Department of Electrical and Electronics Engineering KPR Institute of Engineering and Technology



NEWSLETTER





ELECTROBLITZ

VOLUME 7, ISSUE 3 March 2021

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VISION AND MISSION OF THE DEPARTMENT

Vision:

To be the **centre of higher learning** in the field of Electrical and Electronics Engineering by educating the students to meet the **global challenges** with **professional ethics and social consciousness**.

Mission:

- Providing technical, intellectual and ethical environment to the students through knowledge centric education and research.
- Collaborating with industries in the vicinity, nationally and internationally for exposure and **innovation**.
- Enabling the students to serve the society through prolific ideas.

Programme Educational Objectives (PEOs)

The Graduates of Electrical and Electronics Engineering will

- **PEO1** Possess an adequate knowledge to meet the needs of the stakeholders and excel in their chosen profession with good communication and managerial skills.
- **PEO2** Adapt to emerging technologies and practice their profession confirming to ethical and human values.
- **PEO3** Continuously improve the habit of self-study through professional development activities.

Programme Outcomes (POs)

Graduates of Electrical and Electronics Engineering will be able to:

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- **PO1 Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2 Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3 Design/development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.





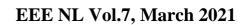
- **PO4 Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5** Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **PO6** The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **PO7** Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **PO8** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO9** Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO11 Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO12 Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

Programme Specific Outcomes (PSOs)

Graduates of Electrical and Electronics Engineering will able to:

- **PSO1** Develop skills to the expectations of the dynamic industrial practices in Electrical Engineering and allied areas.
- **PSO2** Analyze, design and integrate various renewable energy sources to meet the energy demand.





FACULTY DETAILS

S.NO	NAME OF THE FACULTY	DESIGNATION
1.	Dr.V.Kumar Chinnaiyan Professor & Head	
2.	Dr.J.Karpagam	Professor
3.	Dr.K.Mohanasundaram	Professor
4.	Dr.R .Uthirasamy	Associate Professor
5.	Dr.V.S.Chandrika	Associate Professor
6.	Dr.P.Pandiyan	Associate Professor
7.	Dr.A.Karthick	Associate Professor
8.	Mr.S.Vivekanandan	Assistant Professor (Sl.G)
9.	9. Mr.G.Sarvanan Assistant Profess	
10.	I.O.Mr.R.Sampath KumarAssistant Professor (S	
11.	Dr.A.Gowri Shankar	Assistant Professor (Sl.G)
12.	Dr.C.Pazhanimuthu	Assistant Professor (Sl.G)
13.	Mr.D.Sathish Kumar	Assistant Professor (Sr.G)
14.	Ms.B.Lalitha	Assistant Professor (Sr.G)
15.	Ms.V.J .Vijayalakshmi	Assistant Professor (Sr.G)
16.	Ms.R .Revathi	Assistant Professor (Sr.G)
17.	Mr.A.Mohamed Ibrahim	Assistant Professor (Sr.G)





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18.	Mr.P.Ravikumar	Assistant Professor (Sr.G)
19.	Dr.S.Ravindran	Assistant Professor (Sr.G)
20.	Mr.V.Kamal Kumar	Assistant Professor
21.	Mr.K.Balamurugan	Assistant Professor
22.	Mr.C.J.Vignesh	Assistant Professor
23.	Ms.S.Divya	Assistant Professor
24.	Ms.P.Praveena	Assistant Professor
25.	Dr.I.Baranilingesan	Assistant Professor
26.	Mr.C.Dinesh	Assistant Professor
27.	Mr.M.Mohanasundaram	Assistant Professor

SUPPORTING STAFF

S.NO	NAME OF THE STAFF	DESIGNATION
1.	Mr.M.Vinothkumar	Lab Technician
2.	Mr.C.Gopalakrishnan	Lab Technician
3.	Mr.R.Vinothkumar	Lab Technician
4.	Mr.K.S.M.Manoj Kumar	Lab Technician
5.	Mr.C.Karuppusamy	Lab Technician
6.	Mr.A.Nandhakumar	Office Assistant





