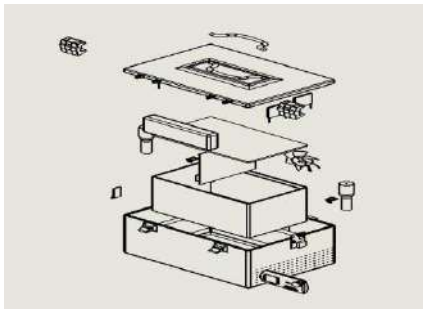
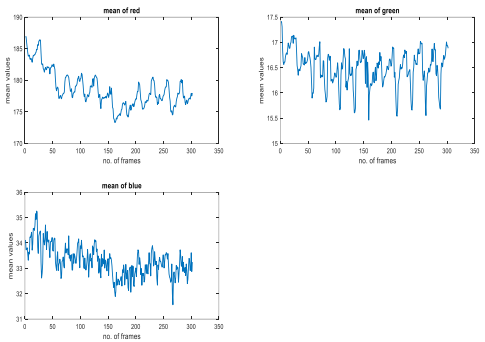
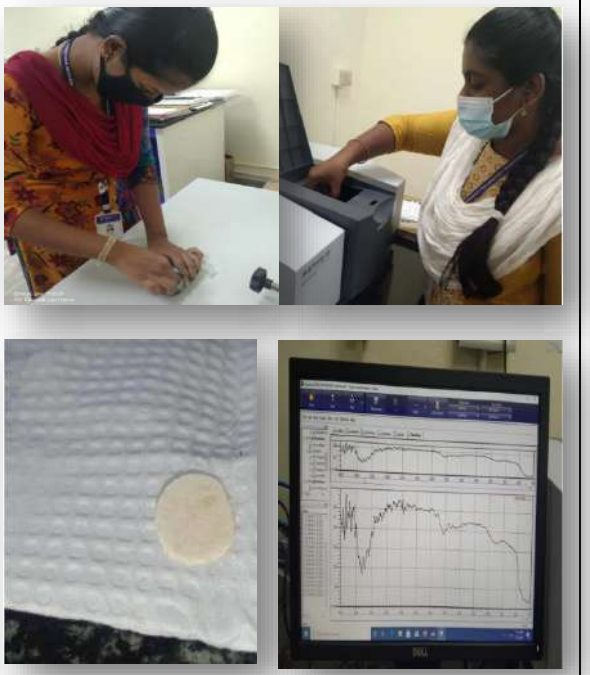
DEPARTMENT OF BIOMEDICAL ENGINEERING

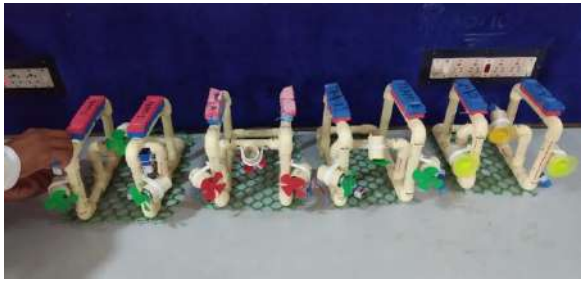
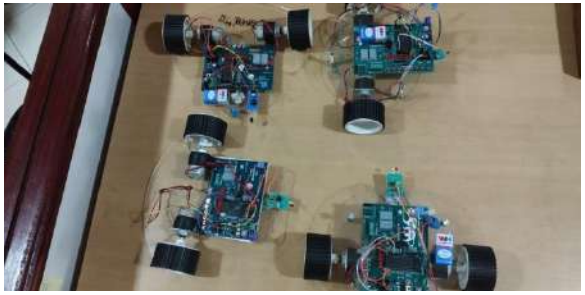
THRUST AREA RESEARCH ACTIVITIES

