BEST PRACTICE 1

Title:

Vishnu Vehicle Design lab (EV Lab)

Objectives: The Lab aims to

1. Collaborate with relevant industries to make use of EV technologies in real-world contexts.
2. Develop techniques for improving the performance of electric vehicles.
3. Engage the students in EV technology research, innovations and applications.
4. Strive for career opportunities in the related areas to the students.

Context:

The EV Design Lab is associated and registered with **Society of Automotive Engineering INDIA (SAEINDIA).** A total of 79 students across the departments are part of SAEINDIA Collegiate Club BVRITH. It equips students with practical skills in analyzing, designing both electric and autonomous vehicle systems. The key areas include battery design, electric motor optimization, power electronics, and vehicle dynamics. It also integrates autonomous technologies using sensors, control algorithms, and path planning. Students use advanced tools viz., MATLAB, Simulink, Solid Works, CATIA, IPG Car Maker, and ANSYS for simulation and prototyping. These enable students to build small-scale prototypes and test them under real-world conditions for energy efficiency and safety. By bridging theory and practice, the career opportunities in cutting-edge technologies are improved for students.

The Practice:

The students across all the departments and years are currently working on Go-Kart, E- Kart, Golf-Kart, E-Bicycle, Hybrid Scooty, Range Extended Electric Vehicle and Autonomous Baja, for designing the models in Solid Works, testing the same using ANSYS software for safety factors.

Evidence of Success:

The students have designed relevant projects, filed patents and participated in various competitions clearly indicates the achievement of the objectives and contribution for their growth.

Problems Encountered & Resources Required:

The institution ensures the provision of all the necessary resources to fulfil the requirements.

BEST PRACTICE 2

Title:

Domain-specific trainings

Objectives: These trainings aim to

1. Equip B.Tech. students from all branches with technical skills across key domains.
2. Develop expertise in resolving domain specific problems.
3. Enhance students' abilities in creating and managing projects.

Context:

In today's competitive environment, there is a high demand for students with the right skills and knowledge to solve real-world problems effectively. To meet this demand, it is essential to assess and enhance students' technical and problem solving skills, ensuring their well-preparedness for the challenges. This approach empowers the students to excel in their chosen fields by equipping them with the necessary tools and expertise to succeed in a rapidly evolving technological landscape.

The Practice:

The second and third year students of all branches are provided domain-specific training programs offered by both internal faculty members and resource persons from various companies. These trainings are on Full Stack Development, Cloud Computing, Mobile App Development, Gaming, Machine Learning, Synopsys tools (VCS, Design Compiler (DC), and Custom Compiler (CC)), MATLAB, Simulink, Arduino programming, hardware interfacing, and embedded systems development, culminating with a capstone project.

Evidence of Success:

The performance of the students improved in obtaining internships, mentorships, placements and success in hackthons and competitions.

Problems Encountered & Resources Required:

No significant problems have been encountered but identification of resource persons for certain tools and technologies requires exhaustive search in relevant areas. The institution provides all necessary resources to ensure the smooth conduction of the trainings.