Report

On

ADVANCED COURSE ON

"MODELING AND SIMULATION OF ELECTRICAL VEHICLE USING MATLAB"

As a part of

Emerging Technology course

Under

Engineering for sustainable development program

19/06/2021 to 10/07/2021

Organized by

Electrical Vehicle Club, Department of Electrical and Electronics Engineering

In association with

H&S Department

at

KG Reddy College of Engineering & Technology

Submitted by

Srinivas D, Assistant professor, Dept. of Electrical and Electronics Engineering

Head of the Department

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Dept. of Electrical & Electronics Engineering
KG Reddy College of Engineering & Technology
Chilkur (V), Moinabad (M), R.R. Dist-501 504.

PRINCIPAL
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KG Reddy College of Engineering & Technology
Chilkur (V), Moinabad (M),
R.R. Dist. Telangana.

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Course introduction

Course Name: Modeling and simulation of Electrical vehicle using M ATLAB

Course duration: 4 - weeks

Organizing Department: Institutions Innovation Council

Collaborations:H & S dept., Center for Innovation and Social Transformation

Course offered by Electrical Vehicle club, Department of Electrical and Electronics Engineering

Venue: Virtual Mode

Speaker: Dr.T.V.V. Pavan Kumar , Associate. Prof., Dept. of EEE, KGRH

Srinivas D, Asst. Prof., Dept. of EEE , KGRH

Engineering for sustainable development:

The Engineering for Sustainable Development is a yearlong co-curricular pro- gram that is designed to introduce freshmen engineering students to the concepts of engineering design, principles of sustainable development and UN's Sustainable Development Goals (SDG's), entrepreneurial thinking, and emerging technologies in multi-disciplinary fields of engineering. The program is designed to help students become ethical and emphatic leaders who will reflect on the impact of engineering work on the environment and sustainability and develop an enhanced sense of social and civil responsibility. As a part of ESD program, a four week foundational course on emerging technologies is conducted. 3D printing is one among the emerging technologies taught as part of ESD. In the first semester 3D printing foundational course and in the second semester 3D printing advanced course is taught for the freshmen students.

Objectives:

- To make a most simple and low run time vehicle model using individual component blocks
- To run the individual modules of vehicle model and integrate
- To check out performance parameters: SOC, Current, Speed with various driven cycles
- To know MATLAB model & their configuration to match with actual vehicle model

Outcomes:

- Students has learnt about the simple and low run time vehicle model using individual component blocks
- How to run the individual modules of vehicle model and integrate Identified Real time battery charging management
- Checked out performance parameters: SOC, Current, Speed with various driven cycles
- Known the MATLAB model & their configuration to match with actual vehicle model

Resource Persons:

Dr. T.V.V. PAVAN KUMAR, Associate professor, Officers – Exam branch, Department of EEE, KGRCET