ASSOCIATION ACTIVITIES

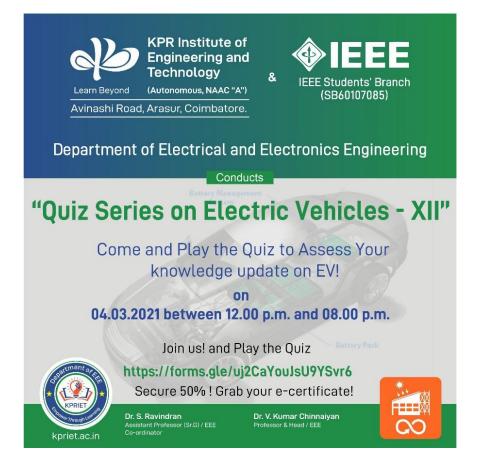
Quiz Series on Electric Vehicles - XII

The department of Electrical and Electronics Engineering organized a "Quiz Series on Electric Vehicles – XII" on 04/03/2021 open to all, who are keen on emerging EV technologies. The poster is circulated to various institutions and in social media digitally. The quiz started by 12.00 pm and closed at 08.00 pm. Participants from various Institutions, Universities and Industries across India and foreign nations have participated in this quiz.

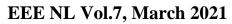
- This Quiz had 10 questions covering Electric Vehicle Technologies
- Each question carries 10 marks.
- The participants who scored 50% and above were issued with Certificate of Appreciation.

The details of the Program Participants are given below:

Total Participants	:	320
Participants cleared the quiz and received Certificate	:	297
Participants from other Nations, Institutions and Universities	:	305
Participants from KPRIET	:	15







Webinar on IoT based Product Design

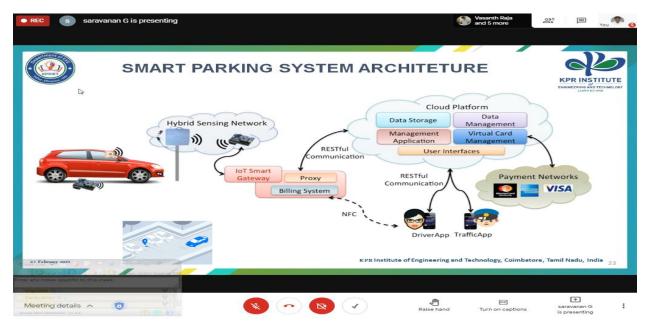
The Department of Electrical and Electronics Engineering of KPR Institute of Engineering and Technology conducted the Webinar on "IoT based Product Design" on 05/03/2021. Ms. B. Lalitha, Assistant Professor (Sr.G), Department of EEE, KPR Institute of Engineering and Technology welcomed the gathering and the Head of the Department, Dr. V. Kumar Chinnaiyan, Department of EEE, KPR Institute of Engineering and Technology, felicitated the function, Dr. M. Akila, Principal, KPR Institute of Engineering and Technology, delivered the inaugural address and Dr. A. M. Natarajan, Chief Executive, KPR Institute of Engineering and Technology presided over the function. The resource person for the webinar was Prof. G. Saravanan, Assistant Professor (Sl.G), Department of EEE, KPR Institute of Engineering and Technology. He delivered the lecture on "IoT based Product Design" in the session.

The resource person gave a brief explanation about IoT based Smart Home Automation and Healthcare Applications and IoT in Electric Vehicle (EV) applications. He shared his experience related to IoT in smart city applications, which was very much helpful to the participants to understand the concept. He gave many ideas on how to precede the product design with the help of hardware and software tools. He also delivered the session on Relevance to Industries in Coimbatore and Employment Opportunities in the field of IoT. The session was very interactive and responsive, gave excellent technical inputs towards the queries from the participants. Nearly 35 participants from various polytechnic institutes attended the webinar program. The co-coordinators of the program Prof. B. Lalitha, AP (Sr.G) and Dr. V. S. Chandrika, Associate Professor, Department of Electrical and Electronics Engineering made all the necessary arrangements for the smooth conduct of the program. The program was concluded with the feedback session. Dr. V. S. Chandrika delivered the vote of thanks.









TNSCST Sponsored Webinar on Recent Advancement in Infrared Thermography Techniques for Electrical Panels

The department of Electrical and Electronics Engineering of KPR Institute of Engineering and Technology conducted the TNSCST Sponsored Webinar on "Recent Advancement in Infrared Thermography Techniques for Electrical Panels" on 18/03/2021 and 19/03/2021. Prof.R.Revathi AP (Sr.G), Department of EEE, KPR Institute of Engineering and Technology welcomed the gathering and the Head of Department



