SVEC/EEE/2017-2018 22nd May, 2018

REPORT on

One week Short-Term Course on "Electrified Mobility"

an Industry Institute Interaction activity conducted from

14th to 18th May, 2018

The Department of Electrical and Electronics Engineering has organized **A One week Short-Term Course on "Electrified Mobility" an Industry Institute Interaction Activity from 14th to 19th May, 2018. The following are the topics covered in the programme.**

Day 1 (14.05.2018):

Forenoon session:

Mr. Krishna Jaasti started the session with an overview of electric vehicles which covered the definition of Electric Vehicles (EV), construction details and types of motors used in EV's. The discussion continued with comparison between normal vehicle and electric vehicle and also types of electric vehicles and electric hybrid vehicles.

Afternoon session:

He has presented the determination of specifications of battery required in EV. The session continued with Global issues while designing EV.

Day 2 (15.05.2018):

Forenoon session:

Mr. Mahesh Patil delivered the basic concepts of power electronic switches used in the inverter circuit of EV. He explained the MOSFET characteristics, ratings and selection of the device for specific applications. He showed the data sheets of MOSFET.

Afternoon session:

This session focused on Construction, operation and characteristics of BLDC motor, selection of ratings of BLDC motor for particular application. He also compared the performance of PMSM and BLDC motor.

Aslo an MoU is signed with Amplify cleantech solutions private limited to have enhanced industry interaction for the benefit of students and faculty.

Day 3 (16.05.2018):

Forenoon session:

Mr. Mahesh Patil dealt with the Design of Inverter and battery used in EV. The speaker showed the ratings of lithium Ion battery and various types of batteries available in the market. He also explained the concept of specific power and energy consumption of battery. The resource person also illustrated the circuit configuration of inverter with BLDC motor.

Afternoon session:

Mr. Mahesh Patil solved one Numerical problem on the concept of design of battery and inverter. Then he explained the Battery management system.

Mr. Kiran demonstrated the battery design and charge controller.

Day 4 (17.05.2018):

Forenoon session:

Mr. Hitesh Thakkar gave a presentation on EV hardware design considerations and typical component selection process. He showed the EV hardware design developed by various Companies such as Infineon, Texas instruments, Plugin India.

Mr. Kiran illustrated the Electric Vehicle Service Equipment, On board AC charging connectors and its ratings. He also gave the information on charging levels of battery with distance travel.

Afternoon session:

This session completely focused on ATMega 8A microcontroller features, their architecture and programming. **Mr. Kiran** also covered the overview of Proteus software and simulated basic programming on Proteus software.

Day 5 (18.05.2018):

Forenoon session:

Mr. Kiran completely focused on Hands-on training on ATMega 8A Microcontroller.

Afternoon session:

Mr. Kiran gave presentation on development tools and development cycle of EV.

The program is concluded with thanks to the resource persons. As per the request made by some of the participants, **Mr Mahesh Patil** has accepted to give simulink presentation through skype on Saturday.

Day 6 (19.05.2018):

Forenoon session:

Mr. Mahesh Patil and **Mr. Pankaj Rodey** have explained simulink models of BLDC drive and battery charger through skype.

Program Coordinator