

## **Department of Electrical & Electronics Engineering**

**in association with**

**DesignTech Systems Pvt Ltd**

**Organizes a**

**Five days Online FDTP**

**on**

**“MATLAB applications to Electric Vehicle, Smart  
Grid and Battery Management Systems”**

**20/01/2022 to 25/01/2022**

**Registration link:**

**<https://forms.gle/XMqGahn4VYdqSnNVA>**

**Google meet link:**

**<https://meet.google.com/geu-ecyq-ibw>**

### **CONVENOR**

**Dr.KR.SANTHA**  
VICE-PRINCIPAL,  
Professor & HOD/EEE

### **COORDINATORS**

**Dr.Sudhakar K Bharatan Prof/EEE**  
**Dr.S.G.Bharathidasan ASP/EEE**  
**Dr.R.Karthikeyan ASP/EEE**  
**Dr.S.Kumaravel AP/EEE**  
**Dr.M.Sankar AP/EEE**

## Five days Online FDTP on

## “MATLAB applications to Electric Vehicle, Smart Grid and Battery Management Systems”

### Schedule

Sl. No.	Date & Day	Time	Session topic details
1	20/01/2022 Thursday	11.15 AM – 11.30 AM	<b>FDTP Inauguration:</b> <b>Dr.KR.SANTHA</b> VICE-PRINCIPAL, Professor & HOD/EEE
2	20/01/2022 Thursday	11.30 AM – 12.30 PM	<b>Modelling and Simulation of HEV's: MATLAB &amp; Simulink*</b>
3	21/01/2022 Friday	11.30 AM – 12.30 PM	<ul style="list-style-type: none"> <li>• Challenges with HEV Design</li> <li>• HEV Component modeling Types</li> <li>• HEV Plant Modeling Tools</li> <li>• HEV Modeling Best Practices</li> </ul>
4	22/01/2022 Saturday	11.30 AM – 12.30 PM	<b>Renewable Energy Systems using Smart grid Simulation in MATLAB Software*</b>
5	24/01/2022 Monday	11.30 AM – 12.30 PM	<b>Battery Management Systems (BMS)*</b>
6	25/01/2022 Tuesday	11.30 AM – 12.30 PM	<ul style="list-style-type: none"> <li>• Monitors cell voltage and temperature</li> <li>• Estimates state-of-charge and state-of-health</li> <li>• Limits power input and output for thermal and overcharge protection</li> <li>• Controls the charging profile</li> <li>• Balances the SOC of individual cells</li> <li>• Isolates the battery pack from the load when necessary</li> </ul>
7	25/01/2022 Tuesday	12.30 PM – 12.45 PM	<b>FDTP Valediction:</b> <b>Dr.KR.SANTHA</b> VICE-PRINCIPAL, Professor & HOD/EEE

\* sessions will be handled by resource people from M/s DesignTech Systems Pvt Ltd

**SRI VENKATESWARA COLLEGE OF ENGINEERING (SVCE)  
PENNALUR, SRIPERUMBUDUR-602117**

	<p align="center"><b>Department of Electrical and Electronics Engineering</b></p>		
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**REPORT ON** Five days Online FDTP on "MATLAB applications to Electric Vehicle, Smart Grid and Battery Management Systems"

**Date:** 20.01.2022 to 25.01.2022

The Department of Electrical and Electronics Engineering in association with MathWorks & DesignTech Systems Pvt Ltd organized a Five days Online FDTP on "**MATLAB applications to Electric Vehicle, Smart Grid and Battery Management Systems**" from 20.01.2022 (Thursday) to 25.01.2022 (Tuesday). This FDTP is exclusively for the faculty members of SVCE. The FDTP started with a prayer song. **Dr.KR.Santha, Vice Principal, Professor and HOD/EEE** delivered the welcome address and briefed about significance and objectives of the FDTP. This FDTP will focus on Modelling and Simulation of HEV's - MATLAB & Simulink , Renewable Energy Systems using Smart grid Simulation in MATLAB Software, Battery Management Systems .

**Dr.Ravindar Reddy CH** Engineer Technical Support- MathWorks, DesignTech Systems Pvt Limited, provided training in Modeling and simulation of Hybrid Electric Vehicles, Renewable Energy Systems using Smart grid Simulation, Battery Management Systems (BMS) using MATLAB/Simulink during the above period. 50 Participants attended the FDTP.

