



Vasavi College of Engineering (Autonomous)

(Sponsored by VASAVI ACADEMY OF EDUCATION)
(Affiliated to Osmania University, Hyderabad, Approved by A.I.C.T.E.)
9-5-81, Ibrahimbagh, HYDERABAD – 500 031 (T.S.)

Date: 23/06/2023

Minutes of 13th meeting of Board of Studies held on
23rd June 2023 at Department of Electrical and Electronics Engineering

Members Present:

S.No	Name of the Member	
1	Dr.M.Chakravarthy	: Chaiman BoS, HoD EEE
2	Dr. N.Viswanathan	: Professor, Dept of EE, NIT Warangal
3	Dr.G.Yesuratnam	: Professor , Osmania Univeristy
4	Dr. Ravikumar Bhimasingu	: Associate Professor, IIT Hyderabad
5	Mr.Srinath Topucharla	: R & D Manager, ABB, Hyderabad
6	Dr.K.Ravi Kumar	: Professor
7	Dr.Ch.V.S.S.Sailaja	: Associate Professor
8	Dr.G. Sandhya Rani	: Assistant Professor (Sr.)
9	Mr.M. Sreenivasulu	: Assistant Professor (Sr.)
10	Mr.G.Mahesh	: Assistant Professor
11	Mr.U.Elisha	: Assistant Professor
12	Mr.N.Uday Kumar	: Assistant Professor
13	Mr.P.Rajasekhar Reddy	: Assistant Professor
14	Dr.P.Ravi	: Assistant Professor
15	Dr.Ch.Kasi Ramakrishna Reddy	: Assistant Professor
16	Dr.C.Srinivasaratnam	: Assistant Professor
17	Ms.Sheik Ruksana	: Assistant Professor

Members Absent:

1	Mr.V.Vinay Babu	: Audit Analytics Specialist Assistant, Deloitte, Hyderabad
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Dr.M.Chakravarthy , HoD EEE, Chaiman BoS, welcomed the members and presided over the meeting.

1 . Review the minutes and approve the Action Taken Report on the decisions taken in the 12th meeting of BoS held on 13-06-2022.

S.No	Suggestions made	Action taken
1	Dr.N.Vishwantathan suggested to move Core-VI Power Electronic Converters of Semester II to Semester I and Core II- Applications of Power Electronics to power systems of semester I to semester II	Shifted Power Electronic Converters of Semester II to Semester I and Core II- Applications of Power Electronics to power systems of

BoS has approved the 12th BoS minutes and ATR

2. Review and approve Department Vision & Mission statements

Department Vision:

Excellence in quality education by keeping pace with rapidly changing technologies and to create man power of global standards in the field of Electrical and Electronics Engineering

Department Mission:

To impart in-depth knowledge to students through inductive teaching and learning practices, so that they acquire the skill to innovate, excel and lead in their profession with values and ethics that will benefit society.

i) Program Educational Objectives and Program Specific Outcomes

Program Educational Objectives

PEO 1: Graduates will acquire technical competence to analyze, design and solve engineering problems in the field of Electrical and Electronics engineering and use modern engineering tools, techniques and software.

PEO 2: Graduates will be able to acquire necessary skills and obtain employment and will be productive in the professional practice of Electrical and Electronics Engineering and related fields.

PEO 3: Graduates will be sensitive to professional and social contexts, committed to ethical action and engaged in lifelong learning skills.

Program Specific Outcomes.

EEE students will be able to design, analyze Power Systems & Electrical Machines to solve complex engineering problems.

EEE students will be able to design and analyze Electrical and Power Electronic Circuits.

EEE students will be able to use and apply modern software tools and techniques related to Electrical Engineering.

Chairman BoS & HoD-EEE presented department vision , mission, PEO & PSO statements to the board and the BoS has approved the statements

ii) **Statements of Course Outcomes**

Course Outcomes are presented in the respective syllabi of the course

Faculty members have presented the statements of course outcomes to the board during their subject presentation and the BoS has approved the statements.