Mr. D.SRINIVAS, Assistant Professor of EEE,KGRCET,

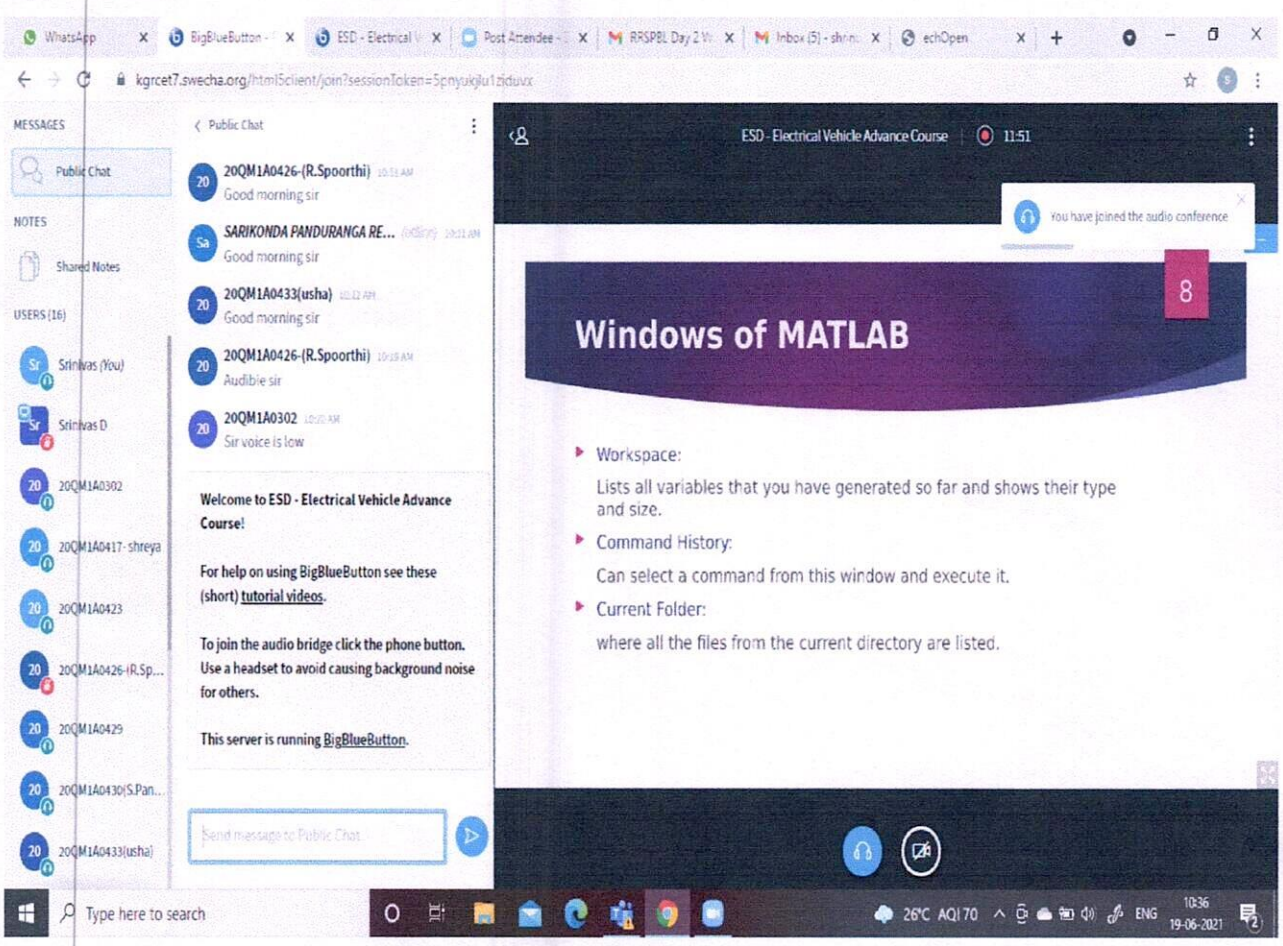
Faculty coordinator

Mr. Srinivas D, Assistant Professor,

Department of EEE, KGRCET.

