

Assignment 2- EV Powertrain Architecture and Energy Storage System

Unit 2: Electric Vehicle Powertrain Selection

Q.1.

Derive the Equation of motion and maximum tractive effort for a car inclined at angle θ . Also give the expression of maximum gradeability for a 4 wheel drive.

Q.2.

Consider a car with the following specifications that is parked on a level road. Find the load on the front and rear axles. $m = 1765 \text{ kg}$, $l = 2.84\text{m}$, $a_1 = 1.22\text{m}$, $a_2 = 1.62\text{m}$.

Q.3.

What are the different parts of tires? Differentiate between types of tires on the basis of their construction.