VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
(Deemed to be University) - Estd. u/s 3 of UGC Act 1956

Department of Electrical and Electronics Engineering

Date: 14.06.2025

MINUTES OF BOARD OF STUDIES MEETING

Board of Studies (BoS) meeting of M.Tech., Power Electronics and Drives (PED) program was conducted on 14.06.2025 in virtual mode from 10.00 am to 4.00 pm.

All the internal members of VFSTR attended the meeting in person while all the external members participated the meeting virtually with link:

Google Meet joining info:https://meet.google.com/hvh-epux-hsn

Agenda of the BoS Meeting:

- Ratification of Course Structure under R-25 Regulation
- Ratification of Syllabi for Professional Core, Department Electives and Add-on-course.
- Any other points with the permission of Chairperson.

The following members were present

Sl. No	Name of the Member	Designation and Address	Role
1	Dr. K. Mercy Rosalina	Professor	Chairperson
2	Dr. Jithendranath J.	Senior Project Engineer, Hitachi Energy Technology Services P. Ltd., Grid and Power Quality Solutions, Chennai Mobile: +91-9949537586 Email: jithendranath.j@hitachienergy.com	External Member (Industry)
3	Dr. B. Satish Babu	Sr. Staff Engineer, Infineon Technologies, Bangalore Phone: 9958006750 Email: satishbabu.bhogineni@infineon.com	Invited Member (External)
4	Dr. Polamraju V. S. Sobhan	Associate Professor	Internal Member
5	Dr. Y. Srinivasa Rao	Associate Professor	Internal Member
6	Dr. K. Rachananjali	Associate Professor	Internal Member
7	Dr. A. R. Vijay Babu	Associate Professor	Invited Member (Assoc. Prof.)
8	Mr. K. Ashok Kumar	Assistant Professor, VFSTR Deemed to be University, Off Campus	Internal Member
9	Dr. K. Chakravarthi	Assistant Professor (BoA), Department of EEE, VFSTR	Member Secretary

In the beginning of the meeting the Chairperson of the BoS, Dr. K. Mercy Rosalina, Professor, department of EEE welcomed all the members and briefed them about the progress of the Department.

The following are the views expressed by the external members:

Dr. Jithendranath J.

- Suggested to dedicate module-1 of "Digital Control of Power Electronic and Drive Systems" for basics of DSP controller and module 2 for applications and implementation of power electronics converters.
- Suggested to swap the chapters of module-2 of course "Battery Management System in Electric Vehicles"
- Suggested to reduce the contents of module-1 of "HVDC and FACTS" and also suggested to include basics related to FACTS chapter-1 of module-2.
- suggested to add PWM Techniques related to converter topologies instead of separate chapter as PWM Techniques to the course of "Analysis of Power Converters".
- Suggested to include exclusive unit on "Simulation Tools and Case Studies" to the syllabus of the course "Electric Vehicle Power Train and System Integration".
- Suggested to include advance level practices., M-Tech in the course "IOT applications in electrical engineering"

Dr. B. Satish Babu

- Appreciated the introduction of pre-semester concept.
- Suggested to include the add on courses which are industry oriented, e.g., automation using python programming.
- Suggested to modify the contents of IOT and smart automation as they appear to have similar contents.
- Suggested to include the state space analysis in the advanced control system course, i.e., explain state space model w.r.t power electronic devices like ac-dc/dc-dc/dc-ac converter.
- Suggested to separate isolated and non-isolated converters, add selection of switching devices, add magnetic circuit design.
- Suggested to include practices oriented towards power electronics and electric vehicle in the course "machine learning techniques"
- Suggested to include forecasting of load using AI/ML of the smart grid to the module-2 of course "Smart grid technologies".

The following resolutions made after the discussion:

- BoS members approved the revised regulations, curriculum structure, and syllabus of the M.Tech. PED programme, which is aligned with NEP 2020. The curriculum structure is provided in Appendix-A.
- A major restructuring has been implemented in the curriculum, emphasizing continuous learning, self-learning, and module-based assessment.
- The curriculum includes courses that promote employability, entrepreneurship, and skill development, as detailed in Appendix-B.
- Substantial changes have been made to the content of all courses; therefore, they are considered new courses, as listed in Appendix-C.
- On average, 45% of the syllabus has been revised compared to the previous curriculum.

The Chair rendered the closing remarks by thanking all the external members and internal members for their participation.