S.No	Department	Thrust Area	Activities		Year
			Infrastructure	**Results of the Progress made**	
1	BME	Sensors and IOT	Project Title : TECHNOLOGY ENHANCED MEDICAL ORGAN BOX Infrastructure : Sensors and Transducers Lab    **Proposed Prototype Model**	➢ This project has received grants of about "Rs.15 Lakhs" from "Support for Entrepreneurial and Managerial Development of MSME's through Incubators for GoI Assistants. ➢ In this project, we propose "TECHNOLOGY ENHANCED MEDICAL BOX FOR HUMAN ORGAN TRANSIT & MONITORING" with full integrated technology for effective organ monitoring during transportation and also to ensure that the organ is safe and sterile while transit. ➢ Currently we have organ transportation box which technologically lags in adaptive temperature control, multilayered compartments, real-time monitoring of the organ condition etc. ➢ The prototype model has been developed and the box dimension has been formulated and fixed for fabrication.	2020

2	BME	Robotics	Project Title : MULTI-GRADIENT PATIENT WHEEL CHAIR Infrastructure : Robotics lab   **Fixation of Sliding Contacts for Foldable Joints of Wheel Chair**	➢ The Multi Gradient Patient Wheel Chair is a versatility gadget intended for moving patients, moving individuals starting with one spot then onto the next with the assistance of a participant or by methods for self-pushing. ➢ This clever thought of the Multi-Gradient Patient Wheel Chair intended to lift patients,(who can't lift them-self easily)from a seat with no help. ➢ This semi-mechanized wheelchair with self-standing and resting situating, that offers different choices to the client/patients Sliding contacts for the folding movements of the wheel chair has been initiated ➢ The outer frame work & casting of the Wheel Chair is in progress ➢ Wheels for balancing and rolling has been purchased ➢ Design parameters have been fixed corrected for framework layout.	2020
3	BME	Sensors and IOT	Project Title : HOTOPLETHYSMOGRAPHY FEATURE EXTRACTION FOR THE EVALUATION OF HYPERTENSION Infrastructure : Sensors and Transducers Lab 	➢ This project is used as an homecare device application for measuring the features of Photoplethysmography for evaluation of hypertension ➢ The main objective of this project is to acquire & process video signal through mobile phones to extract the necessary features and also to deploy the code for detecting the hypertension. ➢ The waveform of mean values of red, green, blue pixels from the image frames are been	2019

			 **Simulated Output**	generated using image processing techniques ➢ The code for detecting the hypertension is in progress. ➢ This project has received a grant of Rs.1.5 Lakhs from "AVIT-SEED Money" Scheme.	
4	BME	Nanotechnology	Project Title : EXOGENOUS CONTRAST AGENT USING NANOTECHNOLOGY FOR CANCER DETECTION THROUGH ULTRA SOUND SCANNING Infrascture : Nanotechnology Lab 	➢ This project is intended to develop photo acoustic contrast agent using gold nanoparticle for cancer detection with ultra sound scanning. ➢ In this project, Zinc Oxide (ZnO) Nano particles is synthesized using Green Synthesis method by using AzadirachtaIndica (Neem). ➢ Later, an capping agent comprising of Gold (Au) will be coated over an Zinc Oxie (ZnO) particle to form a exogenous contrast agent for Cancer detection through Ultra Sound Scanning.	2019

			 **Synthesis of Zinc Oxide (ZnO) using Azadirachta Indica**		
5	BME	Robotics	Activites Done: ➢ AVIT Robotics club was inaugurated on 15-08-2018 ➢ A Three day's training program on "Fundamental of Robotics" in association with SAKROBOTICS (IIT Bhubhaneshwar) was organized on 15th October, 2018 to 17th October, 2018 ➢ A Three day's training program on "ROBOT DESIGN AND DEVELOPMENT" in association with SAKROBOTICS (IIT Bhubhaneshwar) was organized on 06th February, 2018 to 08th February, 2018 ➢ Many Robotics Projects have been done by the students through Hands-on-Development.	 **Inauguration of AVIT Robotics Club**  **Training program on "Fundamental of Robotics"**	2018

				 **Training program on** **“ROBOT DESIGN AND DEVELOPMENT”**  **Water Vehicle Robots**  **Line Follower Robots**	