Summary Report of Week - 1

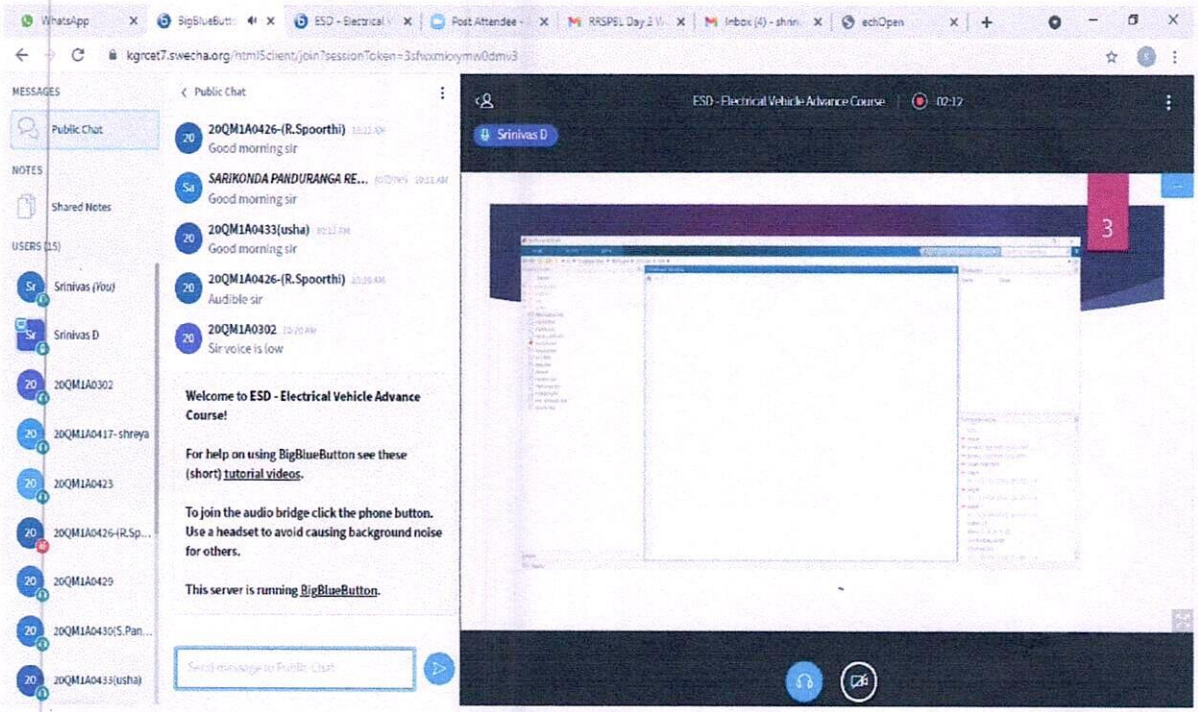
Dr.T.V.V. Pavan Kumar has started Session with an Introduction to MATLAB and Importance of simulation. Simulink is a simulation and model-based design environment for dynamic and embedded systems, integrated with MATLAB. Simulink, also developed by MathWorks, is a data flow graphical programming language tool for modelling, simulating and analyzing multi-domain dynamic systems. He explained about what is MATLAB and how to use MATLAB for Various Applications.



Dr.T.V.V. Pavan Kumar explaining about MATLAB

Summary Report of Week - 2

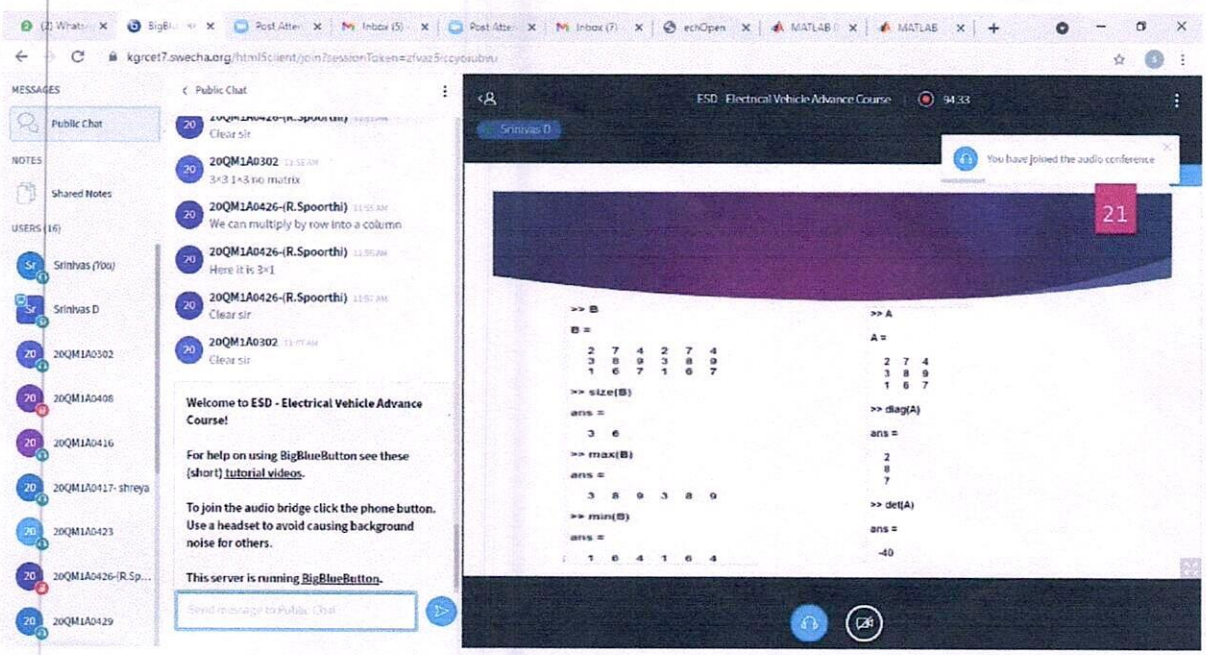
Dr.T.V.V. Pavan Kumar has started Session with an Building of Mechanical block module in MATLAB Simulink opens with the Library Browser. The Library Browser is used for building simulation models.. To create a new model, click the new button on the Library Browser's toolbar. This opens a new untitled model window. He explained about how to build the mechanical blocks of Electrical Vehicles in MATLAB.