The valedictory of the FDTP was held on 25/01/2022 at 12.30 PM. **Dr. Nalin Kant Mohanty, Professor/EEE** delivered the valedictory address.

**Participants List:**

S.No	Title	Name	Designation	Department
1	Dr	KR.SANTHA	Vice Principal, Professor & HOD/EEE	EEE
2	Mrs	M.RAJALAKSHMI	Assistant Professor	EEE
3	Dr	Dheeban SS	Assistant Professor	EEE
4	Dr	V. Mohanraj	Assistant Professor	EEE
5	Dr	M.PANDIYARAJAN	Assistant Professor	EEE
6	Dr	D.S.PURUSHOTHAMAN	Assistant Professor	EEE
7	Dr	S.S.SETHURAMAN	Assistant Professor	EEE
8	Dr	S.ARUMUGAM	Assistant Professor	MECH
9	Dr	B. Praveen Kumar	Assistant Professor	CSE
10	Mrs	SUGANTHI K	Assistant Professor	EEE
11	Dr	S.MUNIRAJ	Assistant professor	MECH
12	Mr	P.ARUL	Assistant professor	ECE
13	Mr	R. SAKTHIVEL	Assistant Professor	AUTOMOBILE
14	Dr	A. BHASKARAN	Prof and Head	Applied Physics
15	Mr	M.MAHESWARAN	Assistant Professor	MECH
16	Dr	M.Sankar	Assistant Professor	EEE
17	Dr	C.KAMAL	Assistant Professor	EEE
18	Mr	VENKATESAN C	Assistant Professor	EEE
19	Dr	S.VELUCHAMY	Assistant Professor	ECE
20	Dr	S.Vijayanand	Assistant Professor	ECE
21	Dr	P Mathivanan	Assistant Professor	ECE
22	Mr	S.SUDHARSANAM	Assistant Professor	EEE
23	Mr	S.THAMIZMANI	Assistant professor	EEE
24	Dr	P. Vinothiyalakshmi	Assistant Professor	CSE
25	Mrs	K S PAVITHRA	Assistant Professor	EEE
26	Dr	S G BHARATHI DASAN	Associate Professor	EEE
27	Dr	M.PREM ANANTH	Associate Professor	MECH
28	Dr	T ANNAMALAI	Assistant Professor	EEE
29	Dr	GANESH V	Associate Professor	AUTOMOBILE
30	Mrs	S.SINTHAMANI	Assistant Professor	EEE
31	Mr	A.K. Boobalasantilraj	Assistant Professor	AUTOMOBILE
32	Mrs	ARULMOZHI S	Assistant Professor	EEE
33	Dr	R KANNADASAN	Assistant Professor	EEE
34	Mrs	S.ANITHA	Assistant Professor	EEE
35	Mr	RAMANJANEYULU KOLLA	Assistant Professor	AUTOMOBILE
36	Mr	K PAUL DURAI	Assistant Professor	AUTOMOBILE
37	Mr	RAVI G	Assistant professor	AUTOMOBILE

38	Mrs	M.Sasikala	Assistant Professor	EEE
39	Mr	KALIYANASUNDER R	Assistant Professor	MECH
40	Mr	DHANABAL J	Assistant Professor	AUTOMOBILE
41	Mr	Jai Ganesh S	Assistant Professor	CHEMICAL
42	Dr	S.KUMARAVEL	Assistant Professor	EEE
43	Dr	VIJAYALAKSHMI.A.C	Assistant Professor	CHEMICAL
44	Mr	A.BALASUBRAMANIAN	Assistant Professor	AUTOMOBILE
45	Mrs	RADHA.V	Assistant Professor	CSE
46	Dr	R.Gayathri	Associate Professor	ECE
47	Mrs	Rajeswari Ramaraj	Assistant Professor	ECE
48	Dr	M.GAJENDIRAN	Assistant Professor	MECH
49	Mr	J.SIVARAMAPANDIAN	Assistant Professor	MECH
50	Mr	ARUN ABISHEK I	Assistant Professor	EEE

### Day 1: Modelling and Simulation of HEV's: MATLAB & Simulink

**Key Points**

- Component selection
- Energy consumption estimates
- HEV architecture selection
- Conduct analysis
- Model and Simulate HEVs

*DesignTech*  
Technology for designing the future

Participants: Dr. C. Kamal EEE, PAVITHRA K S Eee, DHANABAL J AUT, SASIKALA M EEE, MAHESWARAN M M..., Ravindar Reddy, ANITHA S EEE, 30 others.

