



VELAMMAL
INSTITUTE OF TECHNOLOGY

Chennai - Kolkatta Highway, Panchetti, Ponneri



INSTITUTION'S
INNOVATION
COUNCIL
(Ministry of HRD Initiative)

Department of Electrical and Electronics Engineering

presents

SPARK

News Letter

2022 – 2023
(Even semester)



Institute Vision

To be a leader in imparting quality technical education, research & enterprising skills in pursuit of professional excellence.

Institute Mission

- To promote quality education & technical skills to meet the industry requirements.
- To incorporate team work, leadership skills & lifelong learning.
- To facilitate career development & higher education assistance.
- To encourage innovative ideas for research & development and entrepreneurship for societal needs.
- To inculcate ethical responsibility & human values.

Vision of the Department

To produce highly competent Electrical Engineers and Researchers to fulfil the technological needs of society through innovation and product development.

Mission of Department

- To educate graduates with fundamental principles to acquire advanced technical knowledge in domains of Electrical and Electronics Engineering.
- To provide a progressive environment for innovative creations and rigorous practical training through creative activities in conventional and thrust areas of Electrical and Electronics Engineering.
- To inculcate Societal and Ethical values among the faculties and students.

Program Outcomes(POs)

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.

Program Outcomes(POs)

- 7. 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.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. 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.
- 11. 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.
- 12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage independent and life-long learning in the broadest context of technological change.

Program Educational Objectives (PEOs)

PEO – 1 : Graduates of the program will have successful technical and professional career.

PEO – 2 : Graduates of the program will reveal life-long learning to enhance technical skills and Managerial skills.

PEO – 3 : Graduates of the program will undertake societal responsibilities with ethical practice.

Programme Specific Outcomes (PSOs)

Foundation of Electrical Engineering: Ability to understand the principles and working of electrical components, circuits, systems and control that are forming a part of power generation, transmission, distribution, utilization, conservation and energy saving. Students can assess the power management, auditing, crisis and energy saving aspects.

Foundation of Mathematical Concepts: Ability to apply mathematical methodologies to solve problems related with electrical engineering using appropriate engineering tools and algorithms.

Computing and Research Ability: Ability to use knowledge in various domains to identify research gaps and hence to provide solution which leads to new ideas and innovations.

TEAM MEMBERS

Editors-in-Chief

Mr N Althaf,,

IV Year EEE Student

Mr Deevi Rohith Kumar,

III Year EEE Student

Editorial Committee

Ms I Suruthi, IV Year EEE

Mr R Varun IV Year EEE

Ms R Nemiak, III Year EEE

Mr C K Surendhar, III Year EEE

Mr G Youshies Yeshwanth, III Year EEE

Ms U Pavithra,II Year EEE

Mr I Vijay Ganesh, II Year EEE

Mr Rajavel Rahul, II Year EEE

Ms F Chris Madonna, II Year EEE

Staff Coordinators

Dr S Muthukaruppasamy., Ph.D.,

Associate Professor & Head

Mr V Subramaniyan., M.Tech., (Ph.D).,

Assistant Professor / EEE

Velammal Institute of Technology

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Events Organized

S.No	Topic of Guest Lecture	Sem / Year	Date
1	Electrical Core Opportunities in Abroad -Alumni Interaction	Sem III / II Year	11.03.2023
		Sem V / III Year	
		Sem VII / IV Year	
2	Higher studies & Electrical Core Opportunities in India -- Alumni Interaction	Sem III / II Year	06.04.2023
3	Higher Studies in India/Overseas	Sem III / II Year	04.04.23
		Sem V / III Year	
		Sem VII / IV Year	

Alumni Interaction on Electrical Core Opportunities in Abroad

Mr.G.Jeevanandhan, Principal Engineer -Offshore Electrical at WoodPLC ,Scotland, UK an Alumni of 2010-2014 Batch interacted with the students of III Year and IV Year EEE students on“ Electrical Core Opportunities in Abroad”. He also interacted with the students regarding the core area in electrical domain and also the current technologies in which the companies are working now .He Concluded the session by advising the students to prefer core opportunities rather than IT Job for choosing a career. The session was held on 11.03.2023 at 1:15 PM – 3.15 PM .



