RUDHRAVENI MUTHUSWAMY POLYTECHNIC COLLEGE

ISO 9001 : 2015 Certified Institute

Udumalpet, Tamilnadu, India

e-Yantra Embedded Systems & Robotics Lab

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www.rmptc.ac.in

RUDHRAVENI MUTHUSWAMY POLYTECHNIC COLLEGE

ISO 9001 : 2015 CERTIFIED INSTITUTE | UDUMALPET, TAMILNADU, INDIA

Founders,

Shri. Muthuswamy Naidu
Smt. Rudhraveni Thayarammal

Institute Vision

To transform students to trained professionals and global citizens through appropriate teaching – learning processes.

Institute Mission

IM1. To achieve academic excellence through teaching – learning processes and to provide quality education.
IM2. To establish laboratories with the state of the art equipment's, tools and technologies to provide hands-on experience.
IM3. To establish industry institute interaction to meet stakeholder's expectation.
IM4. To offer value added programs to ensure holistic professional and personality development of the students.
IM5. To motivate students to engage in continuous learning, entrepreneurship and instill a passion for creativity.

Branches Offered:

- Diploma in Mechanical Engineering
- Diploma in Electrical and Electronics Engineering
- Diploma in Electronics and Communication Engineering
- Diploma in Computer Engineering
- Diploma in Mechatronics
- Diploma in Garment Technology

E-YANTRA EMBEDDED SYSTEMS & ROBOTICS LAB

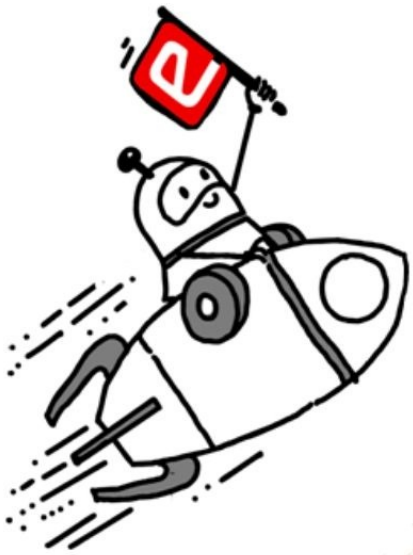
RUDHRAVENI MUTHUSWAMY POLYTECHNIC COLLEGE
UDUMALPET, TAMILNADU, INDIA

Vision

To engage students and teachers through exciting hands-on application of math, computer science, and engineering principles to help provide practical solutions to the real world problems.

Mission

- To ensure sustained use of the robotics labs set up through eLSI.
- To solicit innovative solutions to real world problems from students in our college across all departments.
- To nurture engineering projects in Embedded Systems and Robotics through the lab.
- To nurture a startup culture at the eLSI labs.



e-YANTRA EMBEDDED SYSTEMS & ROBOTICS LAB

RUDHRAVENI MUTHUSWAMY POLYTECHNIC COLLEGE
UDUMALPET, TAMILNADU, INDIA

Class A Awards and Completion Certificates

- Our college team comprising of 04 staff each from one department attended a 02 day TBT (Task Based Training) program conducted by e-yantra team, IIT Bombay at Hyderabad.
- This team was one of more than 100 teams participated from engineering and polytechnic colleges from all over India.
- Based on submission of our 06 tasks with bonus marks we earned for submitting all the 06 tasks before the timeline, our team was selected as one of the 08 top Class A Award Winning teams .

e-Yantra Embedded Systems & Robotics Lab

RUDHRAVENI MUTHUSWAMY POLYTECHNIC COLLEGE
PALAPPAMPATTI, UDUMALPET-642128

e-Yantra

What is e-Yantra?

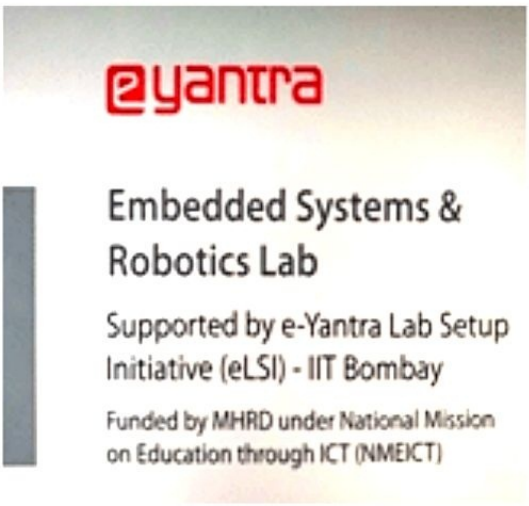
- Project e-Yantra is an initiative to spread education in Embedded systems and Robotics by IIT Bombay sponsored by Ministry of Human Resource Development through the National Mission on Education through ICT (NMEICT).
- This project was the Brainchild of two of IIT Bombay's open source evangelists and veteran professors in embedded systems, professors Kavi Arya and Krithi Ramamritham,
- e-Yantra is an MHRD sponsored project under the National Mission for Education in ICT (NMEICT)program.