Meeting ID: geu-ecyq-ibw



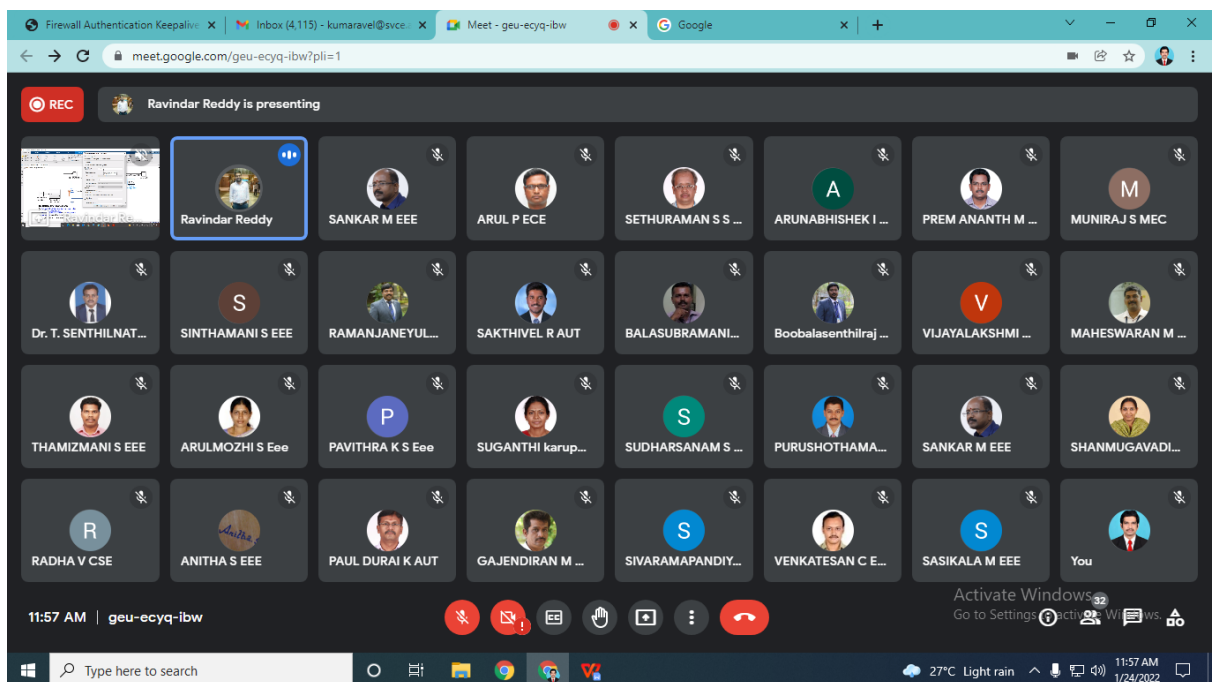
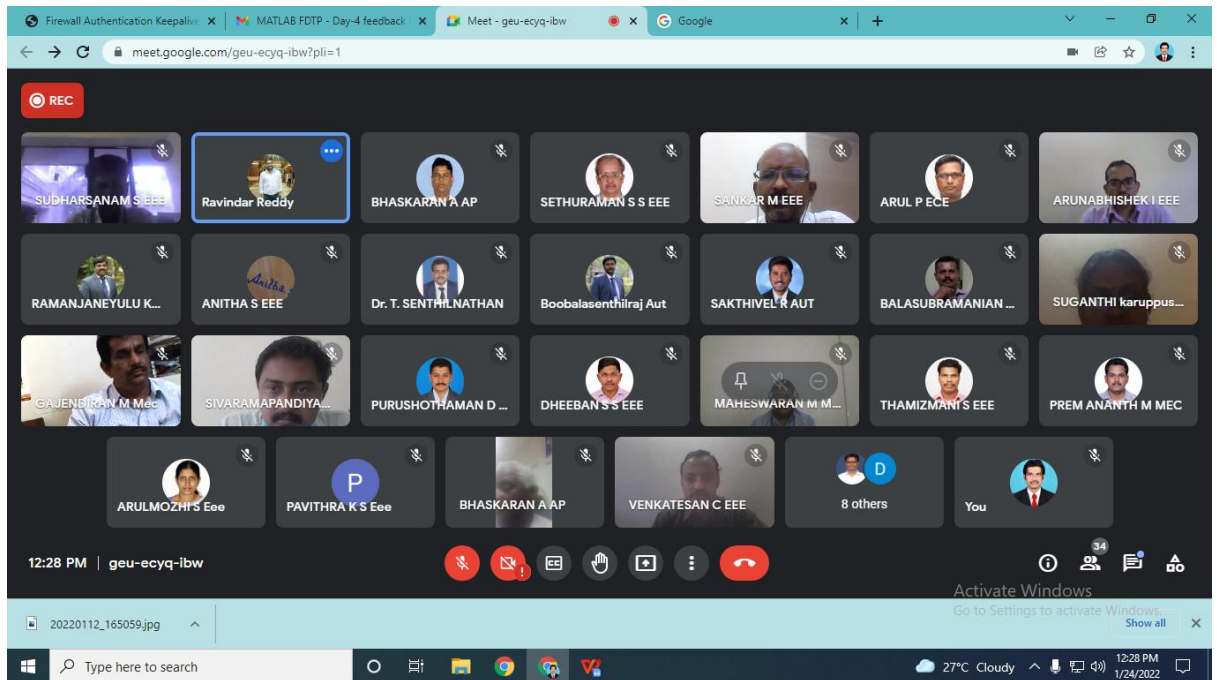


