

RESOURCE PERSONS

- Resource persons are invited from the reputed industry and institutions.

ELIGIBILITY

- Faculty members of the AICTE approved institutions, Research Scholars and Industry professional.

GENERAL INFORMATION

- No registration Fee.
- Registration must be through ATAL portal [URL: <https://atalacademy.aicte-india.org/>]

CHIEF PATRONS

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Sri. Vishnu Manchu, CEO, SVET

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HEAD OF THE DEPARTMENT

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COORDINATOR

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CO-COORDINATORS

Dr. B. Hemanth Kumar, Assistant Professor, Department of EEE

Dr. N.M.G. Kumar, Professor, Department of EEE

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ORGANIZING COMMITTEE

Faculty of Electrical & Electronics Engineering

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AICTE TRAINING AND LEARNING (ATAL) ACADEMY SPONSORED

Faculty Development Programme on FUTURISTIC ELECTRIC TRANSPORTATION SYSTEMS

Date: 20th to 24th September, 2021



Organized by

Department of Electrical and Electronics Engineering

SREE VIDYANIKETHAN ENGINEERING COLLEGE (Autonomous)

Sree Sainath Nagar, Tirupati - 517 102 [A.P]

COLLEGE PROFILE

Sree Vidyanikethan Engineering College was established in 1996 with an initial intake of 180 students to serve the cause of technical education in the backward region of Rayalaseema. The intake has increased exponentially to 2106 in 2020-21. The College now offers 15 B.Tech programs; 4 M.Tech programs; MCA Program; and 3 Doctoral Programs. AICTE has also accorded permission for 2nd Shift Polytechnic from the academic year 2009-10 and presently 5 Diploma courses are being offered. Today, Sree Vidyanikethan Engineering College is one of the largest, most admired and sought after Institutions in Andhra Pradesh. The College is located in a sprawling campus of about 30 acres, amidst sylvan surroundings with aesthetically built infrastructure. The College is approved by AICTE and affiliated to JNTU Ananthapuramu. The College has been accorded Autonomous Status by the UGC, New Delhi since 2010-11.

The College is known for its quality initiatives which is amply reflected in accreditations by National Board of Accreditation (NBA) for UG & PG programmes, National Assessment and Accreditation Council (NAAC) with 'A' Grade and many multinational organizations such as TCS, WIPRO & IBM. The College successfully completed TEQIP-II under Sub-component 1.1: Strengthening Institutions to improve Learning Outcomes and Employability of Graduates, funded by the Ministry of HRD, Govt. of India.

The college has been accorded by the following,

- **“UGC-Colleges with Potential for Excellence”** status under CPE Scheme by UGC, New Delhi.
- **‘PLATINUM’** category by CII-AICTE Survey.
- **‘A’ Grade** by Department of Higher Education, Andhra Pradesh.
- Secured **184th Rank** in National Institution Ranking Frame Work (NIRF), 2020.
- **SIEMENS** established **six State-of-the-art t-SDI laboratories**.
- **AAAA** ratings by careers360.
- The college also selected for establishing **AICTE-IDEA** (Idea Development, Evaluation & Application) Lab on the campus with a funding of **Rs. 1.13 Crores** from AICTE, Host institute and Industry on 12th June, 2021.
- The College has a project on **“Science Technology and Innovation (STI) Hub”** in Chandragiri Mandal, Chittoor District, Andhra Pradesh State is a Science & Technology Project funded by the Science for Equity Empowerment and Development Division, Department of Science and Technology, Ministry of Science and Technology, Govt. of India for the Socioeconomic Development of Scheduled Caste SC and Scheduled Tribe ST Communities for **Rs. 3.61 Crores**.

LOCATION

15 km from the temple town of Tirupati on Tirupati - Madanapalle National Highway No.205.

COURSES OFFERED

The college offers B. Tech Programs in CSE, CSSE, IT, CSE (AI), CSE (DS), CSBS, CSE (CS), CSE (AI & ML), CSE(IoT), CSD, ECE, CE, ME, EEE and EIE. The college also offers M. Tech. in VLSI, Computer Science, Electrical Power Systems and Power Electronics and Drives & MCA along with PhD programs in ECE, EEE & CS.

ABOUT DEPARTMENT OF EEE

The Department of Electrical & Electronics Engineering was established in the year 1996 offering B.Tech Program in Electrical and Electronics Engineering (EEE) with an intake of 60, followed by an increase to 120 in the year 2007, 180 and 240 in the years 2012 and 2014 respectively, besides admission under lateral entry scheme. The B.Tech. (EEE) program is currently being offered with an intake of 210 from the AY 2020-2021. The B.Tech. Program was re-accredited (third cycle of accreditation) by NBA for three years [03.03.2020 to 30.06.2023]. The department also offers M.Tech. Programs with specialization in Electrical Power Systems (EPS), Power Electronics and Drives (PED) with an intake of 18 each. The M.Tech. Program in Electrical Power Systems was also accredited by NBA. The affiliating university, JNTUA, Anantapur, has recognized the department of EEE as Research Centre for offering Ph.D. Program from the academic year 2013-14. Full-time and Part-Time Ph.D scholars are pursuing Ph.D under this centre.

The department has strong pool of faculty with 16 PhDs. The Department houses well equipped Laboratories and a Research Center with state-of-the-art equipment. The department constantly organizes short-term training programs, seminars, workshops, guest lectures making the students competitive enough.

ABOUT FDP

Electrical machines and semiconductor technology plays a vital role in electric transport systems. This faculty development programme (FDP) is keen to essential theory, contemporary progresses, applications and research consequences addressing the associated theoretical and practical traits on "Futuristic Electric Transportation Systems". The special electrical machines drive systems such as permanent magnet brushless DC motor (PMBLDC), switched reluctance motor (SRM), synchronous reluctance motor (SyRM) and permanent magnet synchronous motor (PMSM) are recently evolved in electric vehicle due to their salient features are to be described.

OUTCOMES OF FDP

- Gain knowledge on power electronic converters and electrical machines.
- Analyze the problem in the development of Power electronic converters and electrical machines for the electric Vehicles (EVs).
- Train students by conducting hands-on sessions on design and analysis of converters and electrical machines respectively and make students industry ready.

TOPICS TO BE COVERED

- Study on power electronic converters and electrical machines.
- Design methodology and simulation of power electronic converters.
- Design and finite element analysis (FEA) of PMBLDC, SRM, SyRM and PMSM.
- Estimation of vibration in electrical machines.
- Heat flow distribution in electrical machines.
- Computational fluid dynamic (CFD) analysis for electrical machines.
- Selection of laminating core material for electrical machines for EVs.
- Torque ripple minimization techniques.
- Fault tolerance analysis.
- Cogging torque reduction technique in electrical machines for EVs.
- Battery management systems.