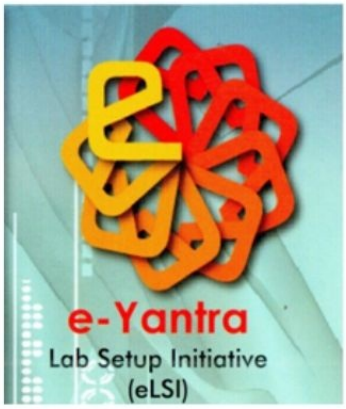
e-Yantra Embedded Systems & Robotics Lab

e-Yantra Embedded Systems & Robotics Lab

the objective

- The foremost objective of our management to set up e-Yantra Embedded Systems & Robotics Lab in our college is to introduce the power of "Project Based Learning" & to promote the study of Embedded Systems and Robotics among the students and enable them to do embedded project with the guidance from our faculty certified by IIT-Bombay.





(eLSI)

e-Yantra Lab Setup Initiative

- One of e-Yantra initiatives, e-Yantra Lab Setup Initiative (eLSI) supports the infrastructure creation at colleges by providing a platform for training teachers both in theory and applications of Robotics, in addition to providing guidance in setting up a Robotics lab at the college.

eYRC

e-Yantra robotics competition

- eYRC is a group competition where students in a team of 4 program a given robotic platform to solve a given problem in 12 - 15 weeks.
- The emphasis is on systematically applying one's mind to solving the problem with given resources and solving the problem by successfully implementing the best solution.
- Several tasks are assigned to the teams during the course of the competition to take them through the project lifecycle in a systematic manner. A lot of emphasis is placed on problem exploration, documentation and presenting the results.

e-Yantra Embedded Systems & Robotics Lab

e-Yantra Ideas Competition (eYIC)

this initiative aims:

- To ensure sustained use of the robotics labs set up through eLSI.
- To solicit innovative solutions to real world problems from students in eLSI colleges across the country.
- To nurture BE projects in Embedded Systems and Robotics at eLSI colleges.
- To nurture a startup culture at the eLSI labs.

eYS

(e-Yantra Symposium)

- e-Yantra Symposium(eYS) is an annual event at IIT-Bombay -- to bring together colleges which have set up robotics labs through the e-Yantra Lab Setup Initiative (eLSI).
- The goal is to share projects and brainstorm new ideas for improving pedagogy and the quality of engineering projects.
- This event acts as a platform for showcasing selected projects from the e-Yantra labs through the e-Yantra Ideas Competition (eYIC).

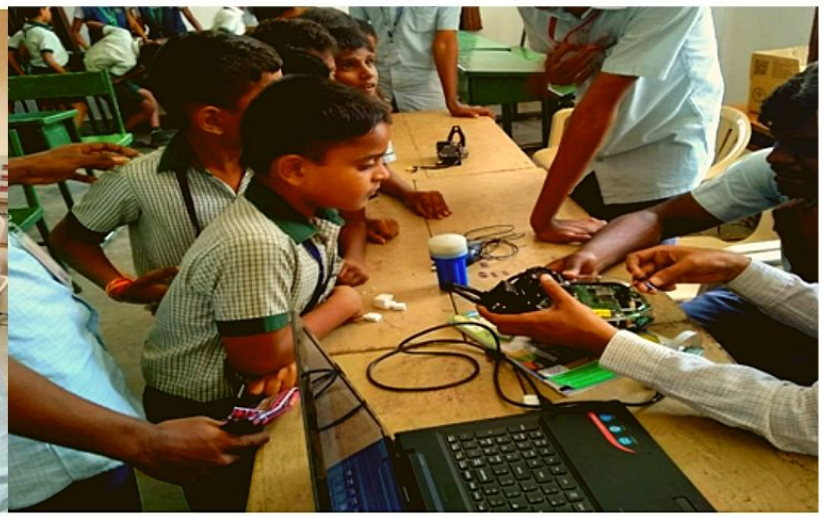
How does the college benefit?

