

B.Tech. in Mechanical Engineering (Robotics) Programme

The B.Tech in Mechanical Engineering (Robotics) programme, introduced from the academic year 2020-21 with an intake of 60, is a combination of four domains - Core Mechanical Engineering, Electrical and Electronics Engineering, Computer Science Engineering, and Mathematics. It emphasises on synergistic integration of mechanical structures, mechanisms, electrical and electronic components, electromechanical sensors and actuators, microcontrollers, and programming thus provides versatility to the graduates' capabilities. Graduates will be able to adapt flexibly to a wide range of industries, and make contributions in developing new technologies and new approaches in production. Graduates will be able to upgrade their knowledge and skills by pursuing their higher studies in local or overseas universities. The programme facilitates learning how to build robots and gadgets as required in specialized areas.

The program will provide a curriculum spread through class room learning and experiential learning through hands on, Internship, and project work. Students will learn fundamental theory, modelling methods, hardware components, interfacing requirements, simulation and programming tools, and practical applications of robotics. In addition to mechanical aspects, students will learn about building-blocks of robotics, i.e., sensing, actuation, computing technologies, and algorithms, thus being introduced to real-world tools used by practicing professionals.

We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. The industries are trying increase production in various sectors through automation. The automation of work through robotics has led to a substantial increase in productivity. The program provides top-quality expertise and skills for successful professional careers in research, technology development and design.

On successful completion of the program, the student shall be able to

- design and develop Robots and Robotic solutions.
- provide mechanical and software solutions for automating tasks / processes to improve efficiency / performance.
- research on innovative robotics technology.
- develop AI systems and algorithms.

Opportunities:

- Robotics Industry
- Aerospace and space research industries
- AI industry
- Automotive Sector
- Aircraft and Shipyard Industry
- Defence Sector
- Toy Manufacturing Industries
- Machine Tool Manufacturing Industries
- Packaging, Transportation and logistics
- Start-ups.

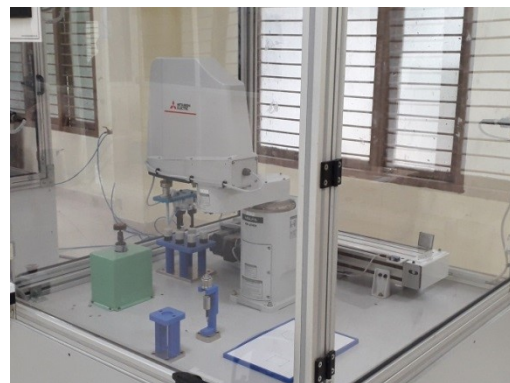
Some of the Facilities Available for Student Training:



Industrial Robot Cell (Mitsubishi 6-axis Articulated Arm)



Industrial Robot Cell (Mitsubishi 4-axis, SCARA)



**3D Printing DELTA
(Parallel Robot)**



**2-Axis Milling Machine
(Parallel Kinematic Machine)**



**3-Axis Milling Machine
(Parallel Kinematic Machine)**



Wheeled Robo Servant



2-Legged Walking Robot