

BIOMED

Newsletter of Department of Biomedical Engineering, GPGA

April 2022



Vision and Mission:

Our vision is to nurture engineers who can comprehend the ethical, social, and economic implications of their work by imparting quality education through integration of engineering and medical sciences for the improvement of human health care.

Our mission is:

- To create a free and open learning environment that fosters the intellectual growth of students.
- To provide skill based technical education.
- To enable students to be sensitive towards the ethical issues of medical industry
- To prepare students for confronting medical challenges by applying engineering principles.

Establishment year:
2009

AICTE sanctioned intake: 60

Total no. of teaching faculties: 5

Total number of students studying currently: 164

- 1st year: 49
- 2nd year: 58
- 3rd year: 57

Faculty details:

1. Mr. R.D.Motka (M.Tech, Digital comm., experience: 15 years)
2. Ms. J.H.Suthar (M.E. Biomedical engg.), experience: 15 years)
3. Ms. A.R.Dalwadi, (BE, Biomedical engg., experience: 8 years)
4. Ms. M.M.Patel, (M.E., Biomedical engg., experience: 8 years)
5. Ms. N.B.Modi, (M.E., Biomedical Engg., experience: 8 years)

In This Issue

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- Co-curricular activities
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Paralyzed man walks again thanks to spinal implant: Read inside

BIOMEDICAL ENGINEERING INNOVATIONS 2022



Revolutionary spinal implant

A man with a spinal-cord injury leaving him wheelchair bound has been able to walk thanks to a revolutionary new spinal implant.

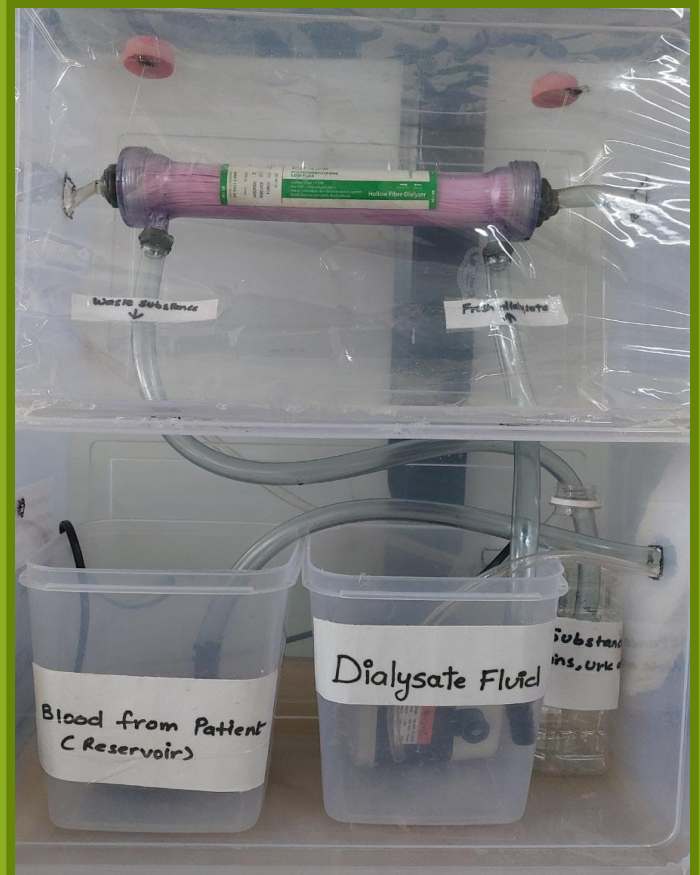
Two other men involved in the study were also able to regain control of their leg muscles after they were implanted with electrical stimulators that could help compensate for the damage to their spinal cords, according to new research published in the journal Nature.

The spinal cord carries messages from the brain to other parts of the body, allowing us to move our limbs, feel sensations like pressure or temperature, and control vital functions.

If it is damaged, the neural signals can have trouble getting through, leaving a person paralyzed or otherwise disabled. In this experiment, researchers at the Swiss Federal Institute of Technology in Lausanne used electrical implants to bridge the gap in the spinal cord, helping to carry the messages from the brain across the damaged area into a non-damaged part of the spinal cord lower down.

The effects of the treatment lasted beyond when the electrical signals stopped, and “all of the participants retained some improvement in muscle movement even after the stimulation therapy,” according to Nature.