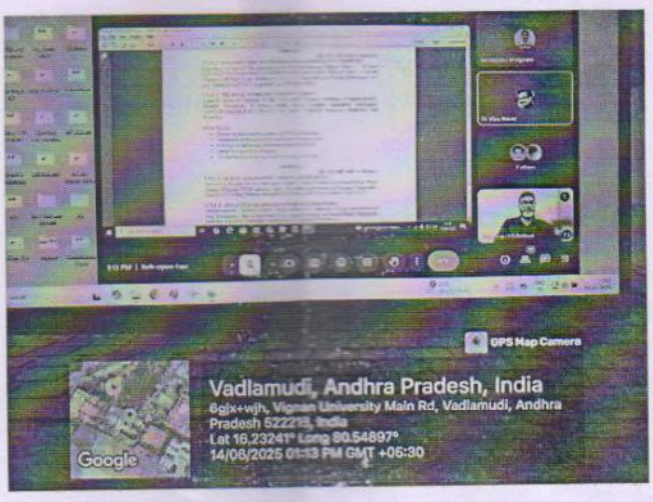
Member Secretary

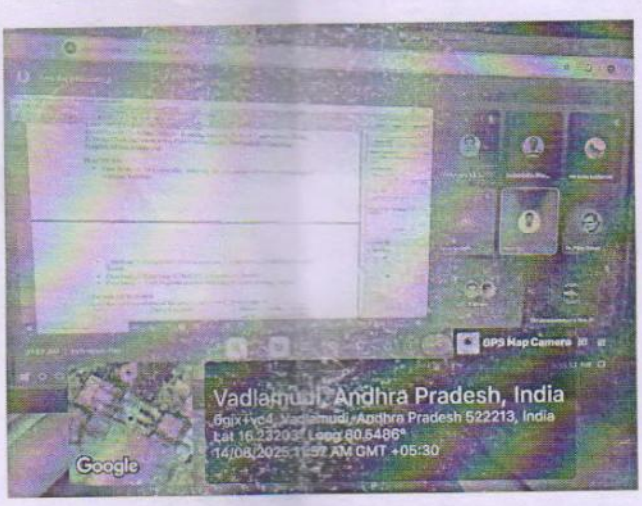
Chairperson

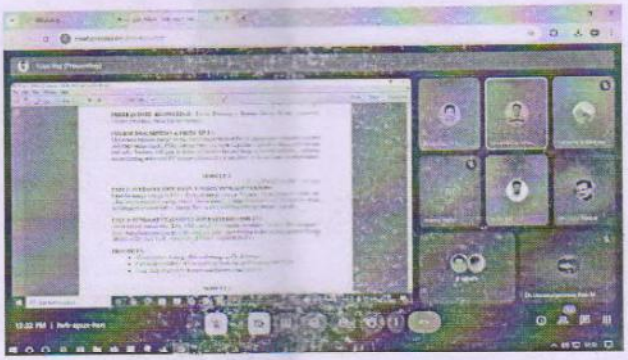
The following are the members present for the board of studies meeting held at Department of Electrical and Electronics Engineering on 24.05.2025

Sl. No	Name of the Member	Designation and Address	Signature
1	Dr. K. Mercy Rosalina	Professor	
2	Dr. Narasimharaju B. L	Professor, Department of Electrical Engineering. NIT Warangal Phone: 9448401052, 08702462247 Email: blnraju@nitw.ac.in, narasimharaju.bl@gmail.com	Not Present
3	Dr. Jithendranath J.	Senior Project Engineer, Hitachi Energy Technology Services P. Ltd., Grid and Power Quality Solutions, Chennai Mobile: +91-9949537586 Email: jithendranath.j@hitachienergy.com	Participated the Meeting Virtually
4	Dr. B. Satish Babu	Sr. Staff Engineer, Infineon Technologies, Bangalore Phone: 9958006750 Email: satishbabu.bhogineni@infineon.com	Participated the Meeting Virtually
5	Dr. Polamraju V. S. Sobhan	Associate Professor	
6	Dr. Y. Srinivasa Rao	Associate Professor	
7	Dr. K. Rachananjali	Associate Professor	
10	Dr. A. R. Vijay Babu	Associate Professor	
11	Mr. P. Ashok Kumar	Assistant Professor, VFSTR Deemed to be University, Off Campus	online
12	Dr. K. Chakravarthi	Assistant Professor (BoA), Department of EEE, VFSTR	

PHOTOS







Chairman, BoS

APPENDIX A

M.Tech- Power Electronic Drives

Course Structure- R25 Regulation

M.Tech. – Power Electronics and Drives (PED)