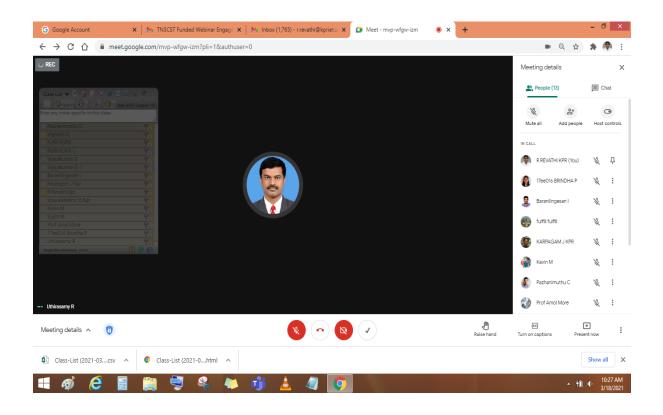


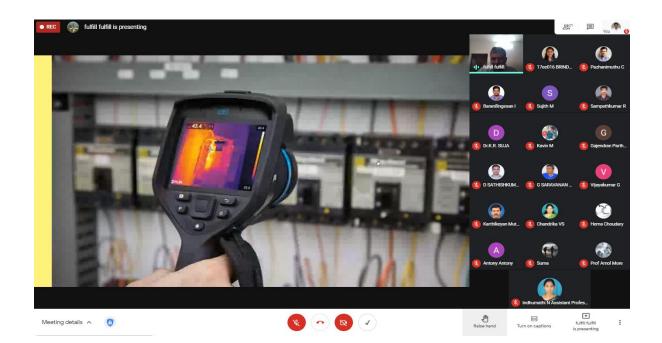
Dr.V.Kumar Chinnaiyan, Department of EEE, KPR Institute of Engineering and Technology, felicitated the function, Dr.M.Akila, Principal, KPR Institute of Engineering and Technology, delivered the inaugural address and Dr.A.M.Natarajan, Chief Executive, KPR Institute of Engineering and Technology presided over the function. For the two-day event, six resource persons are invited and given their presentation on infrared thermography techniques. The resource person of the webinar Er.K.V.Sivasamy, Fulfill Technology, Coimbatore, delivered the lecture on research challenges in panel board wiring and design. The resource person gave the brief idea about the panel types and various design implementation in plant. He shared his field experience in panel design for agro process machineries, HT voltage isolator panel implementation and device control from remote area. Dr.U.S.Ragupathy, Professor, Kongu Engineering College delivered the lecture on thermography imaging systems and its applications. He demonstrated about the image analysis process using infrared camera and its functionality. He gave the real-time image processing in the panel and behavior analysis of various design in his session. Prof.B.Venkatesan, Assistant Professor, Kongu Engineering College delivered the lecture on thermal image analysis in engineering application. He also delivered the image processing through software and hardware tools.

On the day two, Er.G.Rajesh, LETFIX Technologies, Chennai handled the session on applications of infrared thermography, he gave the insight on infrared image processing device, image processing in HT line isolator temperature analysis, circuit breaker analysis, temperature variation effect in contactors and bus bar. On next session Er.Lokesh, Emerson Automation Solutions, Pune delivered the session on design and development of electrical panels. He shared the design experience of PLC control panel, various testing methods in panel and bus bar for continuous operations. In the next session Er.S.Malarvili, ZF Wind Power Pvt. Ltd., Coimbatore delivered the lecture on fault analysis in electrical panels and mitigation methods. She shared the experience in panel fault analysis and validation of the design with panel assembly. Nearly 65 participants from various organization attended the webinar program. The coordinator for the program Prof.C.J.Vignesh Assistant Professor, Prof.R.Revathi Assistant Professor (Sr.G) and Prof.T.Jagadesh Assistant Professor, Department of Electrical and Electronics Engineering made all the necessary arrangements for smooth conduct of Program. The Program was concluded with the feedback session. Prof.C.J.Vignesh, delivered the vote of thanks.











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INNOVATE 2021 – Project Expo for Polytechnic Students

The Department of Electrical and Electronics Engineering of KPR Institute of Engineering and Technology organized "Innovate 2021 – Project Expo for Polytechnic Students" on 24/03/2021 in online mode. Prof. B.Lalitha, AP (Sr.G) / EEE welcomed the gathering. Dr. V.Kumar Chinnaiyan, Professor & Head / EEE, gave the inaugural address and highlighted the advantages of conducting this kind of project expo. Dr. M.Akila, Principal, gave the presidential address and deliberated the importance of studies to the outside participants. The participants from various parts of the state showcased their technical talents in the paper presentation, project expo, photography and short film. The workshop "Machine Design using Magnet Software" was handled by Prof.C.J.Vignesh, AP/EEE in afternoon session to enhance their skills. Finally, the prizes were announced in the valedictory session. Prof. R.Sampathkumar delivered the vote of thanks and event came to conclusion. Totally 45 polytechnic students were benefited.