3. Note Institute & Department Achievements

- Dr.M.Chakravarthy, has completed a collaborative sponsored project (IITH, Open University UK, VCE) funded by Royal Academy of Engineering, UK, titled “**Recycling of Lithium Ion Batteries**” and visited UK on 4th to 19th February, 2023.
- Two faculty members were awarded with PhD
 - Mrs. G.Sandya Rani , Assistant Professor (Sr.) from Osmania University (A), Hyderabad
 - Mr. P.Ravi , Assistant Professor from KL University, Vijayawada.
- Dr.Ch. Kasi Ramakrishna Reddy has been granted patent titled “Full-Bridge Soft Switched Driver for LED Based Street Lighting Application” Indian Patent Application, 201641038698, 2016. (Date of Grant: 19-04-2023)
- Ms. Shiek Ruksana, Assistant Professor has secured state 2nd Rank in the PhD entrance test conducted by Osmania University and got admission into PhD.
- Faculty of EEE department has published 7 papers in Scopus Indexed International Journals and 5 papers in reputed International Conferences in the year 2022-23.
- NPTEL Certification details of faculty for the Academic Year 2022-23
 - No. of Faculty enrolled : 12
 - Elite+Silver : 5
 - Elite+Topper: 1
 - Elite: 6
 - Successfully completed: 2
- 57.58% students of 2019-2023 Under Graduate batch of EEE have cleared the program without any history of backlogs.
- Mr. A. Vikranth (1602-19-734-301) has secured state 2nd Rank in TS PGECET-2023.
- Placement details of EEE students till date for the academic year 2022-23 are as follows
 - Total Class Strength :66

- Number of Students Eligible :57
- Gross Selection : 94
- Net Selection : 47
- % of Students Placed : 82.46

- Students placed in core companies

S. No	H.T.NO.	NAME OF THE STUDENT	SELECTED BY	PAY PACKAGE
1	1602-19-734-043	SRI VAISHNAVI	Mars Global Services & JSW Steel Ltd.,	860,000
2	1602-19-734-015	R HARSHITA HAVANI	Mars Global Services	825,000
3	1602-19-734-009	BONGONI BHOOMIKA	SEFE Automation Systems Pvt Ltd & Mahindra & Mahindra	420,000(for 1 Year) 700,000(After 1 year)
4	1602-19-734-036	SUDDAPELLI SATHWIKA S.	JSW Steel Ltd.	650,000
5	1602-19-734-048	KAMIREDDY SUSHMA	JSW Steel Ltd.,	650,000
6	1602-19-734-042	SOWMYA NANGUNOORI	Innova Solutions	600,000
7	1602-19-734-013	POREDDY HARIMAHENDRAVARDHAN REDDY	Innova Solutions	600,000
8	1602-19-734-011	DONGALA CHARAN	SEFE Automation Systems Pvt Ltd & ITC Badrachalam	400,000
9	1602-19-734-021	MEKALA MALLIKARJUN	ITC - Badrachalam	400,000
10	1602-19-734-031	MASURI MASURI RAVINDER	SEFE Automation Systems Pvt Ltd	400,000
11	1602-19-734-045	BHUPATHI SRINIDHI	SEFE Automation Systems Pvt Ltd	400,000
12	1602-19-734-001	ANANTHA ADITYA	SEFE Automation Systems Pvt Ltd	300,000

- NPTEL Certification details of students for the Academic Year 2022-23

- No. of Students enrolled : 145
- Students Elite+Silver + topper 2 % : 1

- Elite+Silver + topper 5 % : 1
- Elite+Silver : 12
- Elite : 43
- Successfully completed : 41
- Department has signed four MoUs with
 - M/s. Solar Bull
 - M/s. Sri Gayatri Energy Services
 - M/s Varcas Pvt. Limited
 - M/s Eprosys Pvt. Limited
- Department organized
 - Two Day FDP on “Power System Analysis Using ETAP” from 27-01-2023 and 28-01-2023
 - FDP on “ PCB Design” from 17-10-2022 to 18-10-2022
- Department has conducted one outreach Program on “Modern Practices in Electrical Engineering” from 20-03-2023 to 25-03-2023.
- Department has successfully completed
 - Design and testing of variable frequency drive.
 - Remote Speed Control of DC motor using NI LabView
 - Voltage Sensor of 0-1000 V
 - Current Sensor 0-25 A and 0- 50 A
- It is proposed to develop
 - Single phase Inverter
 - 4 leg inverter control logics
 - Solar PV Inverter
 - 3 level Inverter
 - Grid Connected PV Inverter
 - 3 phase, Single Phase PWM Converter.

Chairman BoS & HoD-EEE presented department achievements during the academic year 2022-23 and the BoS has noted.

4. Discuss & review the following for the B.E. (EEE) students to be admitted during the academic year 2023-24 :

BoS Chairman briefed on the following changes made in the B.E. curriculum for students to be admitted in the academic year 2023-24.