Dr. T.V.V. Pavan Kumar Explaining about building of Mechanical Blocks.

Summary Report of Week - 3

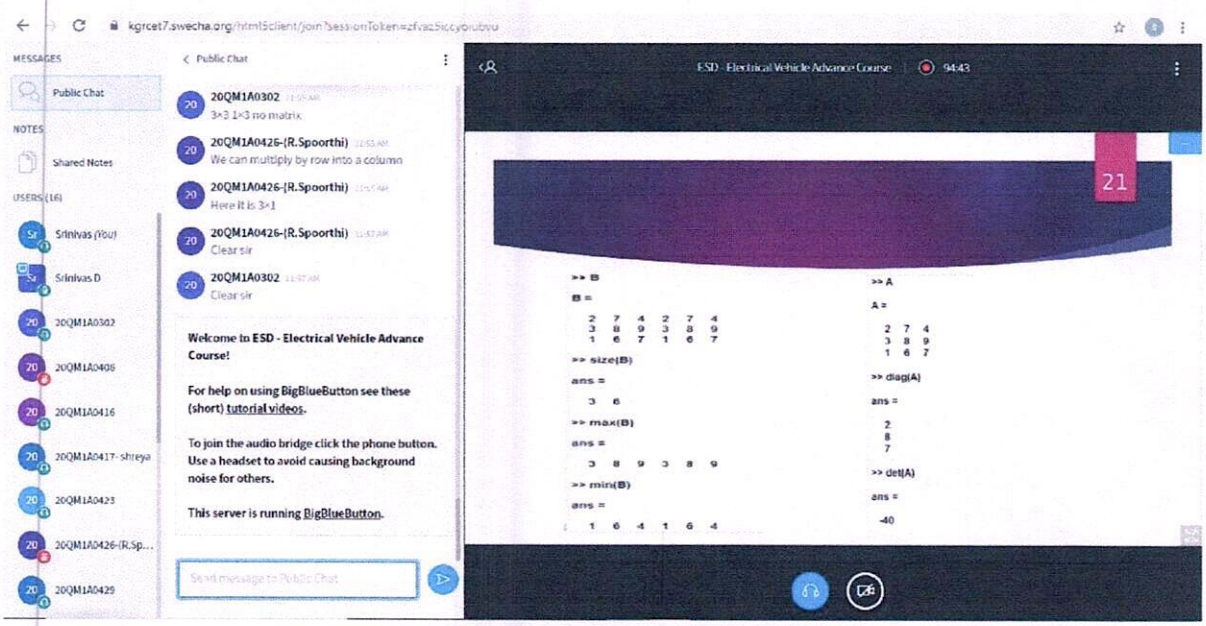
Srinivas D has started Session with an Building of Electrical block module in MATLAB Simulink opens with the Library Browser. Begin by dragging the required blocks from the library to the project window. Then, connect the blocks together which can be done by dragging connectors from connection points on one block to those of another.. He explained about how to build the Electrical blocks of Electrical Vehicles in MATLAB.



