SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to VTU, Belagavi and Approved by AICTE, New Delhi)
14/5, Chikkasandra, Hesaraghatta main road, Bengaluru-560057

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Report on WEBINAR

The Webinar hosted by **Electronics and Communication Department** of **Sapthagiri College of Engineering** gives a brief introduction about application of **Embedded Systems in Automotives**. The webinar was conducted on 17th December 2020 in the M.Tech classroom.

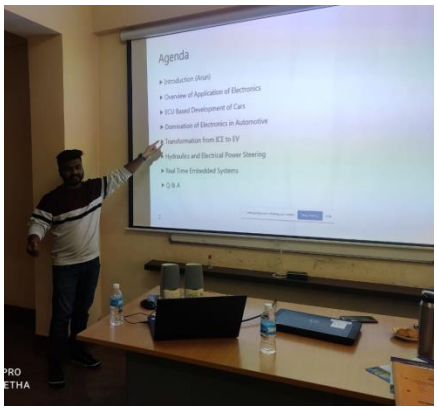
The session began with the welcome address by Dr. Vijay Kumar Kulkarni, Professor, Department of Electronics and Communication Engineering. Followed by the introduction about speaker Mr. Arun Marimallaiah, Software Test Manager at BOSCH, Germany by Dr. Sudha MS. The Webinar was conducted online a total of 172 students attended this webinar and some students had come for offline session also.

Welcome address by Dr.Vijay Kumar Kulkarni

Offline students attending the webinar

He gave a brief insight about Embedded Systems and its Applications in various sectors especially in Automobiles and explanation of how technologies evolved among different years from motors to electric cars and he explained about the development of cars that how mechanical models are developed through the applications of embedded systems. He explained about the importance of embedded systems in the present world and its contribution for Modernization. A brief insight of design, process and development of cars through different stages such as E&E systems, mechanical system, hardware, software, Agile and so on. He spoke about evolution of ECU (Electronic Control Unit) and AutoSAR (Automotive Open System Architecture) where ECU has one microcontroller and is designed to perform single or multiple functions and it is a closed loop system and used in various applications like sensors, actuators,engine and lighting system.He also threw light on upcoming **Automatic Valet Parking in** Airports. He explained about the emerging trends in automobile engines and shared knowledge about replacing of Fuel Engines into Electrical Engines. He also spoke about the **Scope of Embedded Systems** in

coming days. Later he spoke about the progress in Embedded systems and about Bosch plant manufacturing the sensor for automatic valet parking.



Address by the speaker


Felicitation to the guest

He explained about the two different ECU's namely,

1) Internal Combustion engine which is also known as Electric motor.
2) Hydraulic steering which is known as Electric power steering.

About the working of diesel engine and then he explained working of Electric vehicles which has AC and induction motors and then about Tesla motors with the help of videos. He explained how ICE is replaced by Electric motors and ECU is used to control the software of motor.

He spoke about applications of Electronics in Electric vehicles and Electric power steering systems that works based on the input given from the mobile applications. It gave us knowledge on how Electronics is used in different fields. Automatic valet parking and how architecture of P1xC, 8051 and 8086 in different applications. Real time embedded system applications used in Automated robots, image processing and signal processing. He finally explained the improving technology of virtual ECU development. Overall webinar gave us a maximum idea of applications of embedded systems that is mainly used on the car development technologies

He also presented innovative videos on automation and spoke about **Self-Driving cars.**The speaker also gave information on how Embedded Systems will rule the world in upcoming years. An eye opening session of embedded in automotives was concluded with the vote of thanks by Prof. Ravishankara M N, Department of Electronics and Communication Engineering. The students of fifth and seventh semester, Department of Electronics and Communication Engineering were benefitted from this webinar.

Co- ordinators
Kavitha R.J.
Prathibha P. HOD
Shwetha M.

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