

## Latest Developments in Automobile Sector

### Tesla Model S

The Tesla Model S is a full sized all electric five door luxury lift back , produced by Tesla Motors and introduced in June 2012. It scored a perfect 5.0 in NHTSA automobile safety rating. The United States Environmental Protection Agency (EPA) official range for the 2012 Model S Performance model equipped with an 85 kWh (310 MJ) battery pack is 265 miles (426 km), higher than any other electric car at the time. EPA rates its energy consumption at 237.5 watt-hours per kilometer (38 kWh/100 mi or 24 kWh/100 km) for a combined fuel economy of 89 miles per gallon gasoline equivalent (2.64 L/100 km or 107 mpg). The Model S ranked as the world's best selling plug-in electric vehicle in 2015, up from second best in 2014. The Model S also ranked as the top selling plug-in electric car in the U.S. in 2015. As of December 2015, the leading markets are the United States with a 60% share of global sales and Norway with 9.4%. Other leading country markets are China, the Netherlands, Canada, Denmark, Germany, and Switzerland. The Tesla Model S won awards including the 2013 World Green Car of the Year, 2013 Motor Trend Car of the Year, *Automobile* magazine's 2013 Car of the Year, *Time Magazine* Best 25 Inventions of the Year 2012 award and *Consumer Reports'* top-scoring car ever. In 2015, *Car and Driver* named the Model S the Car of the Century. The 60, 60D, 70, 70D, 75, 75D and 90D versions are available. 70 and 70D Model S owners have the option to unlock the 75 kWh capacity via a software update, adding up to 19 miles per charge.



The 60 and 60D, reintroduced in June 2015, owners have a US\$9,000 anytime option to unlock the full 75 kWh capacities via a software update. The 2012 Tesla Model S Performance model has a three phase, four pole AC induction 416 hp (310 kW) and 600 N·m rear-mounted electric motor with copper rotor. The base model uses a 362 hp (270 kW) and 325 ft·lb (440 N·m) motor. The company claimed a drag coefficient of  $C_d=0.24$ , lower than any car when released. Models of Mercedes-Benz CLA-Class (released later) appeared to surpass the Model S. However, independent measurement by Car And Driver in May 2014 bore out Tesla's claim by exactly confirming a drag coefficient of  $C_d=0.24$ , but in the same test, measured the Mercedes CLA at  $C_d=0.30$ , putting Mercedes' claim into question. The replacement Model S 90D has a top speed of 160 mph (260 km/h) and it accelerates from 0 to 60 miles per hour (0 to 97 km/h) in 2.8 seconds, despite the lower total motor power, in part due to the improved traction of the all-wheel drive powertrain. The Model S P85D, a dual motor all-wheel drive vehicle has a governed top speed of 155 mph (249 km/h) and it accelerates from 0 to 60 miles per hour (0 to 97 km/h) in 3.2 seconds (tested to 3.1 seconds), under "Insane Mode", with 1g of acceleration. New P85Ds have an optional "Ludicrous Mode" hardware package available with the 90 kWh battery upgrade (thus becoming a P90D) that improves the 0 to 60 miles per hour (0 to 97 km/h) acceleration to 2.8 seconds and 1.1g. Tesla initially reported the total output in the P85D as the arithmetic addition of the maximum power of the individual electric motors at 691 hp (515 kW) but later reported it as 463 hp (345 kW) because the two motors do not give their maximum power at the same time.

## Rajendra Mane College of Engineering & Technology, Ambav



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### NEWS LETTER

#### Department Vision

To mould the students into professional and competent automobile engineers, who can meet the global demands.

#### Department Mission

1. To prepare students for utilizing more creative thinking and inattentiveness.
2. To develop 'educational pathways' so that students can maximize on their optional career choices.
3. To inculcate integrity, honesty and team building through curricular, co-curricular activities.

**Henry Ford** (July 30, 1863 – April 7, 1947) was an American industrialist, the founder of the Ford Motor Company, and the sponsor of the development of the assembly line technique of mass production.