## Day 3: Renewable Energy Systems using Smart grid Simulation in MATLAB Software

The screenshot shows a Google Meet interface. At the top, a status bar indicates 'REC' and 'Ravindar Reddy is presenting'. The main content area displays a presentation slide titled 'Renewable Energy Systems' with the subtitle 'Using MATLAB, Simulink and Simscape Power Systems'. The slide features the 'DesignTech' logo and a collage of images related to renewable energy, including solar panels, wind turbines, and a circuit board. Below the images, it says 'Ravindar Reddy Ch Engineer Technical Support'. On the right side of the screen, a grid of participant avatars is visible, including Ravindar Reddy, PREM ANANTH M M..., ANNAMALAI T Eee, MAHESWARAN M M..., PAVITHRA K S Eee, SANKAR M EEE, SINTHAMANI S EEE, and 9 others. At the bottom, a toolbar contains icons for mute, video, chat, and other meeting controls. The meeting ID 'geu-ecyq-ibw' is displayed in the bottom left corner.

This screenshot shows a Google Meet interface with a grid of participant avatars. The participants include Ravindar Reddy, SANKAR M EEE, SETHURAMAN S S EEE, Dr. C. Kamal EEE, MAHESWARAN M MEC, VIJAYALAKSHMI A C CHE, SHANMUGAVADIVU NATA..., SUGANTHI karuppusamy, SIVAGNANA SUBRAMANI..., PANDARAJAN M EEE, MOHANRAJ V EEE, Dr S G BHARATHI DASAN, PREM ANANTH M MEC, ANNAMALAI T Eee, and 'You'. A small window titled 'ftp.docx - WPS Office' is visible in the bottom center. The bottom status bar shows the time as 12:36 PM, the meeting ID 'geu-ecyq-ibw', and the system tray with weather information (31°C Sunny) and the date 1/22/2022. An 'Activate Windows' watermark is also present in the bottom right corner.

## Day 4: Battery Management Systems





## Day 5: Battery Management Systems

The screenshot shows a Google Meet window with a presentation slide from MathWorks. The slide is titled "How to Develop Battery Management Systems in Simulink" and is part of a "Video and Webinar Series". It includes a list of topics: "How to use Simulink to model and test components and subsystems", "How to use Stateflow to develop supervisory control for a battery management system", "How state-of-charge (SOC) algorithms are modeled in Simulink", and "How to model cell balancing algorithms in Simulink". There are also buttons to "Download white paper: HiL Testing for Power Electronics Control Design", "Download white paper: Developing Battery Management Systems", and "Download packaged trial". The Meet interface shows a grid of participants on the right, including Ravindar Reddy, Dr. C. Kamal EEE, SUDHARSANA..., SAKIKALA M EEE, VENKATESAN ..., PREM ANANTH..., BALASUBRAM..., KANNADASAN ..., SIVARAMAPAN..., MUNIRAJ S MEC, and 23 others. The bottom status bar shows the time as 12:27 PM and the temperature as 30°C.