HIGHLIGHT OF THE TERM



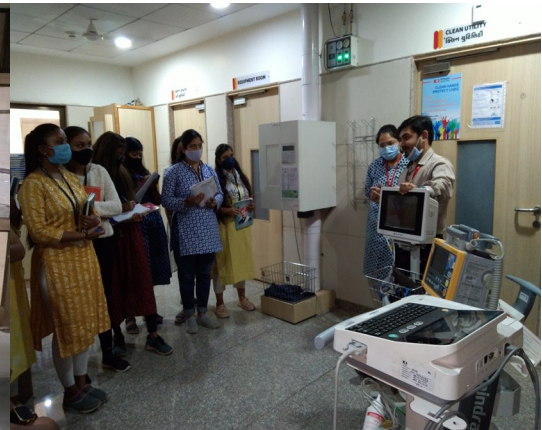
MODEL OF HEMODIALYSIS MACHINE

Hemodialysis is a procedure where a dialysis machine and a special filter called an artificial kidney, or a dialyzer, are used to clean your blood. The dialyzer, or filter, has two parts, one for your blood and one for a washing fluid called dialysate.

The final year students of Biomedical Engg. Dept. , Patel Anjali, Pandit Mishita and Bariya Kalpana had made a working model of Hemodialysis machine which can demonstrate the working principle of the HD machine. They have utilized actual hollow fibre type dialyzer in their project. By the use of motors and tubes as well as dialysate fluid, they have been successful in showing filtration process.

CO-CURRICULAR ACTIVITIES

A HOSPITAL VISIT AT K.D.HOSPITAL, VAISHNO DEVI CIRCLE, AHMEDABAD



The department of Biomedical engineering had organized a two day visit at one of the renowned hospitals in Ahmedabad- K.D. Hospital, situated at Vaishno Devi circle, Ahmedabad, on 18th and 19th of February. The visit was organized to address the practical exposure of the equipment and technologies they are studying in their theory courses. The major emphasis was on imaging, therapeutic as well as critical care instruments. The visit was specifically organized to address program outcome 4 as well as both program specific objectives. Due to busy schedule of hospital and to avoid crowding of the hospital spaces, the visit was organized for two days, where half of the class was accompanied by two faculty members on each day. The students were received and guided by one of the alumni student of department, Ms. Isha Desai, who is working as an intern at the hospital. The Biomedical Engineer Mr. Shrey Patel had put his maximum effort in showing the students around major departments of the hospital and explained to them the major equipment being used in those departments. The students received very detailed knowledge about practical parameters of those instruments as well as their applications areas. On 18th of February, total 26 students were accompanied by Mr. R.D. Motka and Ms. J.H.Suthar. On 19th February, total 24 students visited the hospital with Ms. M.M.Patel and Ms. N.B.Modi.



FACULTY ACHIEVEMENTS

Two of the faculty members of biomedical engineering department, Ms. Meghna Patel and Ms. Neelam Modi, were deputed as members of venue management committee for the "International conference of academic institutions", organized at science city Ahmedabad on 5th and 6th of January, 2022.

The only person who is educated is the one who has learned how to learn... and change.
-Carl Rogers

LIST OF RANKERS (WINTER 2021 EXAMINATION)

DEPARTMENT TOPPERS

RANK	ENROLLMENT NO.	NAME OF STUDENT	CPI	SEMESTER
1	206140303012	PATHAK PRUTHA KAMLESH	9.27	V
2	206140303010	PATEL VISHWA VIPUL	8.94	V
3	196140303039	PATEL ANJALIBEN NARENDRABHAI	8.66	III

SEMESTER 5

RANK	ENROLLMENT NO.	NAME OF STUDENT	SPI	CPI	CGPA
1	196140303039	PATEL ANJALIBEN NARENDRABHAI	8.4	8.66	8.57
2	196140303003	BARIYA KALPANABEN ARJUNSINH	8	7.88	7.78
3	196140303024	MISHITA PANDIT	7.80	8.25	8.56
3	196140303052	PATEL VAISHALI MUKESHBHAI	7.80	7.87	7.92

SEMESTER 3

RANK	ENROLLMENT NO.	NAME OF STUDENT	SPI	CPI	CGPA
1	206140303010	PATEL VISHWA VIPUL	8.43	8.94	8.43
2	206140303012	PATHAK PRUTHA KAMLESH	8.37	9.27	8.37
3	206140303038	SONI JHANVI DHARMENDRABHAI	7.8	8.66	7.8

SEMESTER 1

RANK	ENROLLMENT NO.	NAME OF STUDENT	SPI	CPI
1	216140303048	PATHAN UMEJAKHANAM MOHAMMED SHAKIL	7.76	7.76
2	216140303033	PRAJAPATI TRUPTI PRAKASHCHANDRA	7.33	7.33
3	216140303031	PESHWANI MONA NILESHBHAI	7.14	7.14