Although Ford did not invent the automobile or the assembly line, in fact he developed and manufactured the first automobile that many middle class Americans could afford. In doing so, Ford converted the automobile from an expensive curiosity into a practical conveyance that would profoundly impact the landscape of the twentieth century. His introduction of the Model T in automobile market revolutionized transportation and American industry. As the owner of the Ford Motor Company, he became one of the richest and best-known people in the world. He is credited with "Fordism": mass production of inexpensive goods.



Ford had a global vision, with consumerism as key to peace. His intense commitment to systematically lowering costs resulted in many technical and business innovations, including a franchise system that put dealerships throughout most of North America and in major cities on six continents. Ford left most of his vast wealth to the Ford Foundation and arranged for his family to control the company permanently.

In 1891, Ford became an engineer with the Edison Illuminating Company. After his promotion to Chief Engineer in 1893, he had enough time and money to devote attention to his personal experiments on gasoline engines. These experiments culminated in 1896 with the completion of a self-propelled vehicle which he named the Ford Quadricycle. He test drove it on June 4. After various test drives Ford brainstormed ways to improve the Quadricycle.



## Students' Section (Academic)

1. Students of Automobile & Mechanical have successfully participated in Student's Formula Racing Championship at Coimbatore & also participated in Go-Karting Competition at Coimbatore in the month of January 2015.

2. For State level Science Exhibition, the "ROBO" was prepared by Mr. Siddhesh Koltharkar of S.E. Auto. He has also developed a folding cycle having the most compact design.

3. Students from B.E. Auto donated educational material to Primary School, Nive (Devrukh)



4. Final Year Automobile Students visited authorized service station of Maruti Suzuki on 21<sup>st</sup> March 2015 at Mhapusa, Goa.



5. For the final year automobile students the Mock Recruitment Process has been organized by the department 62 students faced the aptitude test followed by group discussion, for the 22 short listed students technical interview has been organized and the selected 8 students faced the personal interview by Mr. Sameer Ghag.



6. One day workshop on two wheeler maintenance has been organized by department for students of automobile engineering. The members of Ratnagiri district motor mechanic association jointly with Autotrendz conducted the workshop the hands on experience have been given to the students about different two wheelers.



## Students' Section (Creative)



When Nature decides to Paint...  
Shitut Chinmay C. (S.E. Auto)



Into the Unknown...  
Awasure Rupesh I. (S.E. Auto)



Waiting for Someone.....  
Nagwekar Maitreya M. (S.E. Auto)

## खूप प्रेम होतं तिच्यावर...

खूप प्रेम होतं तिच्यावर,  
तिला कधी कळलच नाही,  
मनातलं सगळं सांगितलं,  
तरी तिला पटलंच नाही ||

कितीदा तरी म्हटलं तिला,  
नको जाऊस सोडून मला,  
काहीही न बोलता वेडी,  
गेली ती पाठ फिरवून ||

प्रेम खरं काय असतं,  
कळलच नसावं तिला,  
कसं समजावू मी आता,  
माझ्या वेड्या मना||

तिच्या बरोबर पाहिलेली स्वप्नं,  
पूर्ण होण्याआधीच तुटली,  
आठवण त्या हसऱ्या चेहेऱ्याची,  
मनात घर करून बसली ||

धावत धावत येईल परत,  
आस वाटतं या मना,  
गोड मिठीत घेईल अन्,  
सॉरी वेड्या म्हणेल मला ||

- **हर्षद एकनाथ नाईक**  
- (S.E. Auto)

## Staff Achievements

1. Prof. N. S. Dhole & Prof. O. S. Gadre guided the students for Student's Formula Racing Championship at Coimbatore.
2. Prof. N. N. Manchekar guided the students for Student's GO-Karting Championship at Coimbatore.

3. Prof. R. D. Rajopadhye published a paper on 'Application of Taguchi Method and ANOVA in optimization of Process Parameters for tool life' at International Journal of Research in Advent Technology in April, 2015.

**Dream is not what you see in sleep, it is something that doesn't let you sleep.**

- **Dr. A. P. J. Abdul Kalam**

**One who doesn't respect his nation will never respect anything else.**