

---

# REPORT ON ELECTRIC VEHICLE WORKSHOP

---

GMIT - Davanagere

Submitted by :-

Darshan N K  
SS03184  
Research Engineer  
SLMIC – Mech  
Sri Sairam College of Engineering  
Anekal, Bengaluru.

## **REPORT ON E-BIKE WORKSHOP GMIT**

Rove Labs had organized a 12 days' workshop on "Design and Fabrication of E-Bike" from 28<sup>th</sup> Oct 2020 to 10<sup>th</sup> Nov 2020 at GMIT, Davangere. The aim was to make students to get exposed to the intricacies of designing and fabrication of E-Bike from scratch to an industrial assembly line.

I was invited as resource person to train students on CAD modelling and analysis of E-bike frame and other components from 2<sup>nd</sup> Nov 2020 to 5<sup>th</sup> Nov 2020. The workshop went well and students were very much happy with the workshop.

On the 1<sup>st</sup> day of my session I trained students on CAD modelling using Solid works software. The different commands available in software and the steps to be followed while creating 3D models for manufacturing standards. The students were given different part drawings to convert them into 3D model keeping Manufacturing constrains in mind.

2<sup>nd</sup> day of my session was on various parts of bike. The students were given the components and asked to identify them and explain their importance in the system. Then the students were asked to create the cad models of the same by taking dimensions from the actual parts including Tire, Rim, Handle bar, Motor, Battery, etc.

3<sup>rd</sup> day of my session was on designing the frame. Since the students had got knowledge on various components of bike, now they were ready to design the frame to mount all these components. The frame was drawn to 1:1 scale on the floor. Here the students were split into two different teams comprising 16 members each. Hence, we had two different frames designed.

4<sup>th</sup> day of my session was on building the 3D model of the frame using CAD software. The students were taught on how to draw the frame members on a 3D space and then inserting tube members to the line drawings and then assembling the other components that they had modeled using software.

5<sup>th</sup> day of my session was on Structural Analysis of the frames. The static analysis was done for front, rear and side impacts using Solidworks simulations. Students learnt the concepts of load applications on various impacts, the process of meshing and defining the factor of safety. Both the teams had done the analysis until they get a min required FOS.





## Letter of Appreciation



Srishyla Educational Trust (R), Bheemasamudra  
**GM INSTITUTE OF TECHNOLOGY**

Affiliated to VITVEERARAYA Technological University, Belagavi, Approved by AICTE, New Delhi and Govt. of Karnataka

Post Box No. 4, P. B. Road, Davanagere - 577 006, Karnataka, INDIA, Ph: 08192 - 233345 / 233377 / 252777 / 252560  
Fax: 08192 - 233344 Website: www.gmit.info, www.gmit.ac.in, e-mail: info@gmit.info, info@gmit.ac.in,



with B++ Grade

Ref: GMIT/MED /Internship Programme/2020-2021/02

10.11.2020

To

**Mr. DARSHAN N K**  
Research Engineer  
Sri Leo Muthu Innovation Center  
Department of Mechanical Engineering  
Sri Sairam College of Engineering  
Anekal, Bengaluru-562106

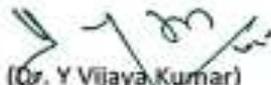
Subject: Letter of Appreciation

Dear Sir,

On behalf of Department of Mechanical Engineering, GM Institute of Technology, Davanagere, Karnataka, we would like to thank you very much for delivering an informative & thought-provoking lecture as guest speaker at "Two-Wheeler Electric Vehicle Design Fabrication & Testing"-An Internship Programme held on 30<sup>th</sup> Oct-2020 to 11<sup>th</sup> Nov-2020. It was very successful sessions with overwhelming response and very positive feedback from the students. It was indeed our pleasure to have you on this occasion. We believe, the knowledge you have shared will help our students in understanding and implementing the concepts in the current Electrical Vehicle Technology.

Once again, thank you for your contribution to the summit, we are looking forward for your cooperation for the promotion of professional education activities in the future as well.

Thanking You,

  
(Dr. Y Vijaya Kumar)  
Principal



# Certificate



Srishyla Educational Trust (R), Bheemasamudra

## GM INSTITUTE OF TECHNOLOGY

Affiliated to Visvesvaraya Technological University, Belagavi, Approved by AICTE, New Delhi and Govt. of Karnataka

Post Box No. 4, P. S. Road, Davanagere - 577 006, Karnataka, INDIA, Ph: 08192 - 233345 / 233377 / 252777 / 252560

Fax: 08192 - 233344 Website: www.gmit.info, www.gmit.ac.in, e-mail: info@gmit.info, info@gmit.ac.in,



Ref: GMIT/MED /Internship Programme/2020-2021/01

10.11.2020

### CERTIFICATE

This is to certify that **Mr. Darshan N K**, Research Engineer, Sri Leo Muthu Innovation Center, Department of Mechanical Engineering, Sri Sairam College of Engineering, Bengaluru is an invitee as a guest speaker to the "Two-Wheeler Electric Vehicle Design Fabrication & Testing"-An Internship Programme organised by Department of Mechanical Engineering, held on 2<sup>nd</sup> Nov-2020 to 5<sup>th</sup> Nov-2020.

  
(Dr. Y Vijaya Kumar)  
Principal