The screenshot shows a Google Meet window with a grid of participants. The participants are arranged in a grid, with names visible below their video feeds. The names include SANKAR M EEE, Ravindar Reddy, DHANABAL J..., Dr. C. Kamal E..., SUDHARSANA..., VENKATESAN..., RAVI G Aut, PREM ANANTH..., KANNADASAN..., SAKTHIVEL R..., SIVARAMAPA..., MUNIRAJ S MEC, SAKIKALA M EEE, SHANMUGAVA..., ARUNABHISHE..., THAMIZMANI S..., RADHA V CSE, Dr.R.Gayathri..., SUGANTHI ka..., ARUL P ECE, PANDIYARA J..., SETHURAMAN..., NALIN KANT M..., Boobalasesh..., ANITHA S EEE, BALASUBRAM..., PAUL DURAI K..., RAJALAKSHMI..., MOHANRAJ V..., VIJAYALAKSH..., RAMANJANEY..., VINOTH KUM..., ANNAMALAI T..., Dr. T. SENTHILN..., 5 others, and You. The bottom status bar shows the time as 12:42 PM and the temperature as 30°C.

### Feedback from the participants:

S. No	First name	Last Name	Institute Name	How do you describe yourself?	How do you rate the today's session?	Is MATLAB or Simulink relevant for your research or teaching?	If yes, can you mention the broad research area or course you are teaching? (For faculties)	Are you interested in interacting with MathWorks team for your research activity?	How likely are you to recommend us to a friend or colleague?
1	Annamalai	T	SVCE	Facutly	9	Yes		Yes	8
2	RAVI	G	SVCE	Facutly	10	Yes	Hybrid Vehicles	Yes	10
3	SAKTHIVEL	R	SVCE	Facutly	9	Yes		Yes	9
4	Suganthi	K	SVCE	Facutly	9	Yes		Yes	10
5	PAUL DURAI	K	SVCE	Facutly	10	Yes		Maybe	9
6	VENKATESAN	C	SVCE	Facutly	9	Maybe		Maybe	9
7	KAMAL	C	SVCE	Facutly	9	No		Yes	9
8	Gayathri	R	SVCE	Facutly	9	Yes	nil	Maybe	10
9	Dhanabal	J	SVCE	Facutly	9	Maybe		Maybe	8
10	Ms.Rajeswari	R	SVCE	Facutly	10	Yes	Deep Learning	Yes	10
11	SUDHARSANA M	S	SVCE	Facutly	9	Yes	Modeling and simulation of transistor for display applications	Yes	10
12	Dr.M.Prem Ananth	M	SVCE	Facutly	10	Yes		Yes	10
13	Sethuraman	S S	SVCE	Facutly	10	Yes	NIL	Yes	10
14	RAMANJANEY ULU	K	SVCE	Facutly	10	Maybe		Maybe	10
15	BALASUBRAM ANIAN	A	SVCE	Facutly	9	Maybe		Maybe	10
16	Boobalasesenthilraj	A K	SVCE	Facutly	10	Maybe		Maybe	10
17	Dr.GAJENDIRAN	M	SVCE	Facutly	10	Maybe		Yes	10
18	MOHANRAJ	V	SVCE	Facutly	9	Yes		Yes	9
19	KUMARAVEL	S	SVCE	Facutly	10	Yes	BMS	Yes	10
20	VIJAYALAKSH MI.A.C		SVCE	Facutly	10	Yes		Yes	10
21	Ganesh	V	SVCE	Facutly	10	Yes	Electric Vehicle	Yes	10
22	SHANMUGAVA DIVU	N	SVCE	Facutly	9	Yes	Inverters	Yes	9
23	JAI GANESH	S	SVCE	Facutly	9	Yes	Process Modelling	Yes	9

*K.R. Sankar*

**HOD/EEE**

# Department of Electrical and Electronics Engineering

## Certificate of Participation

This is to certify that Dr./Mr./Ms. **ARULMOZHI S**, Assistant Professor, EEE of **SRI VENKATESWARA COLLEGE OF ENGINEERING** has attended the **Five days online FDTP** on “MATLAB applications to Electric Vehicle, Smart Grid and Battery Management Systems” organized by the Department of Electrical and Electronics Engineering, Sri Venkateswara College of Engineering during 20<sup>th</sup> January 2022 – 25<sup>th</sup> January 2022



Dr. K R. Santha  
Vice Principal, Prof & Head / EEE



Prof. Dr. S. Ganesh Vaidyanathan  
Principal



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Institution in Tamil Nadu



5/5 Star Rated  
Innovation Cell



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2020

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Performer



Recognized  
Incubation Center



Certified  
Organization



Accreditations