Mr. Srinivas D Explaining about Electrical Blok modelling

Summary Report of Week - 4

Srinivas D started session with Integration of Mechanical and Electrical blocks and Simulation of MATLAB model and discussion on simulation results. A Simulink model is a block diagram. Model elements are added by selecting the appropriate elements from the Library Browser and dragging them into the Model window. Alternately, you can copy the model elements and paste them into the model window. Run the simulation by pressing the 'Run' button, keeping all parameters default



Integration of Mechanical and Electrical blocks and Simulation of MATLAB

INSTITUTION'S INNOVATION COUNCIL
(Ministry fo Education Initiative)

ADVANCED COURSE ON "BUILDING OF MECHANICAL BLOCK MODULE OF E- VEHICLE"

DR.T.V.V. PAVAN KUMAR
Associate Professor,
Dept. of Electrical and Electronics Engineering,
KG Reddy College of Engineering and Technology

Organized by
Institutions Innovation Council

In Association with
Department of Humanities and Science, Centre for innovation and Social Transformation, Centre for Faculty and Students Professional Development

KG REDDY
College of Engineering & Technology
Engineering India's Changemakers

26th June 2021

10.00 AM to 01.00 PM

Webinar Link :

https://kgrcet5.swecha.org/b/sri-afo-cdj-kz2

KG REDDY College of Engineering & Technology
Engineering India's Changemakers

KG Reddy College of Engineering & Technology
(Approved by AICTE, New Delhi, Affiliated to JNTUH, Hyderabad)
Chilkur (Village), Moinabad (Mandal), R. R Dist, TS-501504

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ADVANCED COURSE ON

"MODELING AND SIMULATION OF ELECTRICAL VEHICLE USING MATLAB"

S.No	Roll Number	Name of the Student	Presentation Marks (50)
1	20QM1A0101	C Venkat Reddy	38
2	20QM1A0302	Ghanate Vijay Kumar	40
3	20QM1A0402	Arige Venkatesh Surender Rahul	42
4	20QM1A0405	Banrapolu Bharath Reddy	41
5	20QM1A0409	Thanmai	43
6	20QM1A0416	Kancharla Niharika	44
7	20QM1A0417	Keshannagari Shreya	45
8	20QM1A0418	Kompelly Surya Prakash Goud	39
9	20QM1A0419	Kondapu Veera Venkata Vara Prakash Reddy	37
10	20QM1A0423	Patan Muzafar	38
11	20QM1A0425	R.Pranay Raj	42
12	20QM1A0426	Rikkala Spoorthi	48
13	20QM1A0429	Sama.Deepika	45
14	20QM1A0430	Sarikonda Pandurangareddy	41
15	20QM1A0433	T.Usha Rani	42
16	20QM1A0434	Thodeti Mounika	40
17	20QM1A0437	Tulasamolla Bhargavi	40
18	20QM1A0536	Jalagari Karthik	45
19	20QM1A0539	K Devraj	38
20	20QM1A0559	Mrutunjay Khatua	39
21	20QM1A0590	Suraj Kumar Singh	40
22	20QM1A6601	Afjal Ansari	42
23	20QM1A6636	Nukapelly Rishank Reddy	41

Course Coordinator

Chairman

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Electrical Vehicle Club, Dept. of EEE
In association with H & S Department

CERTIFICATE OF PARTICIPATION

This is to certify that Mr./Ms. Jalagari Karthik *has attended the*

"A FOUR WEEK ADVANCED COURSE ON MODELLING AND SIMULATION OF ELECTRICAL VEHICLE USING MATLAB"

at K G Reddy College of Engineering and Technology from 19th Jun 2021 to 10th July 2021.

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Srinivas D
Coordinator

P. Samyuktha
Chairman

Dr. R. S. Jahagirdar
Prinicipal

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CERTIFICATE OF PARTICIPATION

This is to certify that Mr. / Ms. Rikkala Spoorthi *has attended the*

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