Alumni Interaction on Higher Studies & Electrical Core Opportunities in India

Ms. Abirami Shree R B, DC-DC converter and OB design Engineer at , Raptee, an Alumni of 2015-2019 Batch interacted with the students of II Year and III Year EEE students on“ Higher studies & Electrical Core Opportunities in India ”. She also interacted with the students regarding the core area in electrical domain and also the current technologies in which the companies are working now .He Concluded the session by advising the students to prefer core opportunities rather than IT Job for choosing a career. The session was held on 06.04.2023 at 10 AM – 12.30 PM .



Higher Education Awareness Program on Higher Studies in India / Overseas

On 04.04.2023, Higher Education Awareness Programme on “Higher studies in India / Overseas” was held in the first-floor seminar hall. The guest of honour of the program Mr. K.S. Baskar ,CEO-Wizako. He highlighted the facts and myth about higher education here in India as well as abroad . He hinted us on the opportunities and institutions that are in the creamy layer. He elaborated on the importance of pursuing higher education in terms of annual package & the exams that were elaborated on were IELTS, TOFEL, GRE, GMAT, GATE and CAT. Finally, he concluded by giving guidance & preparation tips for the entrance exam.

VELAMMAL INSTITUTE OF TECHNOLOGY
Approved by AICTE New Delhi, Affiliated to Anna University - Chennai
"Velammal Knowledge Park", Chennai - Kollattai Highway, Porur - 600096

ADMISSIONS OPEN 2023-24

DEPARTMENT OF EEE & MECH

Jointly Organizes
Higher Education Awareness Programme
On
"HIGHER STUDIES IN INDIA/OVERSEAS"
Target Audience : II,III, IV EEE & IV Mech Students

RESOURCE PERSON
K S BASKAR ,
CEO-WIZAKO,
CHENNAI.

Date : 04-04-2023
Session : Forenoon
Venue : First floor Seminar Hall

Coordinators: Mr.P.Vivek- AP/EEE, Mr.S.Suresh-AP/MECH
HOD-EEE/MECH/IHS Incharge: Dr.S.Muthukaruppannam, Dr.S.Kaliappan/ Dr.D.Magesh Babu
Vice Principal: Dr.S.Soundararajan
Principal: Dr.N.Balaji

044-22446300 +9190876 44626 +91 90875 5678

Admissions contact
Velammal Knowledge Park, Chennai - Kollattai Highway,
Anchettai, Thiruvallur Dt.Tamil nadu.
mail : admission@velammalitech.edu.in

Register Online @
www.velammalitech.edu.in



Industrial Visit to TVS Training and Services Private Limited

A batch of II Year and III Year Electrical and Electronics Engineering students and two staff coordinators visited the TVS Training and Services Pvt Ltd on 17.03.2023. Ms. Dhanalakshmi has given the presentation about history, developments and training divisions & branches of the organization. Under the guidance of Mr. Krishnakumar P, Manager – Business & Development, the respective Expert Trainers from various training divisions explained on their part of training with the best facility available within the firm and also given valuable inputs towards the future developments in various competitive companies. In this visit, the students were interacted with the experts in various divisions and they cleared their doubts.



Industry - Institute Interaction

Dr.S.Muthukaruppasamy and Dr.J.Nandha Gopal visited **CUBI Tech Services** on 08.02.2023. The purpose of this visit is to arrange industrial visit, Project and internships for the Electrical and Electronics Engineering students. They signed Memorandum of Understanding (MoU) with our college in the view of placement and training.



Our college signed Memorandum of Understanding (MoU) with **IP Ever LLP** on 04.08.2022 for the purpose of patent publication by students and staff members, **L and T Edu Tech** on 24.10.2022 for the purpose of projects, internships placement and training.

Placement Records

Achieving a 100% placement record is indeed a remarkable accomplishment for our department. It demonstrates their commitment to providing quality education, preparing students for the workforce, and forging strong industry connections.