The department of Electrical and Electronics Engineering KPIET, Coimbatore had signed the Memorandum of Understanding (MoU) with Haritha Techlogix, Bengaluru on 26/03/2021. The delegates from Haritha Techlogix are Mr.Prasant Kumar, Chief Technical Officer and Mr.Aravind, Automotive Homologation Engineer

The benefits of the MoU are:

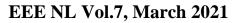
- 1. Curriculum Design
- 2. Industrial Training & Visits
- 3. Internships and Placement for Students
- 4. Research and Development
- 5. Guest Lectures
- 6. Faculty Development Programs
- 7. Student training on E mobility engineering

With the above outcomes is not limited too, depends on the industry requirement of E-Mobility the training may include in recent trends for both faculty and students of the institution.

Dr.M.Akila, Principal and Chief Executive Dr.A.M.Natarajan appreciated Dr.V.Kumar Chinnaiyan, Head of the Department / EEE and faculty members for the efforts towards skill development activities for students in the upcoming technologies, EV and allied areas.







Farewell 2021

The Department of Electrical and Electronics Engineering of KPR Institute of Engineering and Technology organized **"Farewell for 2021 Batch Students"** on 29/03/2021. Prof. S.Vivekanandhan, AP (SI.G) / EEE welcomed the gathering. Dr. V.Kumar Chinnaiyan, Professor & Head / EEE, gave an presidential address and encouraged the students for their future endeavor. The students shared their feedback with the faculty members and their friends. Prof. R.Revathi, AP(Sr.G) / EEE delivered the vote of thanks.



Quiz Series on Electric Vehicles - XIII

The department of Electrical and Electronics Engineering organized a "Quiz Series on Electric Vehicles – XIII" on 29.03.2021 open to all, who are keen on emerging EV technologies. The poster is circulated to various institutions and in social media digitally. The quiz started by 12.00 pm and closed at 08.00 pm. Participants from various Institutions, Universities and Industries across India and foreign nations have participated in this quiz.

- This Quiz had 10 questions covering Electric Vehicle Technologies
- Each question carries 10 marks.

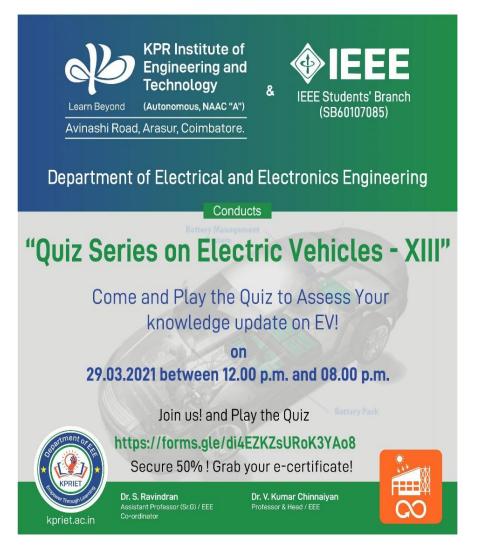




• The participants who scored 50% and above were issued with Certificate of Appreciation.

The details of the Program Participants are given below:

Total Participants	:	152
Participants cleared the quiz and received Certificate	:	136
Participants from other Nations, Institutions and Universities	:	108
Participants from KPRIET	:	44

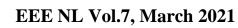


Faculty Members Designated as Resource Person

1. Mr. G. Saravanan, AP (Sl.G) from the Department of Electrical and Electronics Engineering, was designated as the Resource Person for the webinar on "IoT based Product Design" at KPR Institute of Engineering and Technology, Coimbatore on 05/03/2021.

2. Mr. G. Saravanan, AP (Sl.G) from the Department of Electrical and Electronics Engineering, was designated as the Resource Person for the webinar on "Applications of IoT using Ardunio Use Cases" at GRG Polytechnic College, Coimbatore on 24/03/2021.





