



DEPARTMENT OF MECHANICAL ENGINEERING
NSS COLLEGE OF ENGINEERING,
PALAKKAD - 8

BTECH FINAL PROJECT 2022-23

1. Project No : B092023
2. Project Title : Design and fabrication of electric vehicle specific test rig and testing
3. Students Name :

Register Number	Name	Roll No	Class
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4. Project Guide : Dr. VINOD V
5. Abstract :

In this project a electric vehicle test rig is designed and fabricated to conduct various test on the electric vehicle to find the electrical energy consumption of the vehicle. For this we have to design an electric vehicle specific chassis dynamometer to apply various loads to the drive wheels of the vehicle. In this test rig hydraulic braking system of the vehicle undergoing testing is implemented as the loading system in the dynamometer. The brake circuit of the vehicle undergoing testing is by passed to the externally mounted calipers on the test rig. Various loads are applied on the brake pedal of dynamometer that may be acted on the vehicle during different driving conditions and measure the energy consumption of the electric vehicle by using a digital DC energy meter. In this test rig we will carry out different tests like constant-rpm tests and constant load tests and the energy consumption variation according to different loads and different rpm can be found. After these tests we can arrive at the amount of energy consumed by the electric vehicle for different load conditions. By using this data we can calculate the average energy consumption of the specific vehicle can be found.

6. Project Picture :

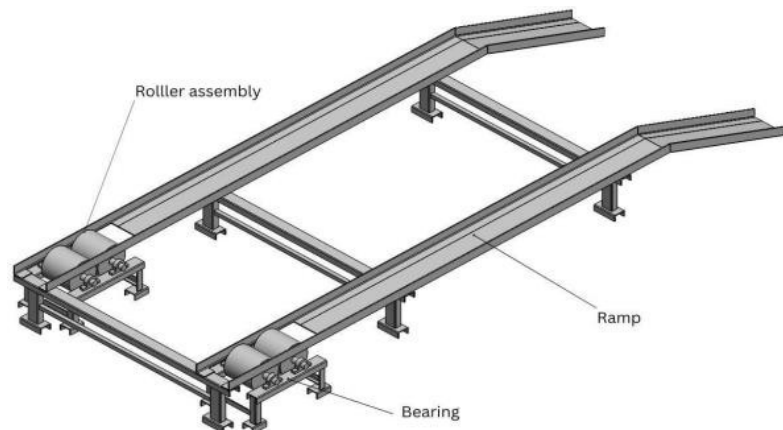


Fig 4.2 Isometric view of the test rig 3D model