REVISED COURSE STRUCTURE – C25

Pre - Semester

Course Code	Title of the course	L	T	P	SL	C	Course type
	Orientation Session					1	Binary graded
	IT workshop and cyber security					1	Binary graded
	Total					**2**	

I Year I Semester

Course Code	Title of the course	L	T	P	SL	C	Course type
1	Analysis of Power Converters	3	0	2	3	4	Professional Core
2	Electrical Machine Dynamic Modelling and Analysis	3	0	2	3	4	Professional Core
3	Advanced Control Systems	3	0	2	3	4	Professional Core
	Department Elective					4	Elective
	Teaching Assistantship					1	Binary graded
	Indian Knowledge System					1	Binary graded
	Work-in-lieu of a course*					2	Elective & Floating Credit
	Sub Total					**20**	
	Add on course -1					3	
	Total					**23**	

I Year II Semester

Course Code	Title of the course	L	T	P	SL	C	Course type
4	Electric Drives	3	0	2	3	4	Professional Core
5	Digital Control of Power Electronic and Drive Systems	2	2	2	2	4	Professional Core
	Department Elective					4	Elective
	Department Elective					4	Elective
	Research Methodology & IPR					2	Interdisciplinary
	Interdepartmental Project					1	Project
	Teaching Assistantship					1	Binary graded
	Sub Total					**20**	
	Add on course -2					3	
	Total					**23**	

II Year I Semester

Course Code	Title of the course	L	T	P	SL	C	Course type
	Project/Internship					13	Project
	Sub Total					**13**	
	Add on course -3 (MOOCs Course)					3	
	Total					**16**	

II Year II Semester

Course Code	Title of the course	L	T	P	SL	C	Course type
	Project/Internship					13	Project
	Sub Total					**13**	
	Add on course -4 (MOOCs Course)					3	
	Total					**16**	

DEPARTMENT ELECTIVES

Course Code	Title of the course	L	T	P	SL	C	Course type
6	Computaional Methods for Optimization	2	2	2	2	4	Department Elective
7	Battery Management System in Electric Vehicles	3	0	2	2	4	Department Elective
8	Power Quality	3	2	0	3	4	Department Elective
9	High Voltage Direct Current and Flexible AC Transmission Systems	3	0	2	3	4	Department Elective
10	Switch Mode Power Supply	3	3	0	2	4	Department Elective
11	Soft Computing Techniques	3	2	0	3	4	Department Elective
12	EV Powertrain and System Integration	3	0	2	3	4	Department Elective
13	Precision Control and Actuation Systems	3	2	0	3	4	Department Elective
14	Machine Learning Techniques	3	2	0	3	4	Department Elective

Add on Courses

Course Code	Title of the course	L	T	P	SL	C	Course type
15	IoT Applications in Electrical Engineering	2	2	0	2	3	Add on Course
16	Smart Automation Systems	2	2	0	2	3	Add on Course
17	Smart Grid Technologies	2	2	0	2	3	Add on Course
18	Embedded and Communication Systems for Electric Vehicles	2	2	0	2	3	Add on Course

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APPENDIX – B

List of courses that enable employability or entrepreneurship or skill development in the R25 Regulation

M.Tech – Power Electronics and Drives

Sl.	Course Name	Employability / Skill Development/Entrepreneurship
1	Analysis of Power Converters	Employability
2	Electrical Machine Dynamic Modelling and Analysis	Employability
3	Advanced Control Systems	Employability
4	Electric Drives	Employability
5	Digital Control of Power Electronic and Drive Systems	Employability
6	Computaional Methods for Optimization	Skill Development
7	Battery Management System in Electric Vehicles	Employability
8	Power Quality	Employability
9	High Voltage Direct Current and Flexible AC Transmission Systems	Employability
10	Switch Mode Power Supply	Employability
11	Soft Computing Techniques	Skill Development
12	EV Powertrain and System Integration	Employability
13	Precision Control and Actuation Systems	Skill Development
14	Machine Learning Techniques	Skill Development
15	IoT Applications in Electrical Engineering	Entrepreneurship
16	Smart Automation Systems	Entrepreneurship
17	Smart Grid Technologies	Employability
18	Embedded and Communication Systems for Electric Vehicles	Employability

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APPENDIX – C

List of new courses in the R25 Regulation M.Tech – Power Electronics and Drives

Sl.	Course Name
1.	Battery Management System in Electric Vehicles
2.	Power Quality
3.	EV Powertrain and System Integration
4.	Precision Control and Actuation Systems
5.	Machine Learning Techniques
6.	Smart Automation Systems
7.	Embedded and Communication Systems for Electric Vehicles

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