Faculty Members Journal Publications

- Chinnadurai, T., Prabaharan, N., Saravanan, S., Pandiyan, M. K., Pandiyan, P., & Alhelou, H. H. (2021), "Prediction of Process Parameters of Ultrasonically Welded PC/ABS Material Using Soft-Computing Techniques" IEEE Access, March 2021.
- Rajkumar, R. M., Kiruthiga, K., Induja, S., Raghavan, P. S., Shafee, M., Pandiyan, P., & Kabeel, A. E. (2021), "Studies on tribological behaviour of ZnO nanorods suspended in SAE 20W 40 engine oil", Solid State Communications, *328*, 114235.
- Mohana Sundaram, K., Hussain, A., Sanjeevikumar, P., Kaliappan, V.K., , "Deep Learning for fault diagnostics in Bearings, Insulators, PV panels, Power Lines and Electric Vehicle applications - The State-of-the-Art Approaches", IEEE Access, March 2021.
- 4. R. Senthil Kumar, **K. Mohana Sundaram** and K. S. Tamilselvan, "Hybrid Reference Current Generation Theory for Solar Fed UPFC System Energies" March 2021.
- Kumar, N. M., Samykano, M., & Karthick, A, "Energy Loss Analysis of a Large Scale BIPV System for University Buildings in Malaysia: A Partial and Cumulative Performance Ratio Approach" Case Studies in Thermal Engineering, March 2021.

Book Chapter publications:

- Saravanan, S., Pandiyan, P., Chinnadurai, T., Ramji, T., Prabaharan, N., Senthil Kumar, R., & Lenin Pugalhanthi, P. (2021). Reconfigurable Battery Management System for Microgrid Application. Microgrid Technologies, 145.
- Karthick, A., Chinnaiyan, V. K., Karpagam, J., Chandrika, V. S., & Kumar, P. R. (2021). Optimization of PV-Wind Hybrid Renewable Energy System for Health Care Buildings in Smart City. Hybrid Renewable Energy Systems, 213.
- Karthick, A., & Sakthi, T. (2021) Standalone PV-Wind-DG-Battery Hybrid Energy System for Zero Energy Buildings in Smart City Coimbatore, India. Advanced Controllers for Smart Cities: An Industry 4.0 Perspective, 55

Conference publications:

 Raju, S. S., Niranjan, T., Pandiyan, P., & Snehitha, M. S. (2021, February). A Review of an Early Detection and Quantification of Osteoarthritis Severity in Knee using Machine Learning Techniques. In IOP Conference Series: Materials Science and Engineering (Vol. 1057, No. 1, p. 012095). IOP Publishing.





List of Eminent Academicians/Scientists Visit

S.No.	Name and Designation	Organization
1	Er.K.V.Sivasamy, Managing Director	Fulfill Technology, Coimbatore
2	Dr.U.S.Ragupathy, Professor	Kongu Engineering College, Erode
3	Prof.B.Venkatesan, Assistant Professor	Kongu Engineering College, Erode
4	Er.G.Rajesh, Managing Director	LETFIX Technologies, Chennai
5	Er.Lokesh, Design Engineer	Emerson Automation Solutions, Pune
6	Er.S.Malarvili, System Engineer	ZF Wind Power Pvt. Ltd., Coimbatore
7	Mr.Prasant Kumar, Chief Technical Officer	HarithaTechlogix, Bengaluru
8	Mr.Aravind, Automotive Homologation Engineer	HarithaTechlogix, Bengaluru

Student Internship Details

S.N 0.	Student Name	Organization	Month
2	Mariesh M.	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
3	NesamaniP.	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
4	SurendharD.	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
5	Naveen Arockia RajP	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
6	Prasanna K.	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
7	TamilamsanR.	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
8	Nivas J.	Lakshmi Electrical Control Systems Limited, Coimbatore	March 2021
9	PandiarajaPrabhu T.	Magnetic and Controls, Coimbatore	March 2021







