

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

A REPORT ON "MOBILE ROBOTICS"

1	Name of the Activity/Event	Certificate Course on " Mobile Robotics "		
2	Date of Activity/Event	17th September 2019 to 20th September 2019		
3	Organized by	Department of Electronics And Communication Engineering		
4	Place of Activity/event	Visvesvaraya auditorium		
5	Resource persons / guest / organization	T.Avinash Technotran,Hyderabad		
6	Type of activity/Event	Certificate Course		
7	Activity/Event objectives	<ul style="list-style-type: none"> This course provides the students a base to mobile/GSM robotics. They will learn the automation technology and get better understanding and grip on its applications. The course will focus on the application of robotics, use of technology & its internal working so that the students can grasp the concepts to the core. 		
8	Participation	Students	Faculty	Total Participation
		76	-	76
9	General remarks	<ol style="list-style-type: none"> 1. Assembling of Mobi-botricks Kit 2. Programming of Atmega 8 microcontroller for Mobile control Robot 3. Testing of Final Circuit 4. Testing of a DTMF Circuits 		
10	Suggested Improvements	Need Hands-on session		
11	Enclosures	<ol style="list-style-type: none"> 1. Program report with Snapshots 2. Attendance sheet 3. Certificates 4. Brochure 		
12	Signature of In charge /Convener			

The Electronics and Communication Engineering department has organized a **Certificate Course** on “**Mobile Robotics**” from **17th September 2019 to 20th September 2019**. The resource person was T.Avinash from Technotran, Hyderabad. Students of III and IV B.Tech ECE have attended this certificate course.

Present day world has evolved with leaps and bounds. There has been a great advancement in Technology which has brought about a great change in how man accomplishes his tasks. ‘The Industry’ has always been the first to absorb any new advancement in Science. Robotics has been evolving since the 1960s but any credible development has just ‘caught fire’ in recent years. Present day, manufacturing at a large scale by corporation that meet any deadline given to them has been a consequence of Robotics.

The resource person from Technotran, Hyderabad shared his insights, real life scenarios, practical use cases and their solutions on mobile robotics. Mobile Robotics is a new discipline in the ever growing field of Robotics. These days everyone from the student to the business owner seems to have a cell phone. This course entitled Mobile Robotics is based on controlling the robot from your cell phone.

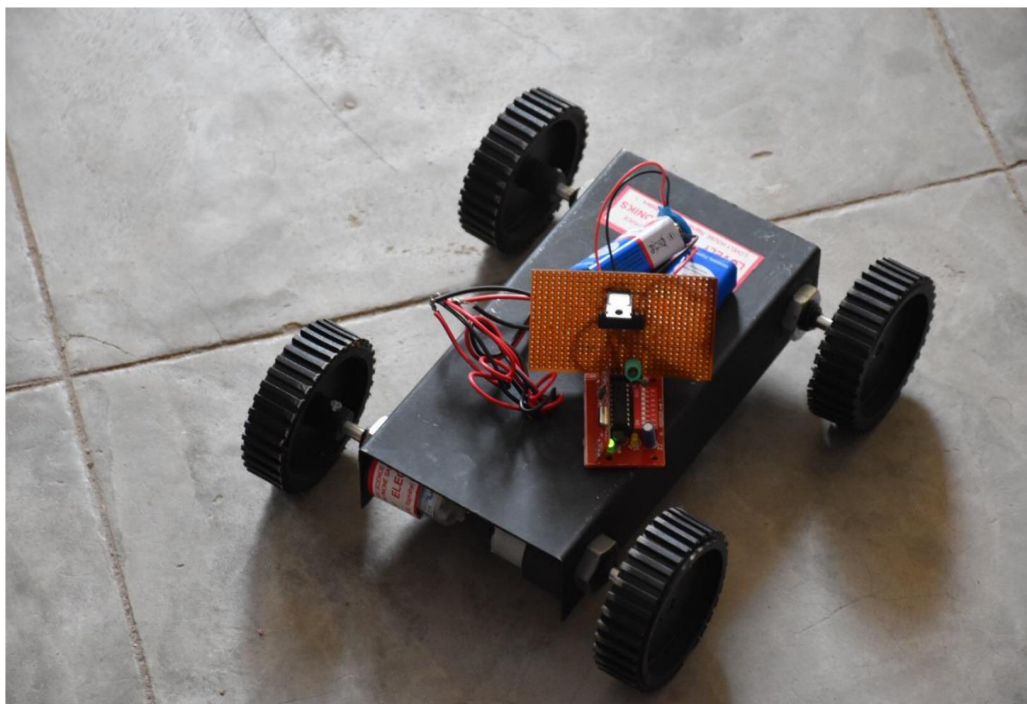
This course provides the students a base to mobile/GSM robotics. They will learn the Automation technology and get better understanding and grip on its application. They will be developing their own models by their own hands. Projects related to mobile robotics were demonstrated to the students as they focus on the application and use of technology rather than their internal working so that a person can grasp the concepts well. Students were instructed to build and manage their own robotics kit.

This course provides rich hands-on experience to the students on designing the three different kinds of robots (Manual Robot, Line Follower Robot & Mobile Controlled Robot). Practical demonstration of manual robotics, line follower and mobile robotics was given to the students. **Manual Robotics** is a manual remote control robot which works & moves on the instruction of human with the help of a wired Remote. A **Line Follower** is a well known application of robot where a Robot follows a black/white line on an

arena. **Mobile Robotics** is again a well known application of robot where in a robot is being controlled with the use of Mobile Phones.



Hands on session on Mobile Robotics



Practical demonstration of Mobile Robotics

On the first day the Session started with keynote lecture on introduction to Mobile Robotics. It also provided the insights of applications of robots in the real world. Introduction to basic electronics was given and different electronic components that are related to mobile robotics and the design process were taught to the students. Use of transistors in the practical circuits and use of capacitors in the filter circuits was demonstrated practically. Introduction to the integrated circuits and working of integrating circuits

On the second day, the session began with the introduction to Microcontroller, Architecture of Microcontroller and its interfacing was taught to the students. He also discussed the use of Microcontrollers in our own circuits and how microcontroller programming can be done in C. Writing, Compiling and debugging a C Program was explained in detail to the students. Demonstration of loading a compiled C program on a Microcontroller was given to the students.

On the third day, introduction to DTMF(Dual Tone Multi Frequency) signaling was given by the Resource person. The following session continued with interfacing of DTMF ICs, the basic concepts and algorithms related with it. Practical demonstration of testing of DTMF circuits was given to the students.

On the fourth day a mobile Phone Controlled Robot was developed. Assembling of MObi-botricks kit was done by the students. Programming of microcontroller for Mobile Control robot was done. The final circuit was tested and the test run was done for the mobile controlled robot.

At the valedictory ceremony, students were awarded the participation certificates and were encouraged to continue their journey with Mobile Robotics. The course came to an end with a group photo session.