

**Department: ME | Date: November, 12, 2021**

**EXPERT LECTURE**

*on*

**"FUNDAMENTALS OF ELECTRIC VEHICLE"**

**(November 12, 2021)**

An online expert lecture on "**FUNDAMENTALS OF ELECTRIC VEHICLE**" was organized by the Department of Mechanical Engineering under the umbrella of SVEC-ASME student chapter, Sree Vidyanikethan Engineering College (Autonomous), Tirupati, Andhra Pradesh, India on 12<sup>th</sup> November, 2021.

The online Expert lecture was scheduled on (November 12, 2021@ 6:00 PM). The Coordinator of the event **Dr. B. Sachuthanathan**, Professor, Department of Mechanical Engineering welcomed the Resource person and all the participants of this event and provided brief introduction about the expert lecture.

Later the Coordinator of this event **Dr.B.Sachuthanathan** introduced the resource person **Mr.V.Murugan**, DGM, Product development, Ashok Leyland Ennore, Chennai and **Mr.A. Backiaraj**, Assistant Manager, Electric vehicle design, Ashok Leyland Ennore, Chennai to all the participants and later handed over the session to the guest speaker.

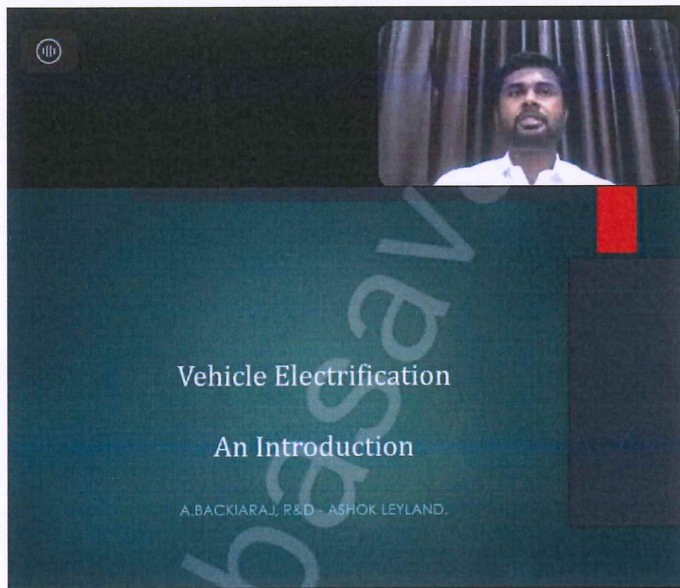
The online event was organized through Zoom platform. A total of 41 participants from SVEC-ASME students chapter, students of Mechanical Engineering and students from other department also actively participated in this Expert lecture. The Event has received an overwhelming response from the participants.

The main objective of this Expert Lecture is to provide general insights into the basics of Electric vehicle technology and its future significance. This program create an awareness about the impact on climate change due to the use of fossil fuels and role of the electric vehicles in reducing the carbon footprint. This program provide basic and intermediate knowledge on battery technology, design of body parts, challenges in near future about charging technology etc.

The outcomes of Expert lecture are as follows:

The participants came to know about the functioning of Electric vehicle. Since the electric vehicles are getting more attraction in domestic transport, there is significant potential to establish entrepreneur mindset in the student community after their graduation. Also the participants were expose to some of the advanced battery technology, driving mechanism, thrust areas in which one

could possibly work on for better performance and maintenance of the vehicles.



Electric Motors

EM Type	Current	Image	Usage in EVs	Pros and Cons
Permanent magnet (PM) motor	3 phase AC		Used in most EVs	High efficiency, high torque, short constant power range
Induction motor	3 phase AC		Tesla, Toyota RAV-4 EV	Simple, robust, wide speed range, Less efficient than PM motors
Switched Reluctance motor	DC		Not yet widely used in EVs	Capable of extreme high speed, Costly

Key Powertrain Components

**Dr.B.Sachuthananthan**, Coordinator of this event initially thanked the Management of SVEC, The Director, The Principal and Head of the Department of Mechanical Engineering for having extended their support in organizing this Expert Lecture. Later, he thanked all the participants for their enthusiastic participation. At the end, he conveyed his heartfelt thanks to the Resource person without whom this program would not have happened. Later he thanked all the stakeholders for their constant support in making this event a grand success.

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