

GOVERNMENT POLYTECHNIC, MIRAJ

DEPARTMENT OF MEDICAL ELECTRONICS

ABOUT INSTITUTE

Government Polytechnic, Miraj (Dist: Sangli), established in 1990 is presently running courses in Mechanical, Civil, Computer, Medical Electronics and Plastic Engineering. All the courses are recognized by AICTE, New Delhi and affiliated to MSBTE, Mumbai. In its constant endeavor of instilling quality technical education, Government Polytechnic, Miraj is engaged in various curricular and co-curricular activities. The Institute has won the General Championship Trophy for its Overall Performance in DIPEX 2018.



Message from Principal

It gives me immense pleasure in inviting you to the virtual tour of our Government polytechnic Miraj. Our Institute is one of the premier institutes imparting quality education. The Institute also runs the Medical Electronic course in this dynamic environment our endeavor is to make our students competent, confident, self-reliant, lifelong learners ready for change. The students are also encouraged to participate in co-curricular and extracurricular activities to highlight their talents. Overall, it has been a gratifying experience to go through the various activities performed by our college from medical electronic course. Also I welcome you to be a part of this magazine. Wishing you all the absolute best for your newsletter and magazine.



Capt. Dr. N.P. Sonaje

Principal

*Date of publication: 15 Sep 2022
Volume No.: 01/2022*

ABOUT DEPARTMENT

Department was established in year 1995. It is unique course in Pune region of Maharashtra state. This course combines medical and engineering concept to support hospitals and healthcare industry. The Medical devices manufacturing sector plays an important role in improving medical treatment.

Presently handy and small medical devices manufacturing industry growing day by day.

Hence to give more skill based knowledge, six month internship for final year student's either in hospital or industry has been included in curriculum.



Message from Head of Department

I extend a very warm welcome to you for visiting the Department of Medical Electronics. Medical Electronics engineers are the one who design devices and measures that, solve medical and health-related problems by combining their knowledge of biology with engineering principles and practices. A medical electronics engineer is the doctor of those equipment's without which a real doctor or surgeon is helpless. The Medical Electronic Department is reputed for its knowledgeable, hardworking, and caring faculty members as well as enthusiastic, intelligent, and disciplined students. The department regularly organizes the expert/guest lecture to cover content beyond curriculum and organizes the activities for student personality and professional development one of which activity include this digital magazine.

I would like to invite you to browse through the departmental magazine. We appreciate your interest and look forward to your involvement with our news letter and magazine.



Dr. Nagesh Janrao
Head of Department

About Department

Vision of the Department

To educate and make socially, environmentally responsible diploma engineers for healthcare industry and empower them to face day-to-day challenges of medical equipment.

Mission of the Department

1. To educate and train students to solve broad-based problems in medical electronics by adapting professional skills and ethics.
2. To develop intellectual competency amongst medical electronics students so as to engage them with health care industry.
3. To apply technical skills to solve problems individually or as a team member to face challenges in healthcare industry.

Program Outcomes

- 1. Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.
- 2. Problem analysis:** Identify and analyses well-defined engineering problems using codified standard methods.
- 3. Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.
- 4. Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.
- 5. Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.
- 6. Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.
- 7. Life-long learning:** Ability to analyzes individual needs and engage in updating in the context of technological changes.

TY MU TOPPERS (2021-22)



**Name: SAYALI VINIT
BEDEKAR
Percentage: 94.22 %**



**Name: ALFIYA AMIN
PATWEGAR
Percentage: 94 %**



**Name: ANKIT JADHAV
JEEVANKUMAR
Percentage: 94 %**



**Name: ADITYA SHASHIKANT
JADHAV
Percentage: 94 %**



**Name: VISHNU SHRIKANT
BHALERAO
Percentage: 93.89 %**



**Name: BHAGYASHREE
NAGESH
Percentage: 93.22 %**



**Name: TANUJA TANAJI
JADHAV
Percentage: 92.78 %**



**NAME : NISHANT SHANKAR
BEHERE
Percentage: 92.33 %**



**NAME : JUBER DILAWAR N
Percentage: 92.33 %**

Teacher's day has been celebrated on 5 September 2022 in Institute.



The event was organized by Department of Medical Electronics. On the occasion of teachers day ex faculty members of this Institute were felicitated by head of Institute. On this occasion senior ex faculty member Sri Karkhanis sir guided students and teacher on topic **Attributes in Engineers**. While another ex-senior faculty member Sri Salunkhe sir guided student on **Students teacher relationship past present and in future**.

In this function to encourage young teachers all those teachers who had completed their Ph.D in last 6 month felicitate with offering Institute momentum. Dr. Rahul Ohol, Dr. Kedar Kumbhojkar, Dr. Vinod Falmari are the faculty members who felicitated in this occasion as they completed their Ph.D in their respective programs.

Finally in presidential speech honorable principal shared his experiences in his student life. Ceremony was concluded by giving vote of thanks by Shri Mengal sir.

ABOUT TEACHER



RAHUL M. OHOL

Rahul M. Ohol, Lecturer in Medical Electronics has been awarded the degree of Doctor of Philosophy (Ph D) in Instrumentation and Control Engineering by the National Institute of Technology, Tiruchirappalli, Tamil Nadu. He worked on the topic “Liquid-Liquid and Solid-Liquid Mixing Enhancement use Piezoelectric Actuation” under the supervision of Dr. B. Vasuki, Professor, Department of Instrumentation and Control Engineering, National Institute of Technology, Tiruchirappalli, Tamil Nadu.