HCL Technologies /
Light & Wonder
3.50 / 8.56 LPA



ZOHO Corporation
5.6 LPA



MindTree / CTS GEN C
4.00 / 3.75 LPA



TCS / ANORA
3.90 / 4.00 LPA



BGR Energy / ZF Wabco

3.00 / 2.25 LPA



TCS

3.90 LPA



BGR Energy

3.00 LPA



ZF Wabco / Wilson Power
Solutions

2.25 LPA, 3.00 LPA



Wilson Power Solutions

3.00 LPA



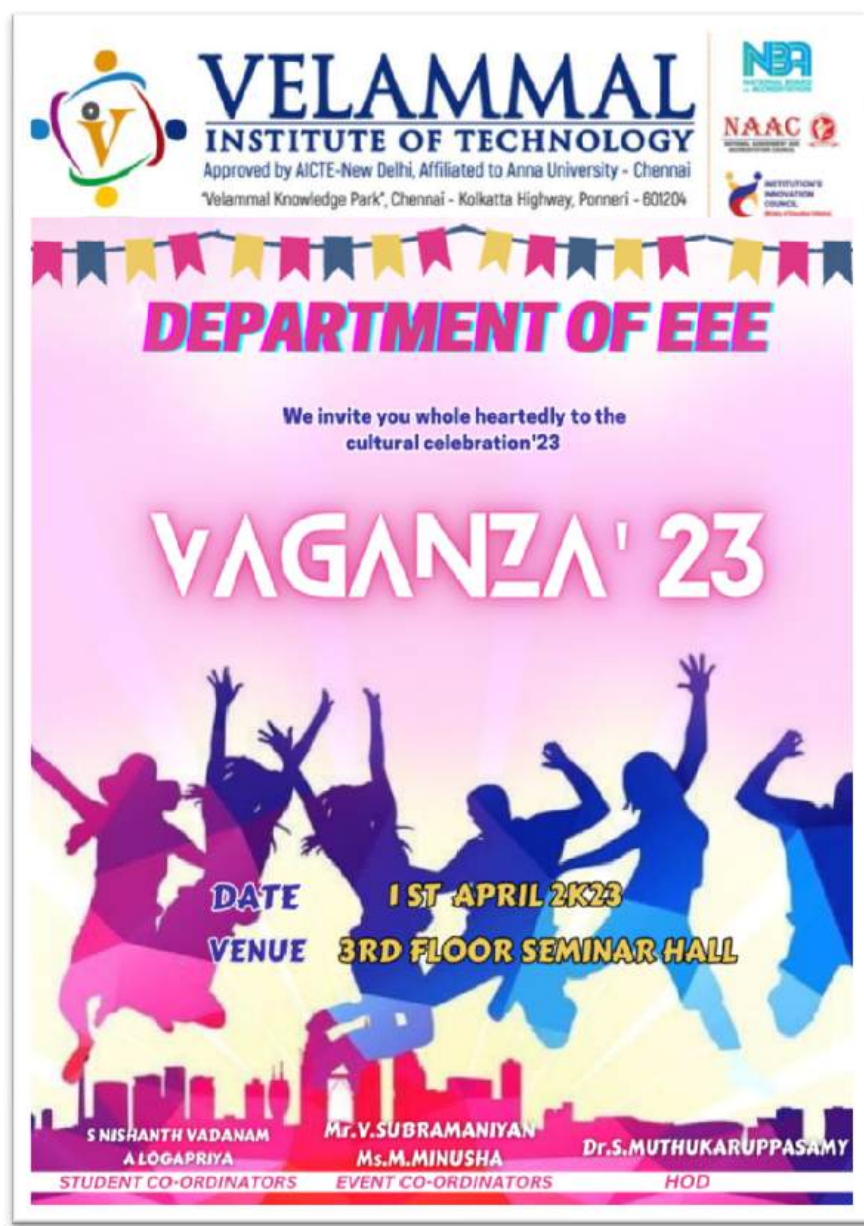
Wilson Power Solutions

3.00 LPA

Ultimately, a 100% placement record is a commendable achievement that showcases the institution's commitment to academic excellence and student employability.

VAGANZA'23

Vaganza'23 is an cultural event that is organized by Department of EEE, Velammal Institute of Technology. This year's event took place on April 1st, 2023 (2022-2023 Even Semester), and was attended by II, III and IV year. The purpose of the event was to provide a platform for students to showcase their talents in various cultural activities such as dance, music, theater, skid, and art.



VAGANZA'23



Overall, Vaganza'23 was a great success and provided a wonderful platform for students to showcase their cultural talents. The event was well organized, and the performances were of a high standard. It was a great opportunity for students to come together and celebrate their shared love of the arts.