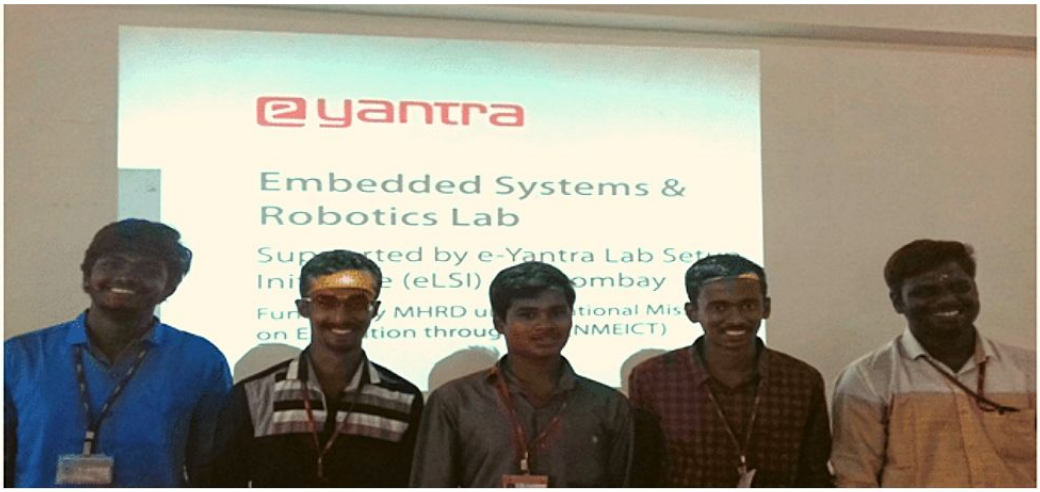
- The students of all branches have evinced keen interest in knowing the fundamentals of robotics and its application in various fields.
- The final year project done by the students have projected their engineering skills by the application of robotics. This quality is apparent in their projects.
- The staff members irrespective of their branches, have enthusiastically participated in sharpening their skills by knowing the nuances of robotics knowledge.
- The acquisition of robotics knowledge has opened the sluice gates of their engineering skill.

Road map of e-Yantra Embedded Systems & Robotics Lab, RMPTC

news in pictures....

1. Students were given training of C programming during club hours through video presentations and hands on training of simple programs in C.
2. Students eagerly attending demo class of Fire Bird V robot basics.
3. Our students demonstrating their robotics project to school students during Young Scientist Exhibition – 2020 conducted at the college during January 2020.
4. Our 2017-2020 batch students who did their final year project successfully in e-Yantra Embedded Systems & Robotics Lab.





Our Project

OBSTACLE AVOIDANCE ROBOT USING SHARP IR SENSOR

In today's scenario learning and

building an Autonomous Intelligent Robots is required to help the mankind to do our jobs easily and at precise. This can be applied to build smart robots to be used to perform wide applications from a simple house hold smart helper to work in vulnerable conditions.

Such robots can perform desired tasks in varied unpredictable environments without continuous human guidance.

So in this project obstacle detection in the way of the robot is sensed, and the robot follows its path to reach the destination by clearing the obstacle using the gripper and intelligent programming.

Final year students are encouraged to do their project in this lab guided by certified faculty.

Fire Bird V platform.....

- Prabakaran.V,
Lecturer &
Project guide,
Dept of EEE,
RMPTC

What does our student say?

ARUN.D

-III Year, EEE

"This project gave me hands on experience in working with advanced Fire Bird V robotics platform. Surely this exposure will help me in my higher studies and reach my goal to become a robotics engineer".

ARAVINTHKUMAR.L

- III Year, EEE

"Working on this project gave me opportunity to explore many concepts of home department but also other disciplines of engineering."

KAMALESWARAN.P

- III Year, EEE

"Before taking up this project, i dont know anything about robotics. Now i got a practical exposure on how to apply my ideas in this field."

What does our student say?

KARTHIK.S

-III Year, EEE

"I had always an interest to know about robots from childhood and only after joining in this e-yantra project, i got an opportunity to work in it."

PATHMANATHAN.S

- III Year, EEE

"After working in e-yantra project i my confidence got increased and i learnt many methods of problem solving."

"You tell me and i forget,
You teach me and i remember,
You involve me and i learn."

Blessings from the Honorable desk

SMT.SUMATHI KRISHNAPRASAD

Director, RMPTC

"Congrats for achievement!
You have created a tradition and
let this be passed on to your juniors.
Best wishes for your next adventure!"

DR.J.MANJULA JAYARAMAN

M.A., M.Phil., Ph.D.,
Advisor, RMPTC

"We're so proud of the countless hours of study and hard work that you've put into finishing this project. Education is not like filling a pail, but lighting a fire. Explore! Discover! Dream!"

MR.M.KANNAN,M.E.,

Principal, RMPTC

"So pleased to see you accomplishing great things as a team.You worked hard and you did it! Enjoy life to the fullest. May your hopes and dreams become reality."

Blessings from the Honorable desk

MR.M.RAMANATHAN,ME.

Dean - Academics, RMPTC

"Creativity is inventing, experimenting, growing, taking risks, breaking rules, making mistakes, and having achieved through learning.
Warmest congratulations for the team"

MR.T.SIVAKUMAR

BE,MBA,HoD - EEE, RMPTC

"Excellence isn't a skill - it's an attitude. Keep up your good work and continue to strive for perfection! Heartfelt thoughts are sent your way."

~ Sky is the limit ~

TOGETHER WE CAN ACHIEVE

Pen your valuable feedback & suggestions to...

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