- Calculus course is modified as Matrices & Calculus
- Differential Equations & Complex Analysis course is modified as Differential Equations & Vector Calculus
- Environmental Science Course is moved from Semester II to I
- Professional Elective Courses are reduced from VI to IV.
- Professional Electives are offered as stream based professional Electives (Annexure I)
- It is proposed to conduct lab for Professional Electives I & II that are offered in VII Semester
- Professional Elective stream on Electric Vehicles is introduced.
- Two new open Electives namely Basic Photovoltaic System Models Using PSpice, Introduction to Batteries and Battery management System are proposed.
- It is proposed to offer Minor Degree in Computer Science & Engineering for the students admitted from 2022-23 for the braches of non CSE. (Annexure II)
- Proposed to conduct Two Day Work shop on EMFT & Two Day Work shop on PSPICE under CCA –I
- Proposed to conduct Two day Workshop on MI Power under CCA-II
- Proposed to offer Cloud Based IoT in Theme Based Project
- It is proposed to conduct
 - PCB design Software under **Technical Skills- I (7 Days in Capsule Mode)**
 - PSPICE based Modelling of Circuits under **Technical Skills-II (7 Days in Capsule Mode)**
 - NI LabVIEW under **Technical Skills-III (7 Days in Capsule Mode)**
 - PSPICE Modelling of Power Electronics Circuits under **Technical Skills – III (7 Days in Capsule Mode)**

- Online NPTEL certification course (8 weeks/ 12 weeks) credits are moved from VII Semester to VI Semester

5. Discuss & review the following for the B.E. (EEE) students to be admitted during the academic year 2023-24 :

- a. Scheme of Instruction and Examinations from I to VIII semesters
- b. Syllabi for I & II semester courses

BoS Chairman presented Scheme of Instruction and Examinations from I to VIII semesters and Syllabi for I & II semester courses

Members of BoS reviewed the scheme and syllabi of R23 regulations.

6. Discuss & review the following for the B.E. (EEE) students admitted during the academic year 2022-23 :

- a. Scheme of Instruction and Examinations for III & IV semesters
- b. Syllabi for III & IV semester courses

BoS Chairman presented Scheme of Instruction and Examinations from III & IV semesters and Syllabi for III & IV semester courses

Members of BoS reviewed the scheme and syllabi of R22 regulations.

7. Discuss & review the following for the B.E. (EEE) students admitted during the academic year 2021-22 :

- a. Scheme of instruction and examinations for V and VI semesters
- b. Syllabi for V and VI semester courses

BoS Chairman presented Scheme of Instruction and Examinations from V & VI semesters and Syllabi for V & VI semester courses

Members of BoS reviewed the scheme and syllabi of R21 regulations

8. Discuss & review the following for the B.E. (EEE) students admitted during the academic year 2020-21 :

- a. Scheme of Instruction and Examinations for VII & VIII semesters
- b. Syllabi for VII & VIII semester courses

BoS Chairman presented Scheme of Instruction and Examinations from VII & VIII semesters and Syllabi for VII & VIII semester courses

Members of BoS reviewed the scheme and syllabi of R20 regulations

9. Discuss & review the following for the M.E.(PSPE) students to be admitted during the academic year 2023-24 :

- a. Scheme of Instruction and Examinations from I to IV semesters
- b. Syllabi for I & II semester courses

BoS Chairman briefed on the following changes made in the M.E.(PSPE) curriculum for students to be admitted in the academic year 2023-24.

- Skill Development Courses are removed
- Number of Program Core are reduced from 6 to 4 as per AICTE Model Curriculum
- Lab credits are increased from 1.5 to 2
- Mini project and Seminar are made as single course as "Mini project with Seminar" of 2 credits as per AICTE Model Curriculum
- CBCS mandatory requirement of NPTEL Certification is removed

BoS Chairman presented Scheme of Instruction and Examinations from I to IV semesters and Syllabi for I & II semester courses.

Members of BoS reviewed the scheme and syllabi of M.E R23 regulations

10. To discuss & review the following for the M.E.(PSPE) students admitted during the academic year 2022-23 :

- a. Scheme of Instruction and Examinations for III & IV semesters
- b. Syllabi for III & IV semester courses

BoS Chairman presented Scheme of Instruction and Examinations of III & IV semesters and Syllabi for III & IV semester courses.

Members of BoS reviewed the scheme and syllabi of M.E R22 regulations

Dr. N. Vishwanatham

- Suggested to use open source software LTspice instead of Pspice.