ARTICLES

LIFESTANCE ENTERPRISES

LAPROSCOPY SYSTEM INSTALLED BY STUDENT

LIFESTANCE ENTERPRISES

Self-introduction

Hi, there was a Laparoscopy system installed by a student. His name is Mr. Samarth Autade. He works for a company named "LIFESTANCE ENTERPRISE". And is currently studying Medical Electronics at "Government Polytechnic Miraj". Recently he installed a complete Laparoscopy 3 Chip High Definition Camera system from "RICHARD WOLF" (Germany) Company. The product name is "3 Chip HD Camera System".

Product details?
3 Chip Camera HD Head,
Camera Controller
LED Light Source 1.2
VERSION Equivalent to
300-watt XENON
10mm 30 Degree HD
Telescope
4K LED Monitor
PenDrive

Before Installing the System in the Hospital. He personally installed the system in the Lifestance office and



take "Dry Demo" with Red Capsicum inside images. After successfully installing the Dry Demo 3 Chip Camera system in Krishna Hospital, Surgery was performed by Dr Amit Kele.

HOW PRODUCT PERFORMED?

This product is operated on several Laparoscopic Cases (Objects).

- It is used on object who has "BILE STONE" also known as "GALLSTONES".
- Its normal size 5mm to 30mm.
- The object has Cholesterol Stones of 10mm size and have 2to3 STONES in it.
- The object was given anesthesia before surgery begin so don't feel any pain. After that Dr. Amit Kele Sir with his subordinate's starts the surgery. He made 3 holes in objects body for surgery purpose from he can find the location of stone and then crush it & then remove it from objects body.
- In this surgery Dr. Amit Kele Sir & his staff member Dr. Deepak & Assistant Subash was so much like our system and appreciating the 4K image quality.
- After that surgery Dr. Amit Kele Sir done so many different types of Laparoscopy cases with his system. Like "GALLSTONES and "Appendectomy".
- After completing all demo surgery Dr. Amit Kele sir gave us the Feedback Report with such great comments for our image quality and user friendly system.

CONFERENCE ATTENDED BY STUDENT

LIFESTANCE ENTERPRISES

SELF-INTRODUCTION

Hi, there was a conference attended by Mr Samarth Autade. The Conference was held in "DELHI" on 29th June. The venue was Aerocity. The conference's name was "EUROASIA2022". The Conference lasted for 4

Days. It's was held by the "RICHARD WOLF" Company from Germany. The guest name was Dr. Veravar, Mr. Stephen & Mr. Markus.

BRONCHOSCOPY

What is Bronchoscopy?

(bron-KOS-koh-pee) A procedure that uses a

bronchoscope to examine the inside of the trachea, bronchi (air passages that lead to the lungs), and lungs. A bronchoscope is a thin, tube-like instrument with a light and a lens for viewing.



HOW THE TEST IS PERFORMED?

The scope can be flexible or rigid. A flexible scope is almost always used. It is a tube less than one half inch (1 centimeter) wide and about 2 feet (60 centimeters) long. In rare cases, a rigid bronchoscope is used.

- You will likely get medicines through a vein (IV, or intravenously) to help you relax. Or, you may be asleep under general anesthesia, especially if a rigid scope is used.
- A numbing drug (anesthetic) will be sprayed in your mouth and throat. If bronchoscopy is done through your nose, numbing jelly will be placed in the nostril the tube goes through.
- The scope is gently inserted. It will likely make you cough at first. The coughing will stop as the numbing drug begins to work.
- Your health care provider may send saline solution through the tube. This washes the lungs and allows your provider to collect samples of lung cells, fluids, microbes and other materials inside the air sacs. This part of the procedure is called a lavage.
- Sometimes, tiny brushes, needles, or forceps may be passed through the bronchoscope to take very small tissue samples (biopsies) from your lungs.
- Your provider can also place a stent in your airway or view your lungs with ultrasound during the procedure. A stent is a small tube-like medical device. Ultrasound is a painless imaging method that allows your provider to see inside your body.
- Sometimes ultrasound is used to see the lymph nodes and tissues around your airways.
- At the end of procedure, the scope is removed.

Student Installed Imaging Equipment in Hospital

Introduction

Name : VAIBHAV SHATRUGHN BORSE.
On 27-july-2022 he have installed C-arm machine in SHREE SAIBABA HOSPITAL in Dhule.
Under the guidance of SHATRUGHN V. BORSE the owner of Khandesh Medical System.



Specification of C-arm

Brand : Allenger.
Model name: Allenger- HF49.
Specification : 220v ,20m, 3.5kvp.
Image size : 9inch.
Other : Fully software based oprate.

ABOUT Allenger

Incorporated in the year 1987, Allengers Medical Systems Ltd is headquartered at Chandigarh, India, and is one of the leading manufacturers and exporters of a wide range of medical diagnostic equipment comprising X-ray systems, Digital Radiography systems, DSA systems, C-Arms, Cath Labs, Remote controlled RF table, Mammography, MPM, ECG, EEG, EMG, PSG, Holmium Laser, etc. Known for functionally superior and cost-effective nature, all the products offered by us are manufactured using the finest quality raw material. By virtue of our quality, system, and safety standards we have certifications like FDA, CE 2797, EN ISO 13485 : 2016, ISO 13485 : 2016, TUV ISO 9001 : 2015, AERB and BIS for our largest product range which caters to various medical applications like Radiology, Cardiology, Orthopaedics, Gastroenterology, Urology, Neurology, Software, etc.

ABOUT HOSPITAL

Shree Saibaba Hospital, Badgujar Plot, Parola Rd, opposite Central Bank, Dhule, 424001. Maharashtra.
DR. NIKHIL BADGUJAR

Name : Vaibhav S. Borse.
TYMU.

Poems



ART WORK



Samrudhi Jagtap

SY MU



Gaytri Shinde

SY MU



Hinal Pimpale

SY MU



Anjali Reddy

SY MU



Vaibhav Borse

TY MU



Vaibhav Borse

TY MU

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