



*Department of Electronics and Telecommunication Engineering*

**Department of Electronics and Telecommunication Engineering**

<b>Course Name:</b>	<b>Experimental Robotics</b>
<b>Name of the Faculty:</b>	Prof. Jyoti Deore
<b>Designation:</b>	<b>Assistant Professor</b>
<b>Organization/Institution:</b>	<b>VIVA Institute of Technology</b>
<b>Duration:</b>	6 <sup>th</sup> Jan 2025 to 9 <sup>th</sup> April 2025
<b>Time:</b>	<b>30 hours</b>
<b>Number of Students:</b>	24

**Course Objectives:**

1. To offer a foundational understanding of robotics principles and technologies..
2. To Guiding participants in programming and controlling serial robotic arms.
3. To demonstrate the operation and control mechanisms of tracked mobile robots.
4. To explore locomotion strategies and path planning for hexapod robots.
5. To delve into movement planning and control for humanoid robots.

**Course Outcomes:**

After successful completion of the course, the students are able to

1. To gain experience of conducting experiments on different types of robots
2. To understand about various components of robots
3. Understand method of a robot control of a robot depending on requirement and robot intelligence
4. Learn to design and implement locomotion strategies for six-legged robots, focusing on stability and adaptability.



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**Programme Summary:**

**Duration: 30 Hours**

**Venue: VIVA Institute of Technology, Shirgaon.**

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on "Experimental Robotics" during 6th Jan 2025 to 9th April 2025.

The Experimental Robotics course is intended to provide hands-on experience in various aspects of robotics, including robot control, path planning, and real-world applications.. his course is ideal for students, researchers, and robotics enthusiasts who want to gain practical expertise in robotics This course will also provide an real-world application of robotics concepts through experiments and simulations.

The event was a success with very positive feedback from the participants. The speech by the Principal Dr. Arun Kumar was an inspiring one that covered the broad future scopes of the field. The Principal being an encouraging one who said that for such events where in student development is involved, he will always be supportive. In the speech given by Mrs. Archana Ingle, H.O.D of EXTC, students gained an idea of how this workshop can be utilized to take creative projects in the field of engineering.

**Topics covered in course:**

Sr.no	Contents	Hrs.
1	Teaching of Serial Manipulator	6
2	Control of Tracked Mobile Manipulator	6
3	Path and Gait Planning of Six-legged Robot	6
4	Navigation of Drone	6
5	Path and Gait Planning of Humanoid Robot	6



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**VIVA Institute of Technology**  
 Approved by AICTE New Delhi, Recognized by DTE, Govt. of Maharashtra  
 And Affiliated to University of Mumbai  
**NAAC "B++" Grade**

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**CO-PO MAPPING**

Course Outcome	Program Outcome												CO Target level
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	
CO1	2	3	3	0	0	0	0	0	0	0	0	0	2.6667
CO2	2	3	3	3	0	0	0	0	0	0	0	0	2.75
CO3	2	3	3	3	3	3	1	0	2	0	0	0	2.5
CO4	2	3	3	3	3	2	1	0	2	0	0	0	2.375
PO Target	2	3	3	3	3	2.5	1	-	2	-	-	-	1.5

**STUDENT CERTIFICATE FORMAT**

 <p>Vishnu Waman Thakur Charitable Trust's  <b>VIVA Institute of Technology</b>          Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and Affiliated to the University of Mumbai          Shirgaon, VirarE., Dist: Palghar-401305, Maharashtra  <b>NAAC "B++" GRADE</b></p>	
<h2>Certificate of Appreciation</h2> <p>This is to certify that</p> <p><b>DUBEY BISHAL BRIJESH</b></p> <p>Student of <b>Electronics and Telecommunication Engineering</b> department has successfully completed bridge course on <b>"EXPERIMENTAL ROBOTICS"</b> conducted during 6<sup>th</sup> January 2025 to 9<sup>th</sup> April, 2025 at</p> <p><b>VIVA Institute of Technology, Shirgaon.</b></p> <p>His / Her contribution is highly appreciated.</p>	
 (Mrs. Archana Ingle) HEAD OF DEPARTMENT	 (Dr. Arun Kumar) Principal
In Association with: <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	