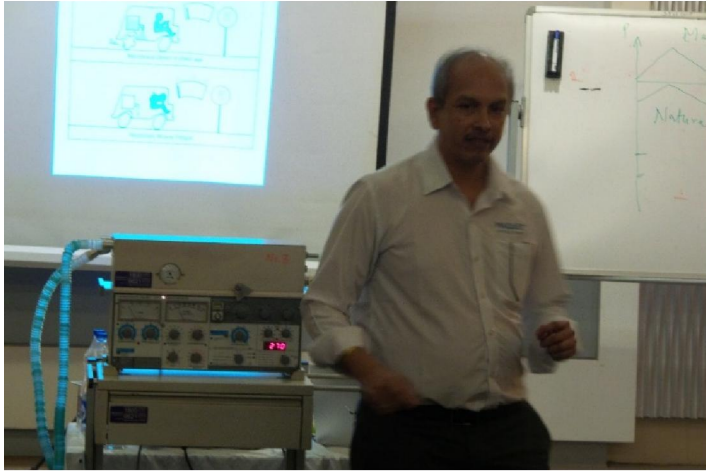
- Rushabh Shah, Aditi Shah, Drashti Kanakia, Ami Jariwala. Made and Won Voice Controlled wheelchair Avishkar 2014-15 (District Level) Avishkar 2014-15, Organized by Mumbai University. Inside D.Y. Patil College Campus, RAIT, Nerul on 23 December 2014.

HIGHLIGHTS OF 2014-15

Seminar by De Vilbiss Healthcare Ltd.



2014 MAQUET Workshop on Ventilators



INTERACTIVE SESSION BY EX-ALUMNI

Dr.Samata Kakkad



TOPPERS

Year	Name	University Position
May-15	Anmol Pardeshi	3
	Heli Vora	4
	Kavya Subramanian	6
	Ankita Harmalkar	9