Club Activities

DISSEMBLE CLUB

The main aim of this club is

- To understand the Construction of AC Machines
- To Understand the Rotor and stator Models
- To understand the power ratings and size of AC motors and its applications



Club Activities – A Glimpse



Contribution towards Research

Dr.S.Muthukaruppasamy

- Published a Chapter titled “Green IoT use case approaches for blockchain technology taking industry 5.0 to the next level” in the book Green Blockchain Technology for Sustainable Smart Cities published by Elsevier
- Presented a paper titled “A New Bridgeless AC/DC Converter for Electric Vehicle System” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023

Dr.J.Nandha Gopal

- Presented a paper titled “Micro-Grid Enabled bidirectional fast DC charging system” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.

Mr.K.Kalaigurumoorthi

- Presented a paper titled “Efficient Virtual Power Plant based Energy Resource Management” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.

Contribution towards Research

Mr P Vivek

- P Vivek, N B Muthuselvan, “Experimental investigation on a Solar Photovoltaic system using reduced multilevel connections for power quality improvement” Springer Electrical Engineering, <https://doi.org/10.1007/s00202-023-01829-z>.
- Presented a paper titled “Development of Novel Flying Capacitor Multilevel Inverter with reduced components & Harmonic mitigation by Soft Computing Technique” in the International Conference on Intelligent systems for communication, IOT and security conducted by PSG College of Technology on February 11, 2023.

Dr.R.Karthikeyan

- Presented a paper titled “Optimization of Hybrid Energy Management in Microgrid using Linear Program” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.

Contribution towards Research

Mr.V.Subramaniyan

- V.Subramaniyan, V.Gomathi, “A Soft Computing-Based Analysis of Congestion Management in Transmission Systems” Tehnički Vjesnik- Technical Gazette , Volume 30, Issue 1, 2023, pp.274-281.
- Published a Chapter titled “Modeling of Voltage Droop Control in DC Microgrid for Voltage Profile Improvement” in the book Advanced Technologies and Societal Change published by Springer Book Series.

Faculty Excellence

Our Department Faculty members completed the NPTEL online certification course and gained knowledge in various fields.

S.No	Name of Faculty	Name of NPTEL Course
1	Mr K Kaliagurumoorthi	Electric Vehicle Part I
2	Mr.P.Vivek	Control and Tuning Methods in Switched Mode Power Converters
		High Power Multilevel Converters- Analysis, design and operational issues
3	Dr R Karthikeyan	Teaching and Learning in General Programs: TALG
		Effective Engineering Teaching in Practice
4	Mr V Subramaniyan	Teaching and Learning in General Programs: TALG
		Effective Engineering Teaching in Practice

Mr P Vivek has awarded as Active SPOC for the SWAYAM NPTEL Local Chapter in the January-April 2023 Semester.

Congratulations to the Faculty Members!!!

Faculty Participation

Faculty participation in faculty development programs is a positive indicator of an institution's commitment to enhancing the skills and knowledge of its teaching staff. By participating in faculty development programs, faculty members can benefit in Professional Development, Pedagogical Advancement, Networking Opportunities.

Our department faculty members participated in various faculty development program, workshops and short term training programmes etc.,.

Dr.S.Muthukaruppasamy has participated in following programmes

- Introduction to Data structure and Algorithms
- Big Data Complete Course

Dr.J.Nandha Gopal has participated in following programmes

- FDP on MATLAB and Simulink for Beginners
- FDP on Electric Vehicle Technologies-A Future Transportation Tool

Mr.K.Kaliagurumoorthi has participated in following programmes

- FDP on Electric Vehicle Technologies-A Future Transportation Tool

Faculty Participation

Mr.P.Vivek has participated in following programmes

- FDP on Real-Time Hardware-In- The-Loop Simulation of Advanced Power Electronics for Electric Transportation and Renewable Energy Applications
- Workshop on Artificial Neural Network Based Switching Loss Estimation for DC-DC Converters

Dr.R.Karthikeyan has participated in following programmes

- FDP on Teaching and Learning in General Programs: TALG
- FDP on Effective Engineering Teaching in Practice

Mr.V.Subramaniyan has participated in following programmes

- Five Days Online FDP on Electric Vehicle Technologies-A Future Transportation Tool
- FDP on Teaching and Learning in General Programs: TALG
- FDP on Effective Engineering Teaching in Practice