Praveen Guru M.	Magnetic and Controls, Coimbatore	March 2021
Manoj Kumar M.	Vishnu Heat Treaters, Coimbatore	March 2021
Yaswin Krishna N.	Popular Systems, Coimbatore	March 2021
Suvanesan L.	Popular Systems, Coimbatore	March 2021
Vishnujith M.	Popular Systems, Coimbatore	March 2021
ThuraiNithish M.	Core Coil India Pvt.Ltd, Coimbatore	March 2021
Omesh Ram M.	Peps India Pvt.Ltd, Coimbatore	March 2021
Vishnu Varthan G.	Peps India Pvt.Ltd, Coimbatore	March 2021
Hariharan P.	Lakshmi Precision Tools, Coimbatore	March 2021
Kathirodhayan V.	Lakshmi Precision Tools, Coimbatore	March 2021
	Manoj Kumar M. Yaswin Krishna N. Suvanesan L. Vishnujith M. ThuraiNithish M. Omesh Ram M. Vishnu Varthan G. Hariharan P.	Manoj Kumar M.Vishnu Heat Treaters, CoimbatoreYaswin Krishna N.Popular Systems, CoimbatoreSuvanesan L.Popular Systems, CoimbatoreVishnujith M.Popular Systems, CoimbatoreThuraiNithish M.Core Coil India Pvt.Ltd, CoimbatoreOmesh Ram M.Peps India Pvt.Ltd, CoimbatoreVishnu Varthan G.Peps India Pvt.Ltd, CoimbatoreHariharan P.Lakshmi Precision Tools, Coimbatore

Student Placement Details

S.No.	Student Name	Organization
1	BOOBALAN P.	TESSOLVE SEMICONDUCTOR PVT LTD, BENGALURU
2	VENKATACHALAM K.	TESSOLVE SEMICONDUCTOR PVT LTD, BENGALURU
3	BALAJI P.A.	MAVENTIC INNOVATIVE SOLUTIONS PVT LTD, BENGALURU
4	MOHAMED HARISH M.	MAVENTIC INNOVATIVE SOLUTIONS PVT LTD, BENGALURU
5	SUSHMITHA S.P.	MAVENTIC INNOVATIVE SOLUTIONS PVT LTD, BENGALURU
6	DHANUSH PRIYAN S.	CES TECHNOLOGY, CHENNAI
7	JANANI T.	CES TECHNOLOGY, CHENNAI
8	RAGIPINDI ANAND KUMAR REDDY	CES TECHNOLOGY, CHENNAI

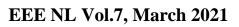


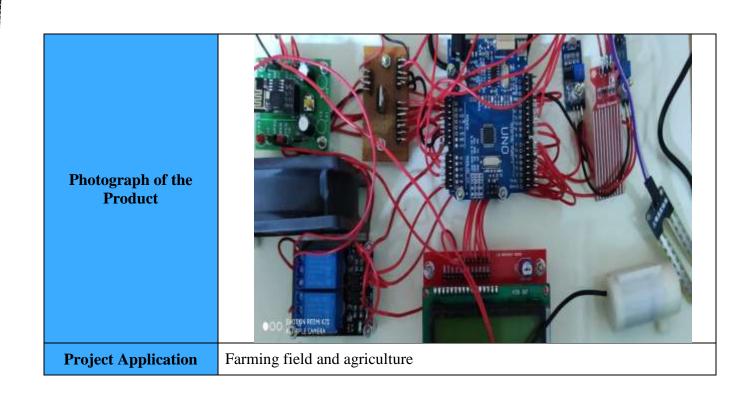


Product Development

Product Title	Smart Farming and Monitoring System Based on IoT
Name of the	Dr. I. Baranilingesan
Supervisor	Ms. P. Praveena
Product Description	"Smart farming and monitoring system based on IoT" is for to create an IoT base automated irrigation mechanism which turns the pumping motor on and off pass command through IoT platform. India's population crossing 1.3 billion in 2016. The rising population need for increased agriculture production. So, balance between the optimum population growth and healthy of nature is far to be achieved. The conventional database system does not have enough storage for the data collected from the IoT sensors. Cloud based data storage and an end-to-end IoT Platform plays an important role in the smart agriculture system. These systems are estimated to play an important role such that better activities can be performed. In the IoT world, sensors are the primary source of collecting data on a large scale. The data is analyzed and transformed to meaningful information using analytics tools. The data analytics helps in the analysis of weather conditions, livestock conditions, and crop conditions. The data collected leverages the technological innovations and thus making better decisions. The main objective of this project ids to provide an automatic irrigation system there by save time, money & amp; power of the farmer. Farmers would be able to smear the right amount of eater at the right by crop irrigation. Avoiding the irrigation at the wrong time of day, reduce runoff from overwriting saturated soils which will improve crop performance. Automated irrigation system uses valves to turn motor ON and OFF. Motors can be automated easily by using controllers and no need of labour to turn motor ON and OFF. The precise method for irrigation and a valuable tool for accurate soil moisture control in highly specialized greenhouse vegetable production.









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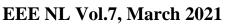




ART GALLERY













ART GALLERY







R.Dhanusya / II-EEE-A

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