



Shri Vileparle Kelvani Mandal's



Dwarkadas J. Sanghvi College of Engineering

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

*ACADEMIC BULLETIN
(2015 - 2016)*



**DEPARTMENT OF
BIOMEDICAL ENGINEERING**

INDEX

- 1) About the department**
- 2) Workshops and Seminars**
- 3) Student & Staff activities**
- 4) Highlights**
- 5) Toppers**

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.

Workshops and Seminars

- Hospital Visit:
Attended by SE Biomedical on 24/08, 25/08, 26/08, 27/08 where they visited the anatomy department of KEM hospital and it was attended by 28 people.
- Guest Lecture:
Attended by: BE, TE Biomedical on 1/9/2015 conducted by Dr. Jonethan Joshi where 55 people attended the lecture.
- Visit:
All India Institute of Physical Medicine and Rehabilitation (AIIPMR) was visited by the class of BE biomedical for the subject BPO on 11/9/2015 which was conducted by the faculties at AIIPMR. 31 people attended the lecture.
- Visit :
Students of TE biomedical attended a visit to the pathology department of Nanavati Hospital for the subject BMI- I, which was conducted on 23/9/2015 by the staff of the pathology department at Nanavati Hospital and it was attended by 38 students.
- ICCT 2015 Conference:
It was organized jointly by EXTTC, Biomedical and Electronics departments. Delegates from various institutes attended this event which was held on 24th and 25th of September. Papers were presented by 200 participants at Hotel Sea Princess, Juhu.
- Guest Lecture
The lecture was attended by TE and BE biomedical students on 9/10/2015. It was conducted by Mr. Amit Doshi on Specialist-Key Account Management. He works at Meri Life Sciences Mumbai Ltd., The lecture was attended by 46 students.
- Hospital Visit:
A hospital visit was conducted for BE biomedical for the subjects MI-II and BPO on

12/10/2015. They visited the PET-CT, MRI and Rehabilitation Department of Nanavati Hospital. It was attended by 31 students.

- Proteus Workshop Part-I:
Held for TE students on 30/1/2016 by Mr. Parth Bhatt of TE Biomedical. It was attended by 21 Students and was organized by Student Chapter Pacemaker and held in classroom 1.
- Proteus Workshop Part-II:
Held for TE students on 3/2/2016 by Mr. Parth Bhatt, attended by 21 students. Organized by Student chapter Pacemakers in classroom 1.
- Alumni Meet All Biomedical Department Students 6/2/2016, Alumni 70 Biomedical Engineering Department Classroom I
- Marathi Divas All Biomedical Department Students 27/2/2016, Dr. (Mrs.) Manali Godse 66 Biomedical Engineering Department Classroom II
- Nanavati Hospital Visit, TE Biomedical and BE Electronics 23/2, 24/2 EEG, and EMG Dept., Ultrasound X-Ray Endoscopy and Mammography 50 Biomedical Engineering Department Classroom I
- Visit to Medical Fair 2016 at Goregaon Exhibition centre, TE and BE Biomedical 11/3/2016 Medical fair 52, Biomedical Engineering Department Goregaon Exhibition centre
- Visit to Nano fabrication Lab of IIT Bombay, Mumbai, BE Biomedical 19/3/2016 Faculty of Nanofabrication Lab 31 Biomedical Engineering Department IITB, Powai
- Webinar on Telemedicine TE, SE Biomedical 17/3/2016, Agasta Software, Mrs. Neha Rasthogi 45 Biomedical Engineering Department Biomedical Engineering Department
- Industrial Visit to Imaginarium:- 3-D Printing facility TE Biomedical 23/3/2016 Guruprasad Rao, Mentor/Director, Imaginarium, Mr. Mitul Parekh, 6, Students chapter Pacemakers Imaginarium (India) Pvt. Ltd., MIDC, Marol Industrial Area, Andheri (E)
- Guest Lecture by Mr. Sahastrabudhe BE Biomedical 1/4/2016 Mr. Sahastrabudhe 25 Biomedical Engineering Department Classroom I

List of Seminars/workshops/Conferences/Faculty Development programmes/ Subject Orientation programme, etc. attended by faculty at various organizations/institutes

- Dr. (Mrs.) Manali Godse, India 2010 Healthcare: Opportunities & Challenges 30 January 2016 D. Y. Patil University, Navi Mumbai, School of Management D. Y. Patil Navi Mumbai
- Prof. Shruti Savant, Theory and applications of signal and systems 18 March to 23 March 2016 (6 Days) NIT Bhopal, Electronic and Communication Department, NIT Bhopal.
- Dr. (Mrs.) Manali Godse, Biomedical Electronics, Biomedical Electronics Guest Lecture SPIT, Andheri west SPIT, Andheri west 28/3/2016.
- Vivek Deodeshmukh (Assistant Professor) WSN based intelligent lighting control using android 3rd 2016 International Conference on “Computing for Sustainable Global development” INDIACOM-2016; ISSN 0973-7529; ISBN 978-93-80544-20-5 Bharati Vidyapeeth’s Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA), New Delhi, 16th– 18th March, 2016

Vivek Deodeshmukh (Assistant Professor), Advance Vehicle-Road Interaction and Vehicle monitoring System using Smart Phone Applications, 2016 International Conference on Innovations in information, Embedded and Communication Systems (ICIIECS) Karpagam College of Engineering, Myleripalayam Village, Othakkal Mandapam Post, Coimbatore - 641032, Tamilnadu 17th -18th March

HIGHLIGHTS OF 2015-16





DAB MEETING

TOPPERS LIST

Name	Sem VII SGPI	Sem VIII SGPI	CGPI
Save Samiksha	10	9.85	8.77
Lavanya Ramnath	10	9.69	9.32