Dr.Ravikumar Bhimasingu Suggested

- To rename the "Electric Vehicle Modelling , Design and Performance using MATLAB " course title as "Simulation of EV Modelling , Design & Performance".
- To move "Power Quality" course to Power Systems Stream.
- To move "Electrical Machine Design" Course to Electric vehicle Stream and rename the course title as "Design of Electric Motors".

Dr. G.Yesuratnam suggested

- To rename the open elective course " Basic Photovoltaic System Modelling Using PSpice" course title as "Modelling and Simulation of Basic Photovoltaic Systems"

Mr. Topucharla Srinath Suggested

- To offer Programmable Logic Controllers & Industrial IoT as one course.

Syllabus Modifications:

Digital Signal Processing

S. No.	Type of change	Unit	Topics added / modified / deleted	Mapped CO/PO	Remarks
1.	Deletion	V	Introduction to TMS320LF2407 DSP controller: Basic features– physical memory, software tool and its features. General purpose input output (GPIO): Pin multiplexing and general purpose I/O overview. Applications of DSP: DSP based control for DC – DC buck – boost converter and brushless DC motor.		TMSLF2407 DSP processor is obsolete. So, topics are replaced with F28069 digital signal controller.
2.	Addition	V	Introduction to digital signal controller: Basic features of TMSF28069 digital signal controller, Automatic code generation using MATLAB: Model-Based Design and Rapid Prototyping, Workflow for automatic code generation. Real time control in Power Electronics Applications: Open loop control of a buck – boost converter and three phase induction motor.	CO mapped – 5 PO mapped – 1,2,3,12	

Linear Integrated Circuits & Applications

S. No.	Type of change	Unit	Topics added / modified / deleted	COs mapped	POs mapped
1.	Addition	I	Differential amplifier	1	1,2
3	Addition	III	Monolithic Phase locked loop	3	2

Control Systems & Simulation Lab

S. No.	Type of change	Expt. No.	Topics added / modified / deleted	COs mapped	POs mapped
1.	Addition	13	Inverted Pendulum Control using Quanser Control Board	1	5,12
2.	Addition	14	Speed Control of Servo Motor , DC Motor , Stepper and BLDC Motor using Quanser Mechatronics Actuator Board.	1	5,12

Signals and systems

S. No.	Type of change	Unit	Topics added / modified / deleted	COs mapped	POs mapped	Remarks
1.	Deletion	I	Linear constant coefficient systems.			Included in the subject "Digital Signal Processing".

Power Electronics and Simulation Lab

S. No.	Type of change	Exp no.	Topics added / modified / deleted	COs mapped	POs mapped
1.	Addition	9	Design and operation of Buck-Boost converter	4	3,4
2	Addition	14	PSpice Simulation of single phase voltage source inverter.	5	5

Basic Electrical Engineering for Electronics Engineers

S.No	Existing topics	Modified topic	Justification
	<p>UNIT-I : D.C. Circuits:</p> <p>Electrical circuit elements (R, L and C), independent voltage and current sources, Kirchhoff current and voltage laws, Source transformation, Mesh Analysis, Nodal analysis Superposition theorem, Thevenin's and Norton's Theorem, Maximum power transfer theorem, Tellegen's theorem.</p>	<p>UNIT-I : A.C. Circuits fundamentals:</p> <p>Electrical circuit elements (R, L and C), Kirchhoff current and voltage laws, Representation of sinusoidal waveform – peak value and RMS value, form factor, peak factor, phasor representation, real power, reactive power, apparent power, power factor.</p>	<p>All topics in DC circuits are taught in Basic Circuit Analysis for ECE II-semester students</p>
	<p>UNIT-II : A.C. Circuits:</p> <p>Representation of sinusoidal waveform - peak and rms values, form factor, phasor representation, real power, reactive power, apparent power, power factor, Analysis of single-phase ac series combinations of RL-C circuits, Three-phase</p>	<p>UNIT-II : A.C. Circuits analysis:</p> <p>Analysis of single-phase ac series: R, L, C, R-L, R-C, R-L-C circuits, Three-phase balanced circuits, voltage and current relations in star and delta connections, analysis of three phase balanced star and delta connected loads.</p>	<p>To discuss voltage and current behavior in R, L, C, R-L, R-C, R-L-C circuits</p>

	<p>balanced circuits, voltage and current relations in star and delta connections, analysis of three phase balanced star and delta connected loads.</p>		
	<p>UNIT-III : DC Machines: Construction, Working principle of DC Generator and DC motor , EMF equation Types of DC Generators & motors, Torque in a DC motor, Torque – speed characteristic of DC Shunt motor, Speed control of DC Shunt motor.</p>	No Change	
	<p>UNIT-IV : Single Phase Transformers and Electrical Installation: Principle of operation, Ideal and practical transformer on No-load and Load, Equivalent circuit, losses in transformers, efficiency. Components of LT Switchgear: Switch fuse unit (SFU), MCB, Earthing, elementary calculations for</p>	No Change	

