STEM-Ed

Science, Technology, Engineering and Math Education

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Augmented Reality Partner

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Next Reality Classroom

GENERAL BROCHURE

ABOUT
IEEE PES Kerala Chapter

IEEE PES Kerala Chapter was founded in the year 1999, with a membership of 12 & now it is the largest chapter in the world with 3700+ members which includes students, young professionals & senior members. PES Kerala Chapter won the Outstanding Chapter Award in 2012 and PES Membership Growth Award for the year 2013 in the small chapter category and was adjudged first place in the IEEE PES Chapters Website Contest in 2013. Our mission is to be the leading provider of scientific and engineering information on electric power and energy for the betterment of society, and the preferred professional development source for our members. The scope of the society embraces research, development, planning, design, construction, maintenance, installation and operation of equipment, structures, materials and power systems for the safe, sustainable, economic and reliable conversion, generation,transmission, distribution, storage, and usage of electric energy, including its measurement and control.

44 STUDENT BRANCH CHAPTERS

3595 IEEE PES STUDENT MEMBERS

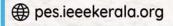EVENTS ORGANISED TILL DATE **300+**

What is STEM-Ed

- *STEM-Ed (Science Technology Engineering and Math Education) is a four-month-long mentoring cum project development program focused on school students and teachers intending to help the children develop their skill sets in STEM.*

- *The event consists of workshops, followed by training sessions on Project Development and Implementation.*

- *Students shall submit project proposals based on the concepts taught during the training session.*

- *An expert committee will analyze the submitted project proposals and later provide all the necessary components for the implementation.*

- *Developed projects will be then presented before the judging panel and concluded by a Virtual Project Fair.*

Benefits of STEM-Ed

- *The program aims to introduce the students to STEM at an early age, which will facilitate to develop an affinity among them towards the field of Engineering and Technology.*

- *The project implementation will help them familiarize basic Engineering components and cutting-edge technologies by providing hands-on experience by providing hands-on experience.*

- *Over the course of the project, the students will be able to develop elementary software skills, identify and address real life problems and formulate viable solutions for the same.*

- *The program helps to inculcate soft skills, like team management, planning, organization and time management, problem solving and communication skills.*

- *Involvement in such projects will help to equip them with the ability to face challenges and churn out solutions for the future.*
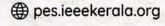
WHO CAN AND HOW TO APPLY

- *Registrations are open for students of 8th, 9th and 10th grades across Kerala.*

- *Students must have a **laptop or computer as mandatory** during the virtual training sessions.*

- *Only one team per school will be allowed to participate, comprising 4-5 students, with their respective teacher being their team leader cum mentor.*

- *Only 10 teams will be allowed to participate in the further mentoring and project stage, shortlisted via Hackathon and a call interview.*

CLICK HERE TO REGISTER

*(Note: The form should be filled by the team leader.
The teacher in each team will be coordinating as
the team leader of the respective team.
Only one team per school is allowed to participate)*

STEM-Ed GENERAL STRUCTURE

Mentoring

- Teachers are provided with a special training session to mentor their teams in achieving the goals of the program.
- Each team will be assigned a Mentor who will supervise them until the final implementation of STEM-Ed.

Workshops

- Students will be given training workshops based on their preferred domains.
- The workshops taken will include:
  1) Basics of circuits and simulation using Tinkercad
  2) Basics of coding and block coding (MIT App Inventor).
  3) Motion detection system, light detector system, laser security system, and capacitance-based switching.

Project Development

- Call for Project proposal announcement following the virtual workshop cum training sessions.
- Video presentation of the submitted project proposals, reviewed by an expert panel of judges.
- The components required for each team's project prototype implementation will be purchased and provided to the respective teams according to submitted proposals.
- Analyzation of each project by an expert committee followed by providing global exposure through an online Science fair.

Timeline

29 AUG — **Registration Starts**

04 SEP — **General Information session-** Introduction to STEM, IEEE, Program Overview, Purpose of program, general information session.

11 SEP — **Augmented Reality Teaching Aids for Online Classrooms** — Tut AR by INFUSORY Next Reality Classroom

14 SEP — **Registration closing**

16-18 SEP — **Hackathon (Online treasure hunt)**

19 SEP — **Shortlisting teams** (15 Teams)

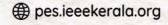**20-22 SEP** — **Interaction with shortlisted teams**

23 SEP — **Announcing selected teams**

25 SEP — **Common Mentoring cum Project Orientation Session-** Common Mentoring Session on Program Structure, Requirements, Softwares, Technologies, Timeline, Skills that will be developed and how to make use of the program.
Project Orientation based on Problem statement explanation, Expected outcome, How to approach a project?
Call for Projects

Timeline

26 SEP — *Workshop on Basics of circuits, simulation using tinkercad*

02 OCT — *Workshop on Basics of coding, Block coding, (MIT App Inventor)*

03 OCT — *Workshop on Motion detection system, Light detector system, Workshop on Laser security system, capacitance based switching*

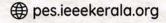**08 OCT** — *Deadline for call for projects proposals*

09-10 OCT — **Project presentation**

16-17 OCT — **Review of project presentation**

10-24 OCT — **Distribution of Components**

25 OCT - 08 NOV — **Hardware Implementation**

13-14 NOV — **Final Project Presentation and Working Model Video Demonstration**

Timeline

28 NOV — **Closing Ceremony and Online Science Fair**

10 DEC — **Report Compilation and Submission**

STEM-Ed

Science, Technology, Engineering and Math Education

FOR MORE INFO CONTACT

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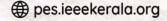
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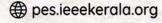**IEEE STUDENT BRANCH**
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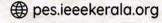GOVERNMENT ENGINEERING COLLEGE IDUKKI

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