



### TEAM ASTRA

SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

DVP REPORT



S.No.	DEPARTMENT	NAME OF COMPONENTS	NAME OF TEST	PERFORMED DATE	PERFORMED BY	DESCRIPTION
1	Roll Cage	Roll Cage	Front impact	25-12-2021	Deepak K .V	The Deformation of Roll cage was tested while the load acting on the front bulkhead of rollcage.
			Rear impact	25-12-2021	Sowmiya Devi .S	The Deformation of Roll cage was tested while the load acting on the rear bulkhead of rollcage.
			Side impact	26-12-2021	Kishore .P	The Deformation of Roll cage was tested while the load acting on the side cross bars of rollcage.
			Twist impact	26-12-2021	Sowmiya Devi .S	The Deformation of Roll cage was tested when the equal and opposite forces act on oppsite diagonal wheels.
		Weldments	Joints	27-12-2021	Kishore .P	The Strength of weld joints were tested when the load and gravitational force acts on the joints
2	Wheel Assembly	Wheel tyre assembly	Corner fatigue test	25-12-2021	Arvind	Corner fatigue test is done to evalute the strutural performance of the wheel during cornering. The wheel is mounted on the test machine and various load is applied on dynamic condition.
			wheel impact test	25-12-2021	Arvind	Impact test is carried to check the resistance of the wheel due to impact. The wheel tyre assembly is mounted on a support and striker is dropped from a certain height. The variation of bolt location and tyre width is noted.
		Hub Knucle	Finite element analysis	25-12-2021	Ashif Muhammed	FEA is used to understand the behaviour of part or assembly under different loading condition.
3	Transmission	Chian	Longevity testing	24-Dec-2021	SRI HARI P	Longevity testing is applied for error checking or heavy usage after a live operational period and is contingent on complexity and size.
		Sprocket	Worn teeth checking, Misalignment of teeth	24-Dec-2021	SRI HARI P	<ul style="list-style-type: none"> <li>• Worn Teeth -Removal of rounded and chipped teeth</li> <li>• Verified for misalignment for teeth</li> </ul>
		Axle Shaft	dynamic and static	24-Dec-2021	Keerthana M	This test used to determine the rigidity, stress and strain of the shaft In different load and conditions.
		CV Joint	durability	24-Dec-2021	Keerthana M	This test is used to determine the maximum force and load acting on the joints to ensure the stiffness of the material
4	Brakes	Transmission hose	Pressure test between the ends.	25- Dec-2021	Dinesh	Pressure test is performed to check the maximum withstanding limit of the transmission tube and to sort out the leakages ,when maximum pressure is applied at the ends.
		Master cylinder	Plunger test	25-Dec-2021	Arul Nilavan	This test is used to check the working of the cylinder by moving the plunger with maximum applied force by the pedal to calculate the withstanding rate and leakages in the system
		Caliper	Piston test	26-Dec-2021	Bero	This test was done for ensuring the proper working of the piston inside the caliper for the movement of brake pads
		Pedal	Maximum force test	26-Dec-2021	Shanon abishek	This test is mainly used to check the yeild strength of the material used in pedal

5	Suspension Systems	Control Arms	Nick break testing	25/12/2021	Asif Muhammed, Poorva Santhiya	Nick break testing is done with a small notched object, placed around the welds. The object is then impacted heavily, until the weld breaks. This test reveals whether the welds are completely penetrated or not.
		Suspension Damper and Springs	Compression test	25/12/2021	Arvind, Bhuvanesh	This test reveals whether the spring is capable of withstanding forces, which the suspension undergoes during heavy usage of the vehicle, without reaching the solid length.
6	Steering	Rack and pinion Tie Rod Steering Shaft	Steering linkage test Steering shaft test	24 Dec 2021	Dheeraj Hemand adish	Steering linkage test is done to determine the friction forces and torques, including stiction, inside and outside the test axis for a steering linkage in mounting position. A horizontal multi-axis testing machine for test loads up to 20 kN is used for this purpose.
7	Battery	SLI Battery	The ohmic test	24 Dec 2021	Surrya M	<ul style="list-style-type: none"> <li>The ohmic test is also known as impedance test.</li> <li>It Measures internal resistance.</li> </ul>
		Tractive Battery			Yokes E	
8	Solar	Solar Pannels	Clamp meter test	24 Dec 2021	Surjith Surya V	<ul style="list-style-type: none"> <li>We find current flow through the wires and voltage across the output terminal of solar panels through which we can find power. <math>P=VI</math></li> </ul>
		Charge Controller	Off grid test for mppt	24 Dec 2021	Swetha Sri K Susmitha U	<ul style="list-style-type: none"> <li>This method consists of an irradiance profile implemented by an irradiance simulator to an off-grid solar system with a battery storage.</li> <li>Performance and efficiency of these devices through various irradiance situations are analyzed and compared which led to interesting results.</li> </ul>
9	Motor	Motor Controller.	EVMotor Controller HIL Test System	24 Dec 2021	Manswini P S Sanjay Bharathi K	<ul style="list-style-type: none"> <li>This system allows user to simulate the battery pack, power electronics switches, motor models on FPGA for high processing speeds and position of the motor to the motor controller unit(MCU) in a closed-loop environment.</li> </ul>
		BLDC Motor	PWM Tests of BLDC Motor	24 Dec 2021	Sailes Venkat R	<ul style="list-style-type: none"> <li>To determine Speed Control of BLDC Motor</li> </ul>
10	Circuiting	PCB	In-circuit test (ICT)	24 Dec 2021	Syed Atheef M	<ul style="list-style-type: none"> <li>The populated PCB is tested using an Electrical probe which checks for shorts, opens, resistance, capacitance, and other basic quantities which will show whether the assembly was correctly fabricated</li> </ul>
		Wire	Conductive test	24 Dec 2021	Sham Sundar K	<ul style="list-style-type: none"> <li>A circuit always needs a power source and a conductive material that the current can flow through in order to power a device.</li> <li>In the case of conductivity tester, the battery is the power source, the wires are the conductive material that the current flows through, and the light bulb is the device that is being powered.</li> </ul>