Ms.G.Selvamathi has participated in following programmes

- FDP on Performance Analysis of Power Converters Using Various Modern Control Techniques For Research Perspectives
- IP Awareness / Training Program

Ms.M.Minusha has participated in following programmes

- FDP on Amazon web service
- FDP on Additive Manufacturing for Environmental Sustainability

Faculty Outreach Activities

- **Dr.S.Muthukaruppasamy** acted as session chairperson for third International conference on "Artificial Intelligence, 5G Communications and Network Technologies (ICA5NT-03)" conducted by Velammal Institute of Technology, Chennai on March 25, 2023.
- **Dr.J.Nandha Gopal** acted as Session chairperson for 9th International conference on "Electrical Energy Systems (ICEES-2023)" conducted by SSN College of Engineering, Chennai on March 25, 2023.
- **Dr.J.Nandha Gopal** acted as Session chairperson for third International conference on "Artificial Intelligence, 5G Communications and Network Technologies (ICA5NT-03)" conducted by Velammal Institute of Technology, Chennai on March 25, 2023.
- **Dr.S.Muthukaruppasamy, Dr.J.Nandha Gopal** and **Mr.V.Subramaniyan** reviewed various journal articles in the journals such as Computers, Materials & Continua, Computer Systems Science and Engineering, Tehnički vjesnik – Technical Gazette (TV-TG), Intelligent Automation & Soft Computing and Journal of Quantum Computing etc.,

Faculty Outreach Activities

- **Dr.J.Nandha Gopal** acted as Session chairperson for first International conference on Innovation in Computing and Technology (ICICT 2023) conducted by Velammal Institute of Technology, Chennai on March 31, 2023.
- **Mr.P.Vivek** delivered a guest lecture on "User Awareness Programme on SWAYAM -NPTEL Courses" organized by SBS College, Mailam on February 10, 2023.
- **Dr.S.Muthukaruppasamy, Dr.J.Nandha Gopal** and **Mr.V.Subramaniyan** reviewed various journal articles in the journals such as Computers, Materials & Continua, Computer Systems Science and Engineering, Tehnički vjesnik – Technical Gazette (TV-TG), Intelligent Automation & Soft Computing and Journal of Quantum Computing etc.,

Student's Participation

- Althaf N, Adhithyan S, Kaviyarasan D and Prashanth L presented a paper titled “Efficient Virtual Power Plant based Energy Resource Management” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.
- Arjun, Dhanasegar, Nithin N, and Varun presented a paper titled “Optimization of Hybrid Energy Management in Microgrid using Linear Program” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.
- Shruthi, Soniya, and Bharathi presented a paper titled “A New Bridgeless AC/DC Converter for Electric Vehicle System” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.
- Poornima, Sahana, and Geethika presented a paper titled “Micro-Grid Enabled bidirectional fast DC charging system” in International Conference on Intelligence in Industrial Automation (ICIIA’23) conducted by Velammal Institute of Technology on April 5,2023.

Student's Participation – A Glimpse



Congratulations to the students!!!

Student's Achievements

Few of our Department students attended the NCAT exams.

S.No	Name of student	NCAT / LABVIEW
1	Venkat Ragavan D	NCAT 2023 All Indian Rank No 34
2	Vijay Ganesh I	NCAT 2023 All Indian Rank No 41

Congratulations to the students!!!

Student's Achievements

Few of our department II Year students completed the NPTEL online certification course and enriched their knowledge.

S.No	Name of student	Name of NPTEL Course
1	Rajavel Rahul	Microprocessor & Microcontroller
2	Selvaganeshan M	Microprocessor & Microcontroller
3	Shamitha T	Microprocessor & Microcontroller
4	Shiviksan C	Microprocessor & Microcontroller
5	Venkat Ragavan D	Microprocessor & Microcontroller

Congratulations to the students!!!



NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
VIVEK P

for successfully completing the course

High Power Multilevel Converters - Analysis, Design and Operational Issues

with a consolidated score of **57** %

Online Assignments	25/25	Proctored Exam	31.5/75
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Total number of candidates certified in this course: 21

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Apr 2023
(12 week course)



Indian Institute of Technology Madras

Roll No: NPTEL3EE20533168730

To validate the certificate



No. of credits recommended: 1 or 2

Andrew Thangaraj
Prof. Andrew Thangaraj



Elite NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to

R KARTHIKEYAN

for successfully completing the course

Effective Engineering Teaching in Practice

with a consolidated score of **72** %

Online Assignments	21.92/25	Proctored Exam	49.88/75
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Total number of candidates certified in this course: 369

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Feb 2023
(4 week course)

Andrew Thangaraj
Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras



To validate the certificate



No. of credits recommended: 1 or 2



NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
SUBRAMANIYAN V

for successfully completing the course

Effective Engineering Teaching in Practice

with a consolidated score of **54** %

Online Assignments	21.08/25	Proctored Exam	33/75
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Total number of candidates certified in this course: 369

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Feb 2023
(4 week course)

Andrew Thangaraj
Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras



Indian Institute of Technology Madras

Roll No: NPTEL23GE03534341109

To validate the certificate



Elite NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to

SUBRAMANIYAN V

for successfully completing the course

Teaching and Learning in General Programs: TALG

with a consolidated score of **66** %

Online Assignments	20.83/25	Proctored Exam	45/75
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Total number of candidates certified in this course: 504

Shankar
Prof. G. L. Shankar Babu
Chairman, Centre for Continuing Education
IISc Bangalore

Jul-Aug 2022
(4 week course)

Shankar
Prof. L. Unnikrishnan
NPTEL, Coordinator
IISc Bangalore



Indian Institute of Science Bangalore

Roll No: NPTEL22GE19513271325

To validate the certificate



No. of credits recommended: 1 or 2





Student's Achievements

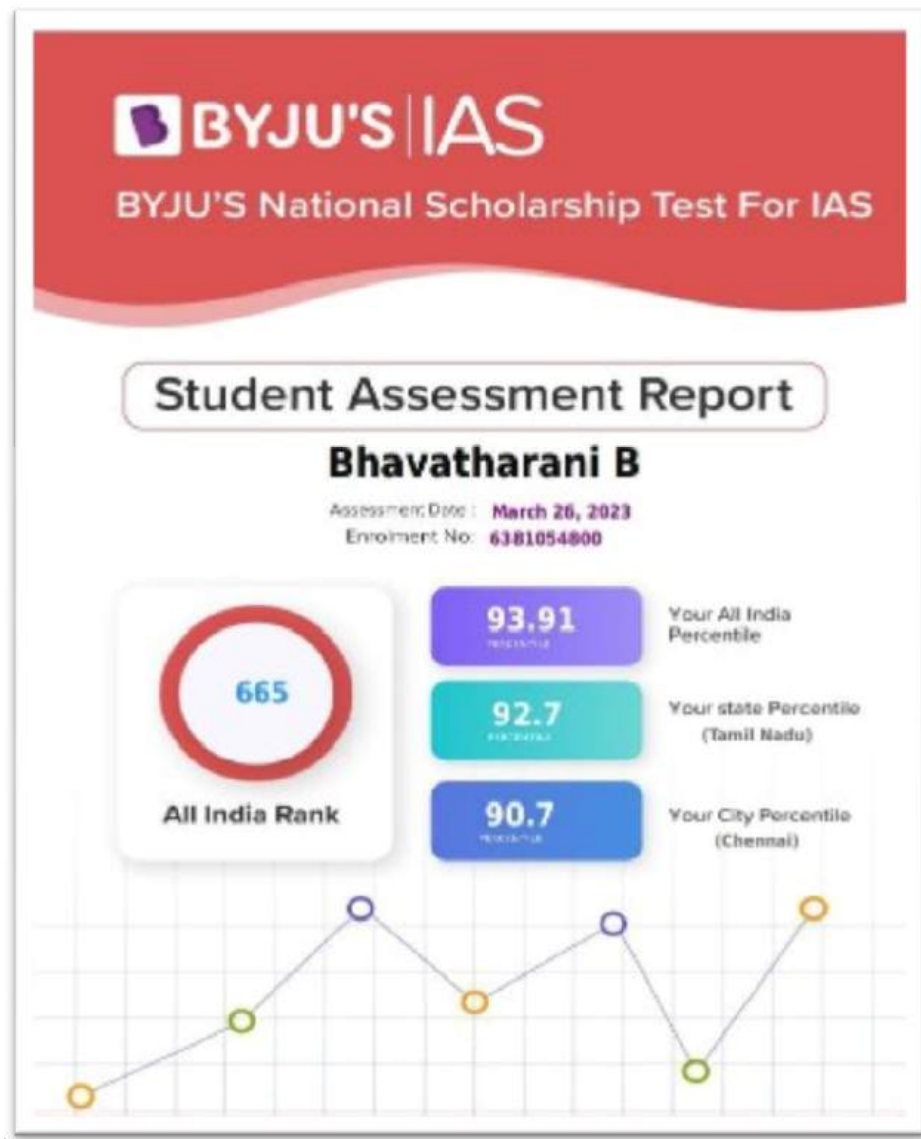
Mr.C.Shiviksan, Mr.Rajavel Rahul, Mr.S.Dhanush and Mr.I.Vijay Ganesh from II Year has won 3rd Prize in INNOVATE23–An Intra College Project Contest held on 19th April 2023 for their innovative work on “Smart Home Automation”.