Basic Electrical Engineering for Electronics Engineers Lab

S.No.	Type of change	Exp no.	Topic added / modified / deleted	Cos mapped	Pos mapped
1	Addition	3	Measurement of real, reactive and apparent power in single phase system	2	1,2,4,9,& 12
2	Addition	4	Measurement of voltage across various elements in series R-L-C circuit	2	1,2,4,9,& 12
3	Addition	14	Measurement of resistance using Star-Delta transformation	2	1,2,4,9,& 12
4	Deletion	3	Verification of Superposition theorem and maximum power transfer theorems	1	1,2,4,9,& 12
5	Deletion	4	Verification of Thevenin's and Tellegen's theorems	3	1,2,4,9,& 12

BoS has reviewed the syllabus modification suggested by the faculty.

Sd/-
Dr.N.Vishwanathan
Professor, Dept of EEE, NIT Warangal

Sd/-
Dr.Ravikumar Bhimsingu
Associate Professor, IIT Hyderabad

Sd/-
Mr.T.Srinath
Senior Electronics Hardware Manager, ABB

Sd/-
Dr.G.Yesurathnam
Professor, EED, UCE, OU

Sd/-
Mr.V.Vinay Babu
Audit Analytics Specialist Assistant, Deloitte

Sd/-
Dr.M.Chakravarthy
BOS Chairman

Annexure –I

Professional Electives I & II

PE	Electric Vehicles & Drives	Industrial Applications
PE -1	Electrical Drives and Static Control	Sensors & Transducers
PE-2	Modelling , Design & Simulation of EV	Programmable Logic Controllers

Professional Electives III & IV

PE	Power Systems	Power Electronics	Electric Vehicle	Industrial Applications
PE -3	Advanced Computer Methods in Power Systems	Switched mode Power conversion	Design of Electric Motors	Digital Control Systems
PE-4	AI applications to Power Systems	Flexible AC Transmission System	Electric Vehicle Charging Installations & Impact on Network	Advanced control systems

Annexure –II

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

ACCREDITED BY NAAC WITH 'A++' GRADE

MINOR DEGREE IN COMPUTER SCIENCE AND ENGINEERING

Course Code	Name of the Course	Semester	Scheme of Instruction			Scheme of Examination			
			Hours per Week			Duration in Hrs	Maximum Marks		Credits
			L	T	P		SEE	CIE	
THEORY & LAB									
U22MD410CS	Python Programming	IV	2	-	-	3	60	40	2
U22MD411CS	Python Programming Lab	IV	-	-	2	3	50	30	1
U22MD510CS	Operating Systems	V	2	-	-	3	60	40	2
U22MD511CS	Operating Systems Lab	V	-	-	2	3	50	30	1
U22MD610CS	Database Management Systems	VI	2	-	-	3	60	40	2
U22MD611CS	Database Management Systems Lab	VI	-	-	2	3	50	30	1
U22MD710CS	Web Design	VII	2	-	-	3	60	40	2
U22MD711CS	Web Design Lab	VII	-	-	2	3	50	30	1
U22MD819CS	Mini Project	VIII	-	-	4	3	60	40	2
	NPTEL Courses	VIII	-	-	-	-	-	-	4
TOTAL			8	-	12	-	500	320	18
GRAND TOTAL			20				820		
Student should acquire Two NPTEL course certifications (Each 8 weeks or above duration having 2 credits) during IV Sem to VII Sem									

**Two NPTEL courses need to be completed from the below mentioned table
(Each 8 weeks or above duration having 2 credits)**

AI&ML	Data Science	IoT	Networks & Security	General
Introduction to Artificial Intelligence	Data Science for Engineers	Distributed Systems	Computer Networks and Internet	Programming In Modern C++
Artificial Intelligence Search Methods for Problem Solving	Data Analytics with Python	Cloud Computing	Cryptography and Network Security	Programming In Java
Introduction to Machine Learning	Big Data Computing	Introduction to Internet of Things	Introduction to Cyber Security	Software Engineering
Deep Learning	Computer Vision	Introduction to Industry 4.0 and Industrial Internet of Things	Blockchain and its Applications	Design & Implementation of Human-Computer Interfaces

**Dr.M.Chakravarthy
HoD EEE**