Congratulations to the students!!!

Student's Achievements

Ms Bhavatharani B has shown Exemplary performance in BYJUS National Scholarship Test for IAS and has secured All India Rank 665.



Congratulations to the students!!!

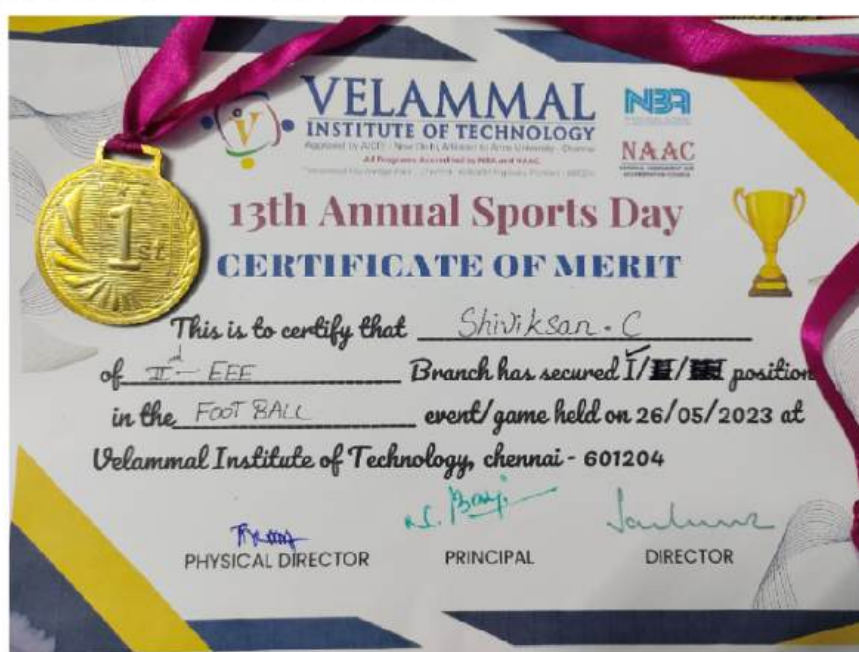
Sports Achievements

Few of our department students participated in Annual Sports Day conducted by our college on 26.05.2023 and won the prizes.

Name of the Student	Event Participated	Participation / Winner
Shiviksan C	Foot Ball	Winner
Vijayalakshmi	Kabaddi	Winner
	Throw Ball	Runner
	Volley Ball	Runner
Alamelu P	Kabaddi	Participated
	Volley Ball	Runner
	200 Meter Running	First Prize
	Relay	Second Prize
Arockiya Jeya Stefy	Kabaddi	Runner
	Throw Ball	Winner
	Volley Ball	Winner
Arivuchudar J	Kabaddi	Runner
	Throw Ball	Winner
	Volley Ball	Winner

Congratulations to the students!!!

Student's Sports Achievements



Congratulations to the students!!!

Student's Sports Achievements



Congratulations to the students!!!

Class Toppers

III Year EEE



Deevi Rohith Kumar
CGPA: 8.98



Nemika R
CGPA: 8.71



Madhappan Lokesh
CGPA: 8.61

Congratulations to the students!!!



Thank You