



**NANDHA**  
**Engineering College, Erode -638 052**

(An Autonomous Institution, Affiliated to Anna University Chennai and Approved by AICTE New Delhi)

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**MINUTES OF THE 12<sup>th</sup> BOARD OF STUDIES MEETING**

<b>Name of the Body</b>	Board of Studies
<b>Name of the Board</b>	Electrical and Electronics Engineering
<b>Meeting No.</b>	12
<b>Date &amp; Time</b>	25.05.2024, 10.00 am
<b>Mode</b>	Offline Mode (Board Room)
<b>Academic year</b>	2023-24



# NANDHA Engineering College, Erode -638 052

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## NANDHA ENGINEERING COLLEGE, ERODE - 638 052

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### Minutes of 12<sup>th</sup> Board of Studies Meeting (BoS) held on 25.05.2024

The 12<sup>th</sup> Board of Studies (BoS) meeting was held on 25.05.2024 by 10.00 am at Board room, Nandha Engineering College. The members attended the meeting are given in **Annexure I**.

Dr. G.Ramani, Chairman (BoS) and Professor & HoD, Electrical and Electronics Engineering chaired the meeting, welcomed all the members to the 12<sup>th</sup> BoS meeting followed by introduction of the members. After the brief introduction, the agenda items listed below were taken up for discussion and the following resolutions were passed.

AGENDA	
Item 12.01	Welcome address and Introduction of members.
Item 12.02	Presentation of Institute Vision and Mission.
Item 12.03	Presentation of Department Vision, Mission, PEOs and PSOs.
Item 12.04	Review and approval of the PAC and DAB meeting minutes
Item 12.05	Review and approval of the 11 <sup>th</sup> BoS meeting minutes and ATR
Item 12.06	Review of the Regulation R22
Item 12.07	<b>UG- B.E., Electrical and Electronics Engineering Curriculum and Syllabus Review/Approval and updates (R22)</b> ✓ Syllabus – 5 <sup>th</sup> , 6 <sup>th</sup> , 7 <sup>th</sup> & 8 <sup>th</sup> semesters. ✓ Vertical Subjects
Item 12.08	Approval/ Ratification of the Internship / Industrial Training (R17)
Item 12.09	Approval of One Credit Course (R22)
Item 12.10	Approval of Certification Courses (R22 – 5 <sup>th</sup> and 6 <sup>th</sup> Semester)
Item 12.11	Approval of Panel of Examiners (UG)
Item 12.12	Any other matter



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The proceedings of BoS started. The discussions and resolutions are recorded as follows:

Item 12.01	<p>Welcome address and Introduction of members</p> <p>Dr. G.Ramani, Chairman BoS introduced the members and welcomed all followed by a brief note on functioning of BoS.</p>
Item- 12.02	Presentation of Institute Vision & Mission
Discussion	<p>Dr. G.Ramani presented the proposed Institute Vision, Mission.</p> <p><b><u>VISION</u></b></p> <ul style="list-style-type: none"> <li>To be an Institute of excellence providing quality Engineering, Technology and Management education to meet the ever changing needs of the society.</li> </ul> <p><b><u>MISSION</u></b></p> <ul style="list-style-type: none"> <li>To provide quality education to produce ethical and competent professionals with social Responsibility</li> <li>To excel in the thrust areas of Engineering, Technology and Entrepreneurship by solving real- world problems.</li> <li>To create a learner centric environment and improve continually to meet the changing global needs.</li> </ul>
Resolution	Resolved to record.
Item-12.03	Presentation of Department Vision, Mission, PEOs and PSOs.
Discussion	<p>Dr. G.Ramani presented the proposed Department Vision, Mission, PEOs and PSOs statements.</p> <p><b><u>VISION</u></b></p> <ul style="list-style-type: none"> <li>To foster academic excellence imparting knowledge in Electrical, Electronics and allied disciplines to meet the changing needs of the society.</li> </ul> <p><b><u>MISSION</u></b></p> <ul style="list-style-type: none"> <li>To equip the students with leadership qualities for accepting the challenges in various engineering sectors.</li> <li>To excel in the thrust areas of Electrical and Electronics Engineering to solve real world problems.</li> <li>To empower the students to adapt the latest technologies by providing innovative learning environment</li> </ul> <p><b><u>PROGRAMME EDUCATIONAL OBJECTIVES (PEO)</u></b></p> <p>The graduates of Electrical and Electronics Engineering will be</p> <ul style="list-style-type: none"> <li><b>PEO 1: Core Competency:</b> A Successful professional with domain knowledge in Electrical and Electronics Engineering using emerging techniques.</li> <li><b>PEO 2: Research, Innovation and Entrepreneurship:</b> Able to demonstrate multi-disciplinary skills through innovation and research to meet the societal needs.</li> <li><b>PEO 3: Ethics, Human values and Life-long learning:</b> Able to demonstrate ethical practices and managerial skills through continual learning.</li> </ul> <p><b><u>PROGRAMME SPECIFIC OUTCOMES (PSO)</u></b></p> <p>The students of Electrical and Electronics Engineering will be able to</p> <ul style="list-style-type: none"> <li><b>PSO 1:</b> Analyze, design and validate processes, products by applying knowledge and skills in Power system, Electrical Machines and Power Electronics.</li> </ul>



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	<ul style="list-style-type: none"> <li>• <b>PSO 2:</b> Design and analyze the processes of smart grid and renewable energy systems using appropriate tools and techniques.</li> </ul>
Resolution	Resolved to record.
Item - 12.04	Review and approval of the PAC and DAB meeting minutes.
Discussion	<p>Along with the important suggestions given by the members.</p> <ul style="list-style-type: none"> <li>✓ PAC meeting-1 held on 27.07.2023</li> <li>✓ PAC meeting-2 held on 21.09.2023</li> <li>✓ PAC meeting-3 held on 05.04.2024</li> <li>✓ DAB meeting-1 held on 30.11.2023</li> <li>✓ DAB meeting-2 held on 22.04.2024</li> </ul>
Resolution	All members have noted the MoM of PAC and DAB meeting. Resolved to record the proceeding.
Item- 12.05	Review and approval of the 11 <sup>th</sup> BoS meeting minutes and ATR
Discussion	The members have appreciated the efforts taken to implement the suggestions.
Resolution	Resolved to record.
Item- 12.06	Review of the Regulation R22
Discussion	The members have noted the regulation R22.
Resolution	Resolved to record.
Item 12.07	<p><b>UG- B.E., Electrical and Electronics Engineering Curriculum and Syllabus Review/Approval and updates (R22)</b></p> <ul style="list-style-type: none"> <li>✓ Syllabus – 5th, 6th, 7th &amp; 8th semesters.</li> <li>✓ Vertical Subjects</li> </ul>
Discussion	<p>➤ BoS Chairman presented R22 curriculum, Semester – (5,6,7&amp;8) syllabi of courses and Vertical subjects (R22) courses developed based on AICTE model curriculum, Parent University and other leading universities / institutions.</p> <p><b><u>Semester -5</u></b></p> <p><b><u>Course-1: Power System Analysis</u></b></p> <ul style="list-style-type: none"> <li>➤ Dr. Sujatha Balaraman suggested to include formation of Z- bus and Y Bus- basic graphic theory in Unit- I.</li> <li>➤ Dr.S.Sampath kumar suggested to add the topic ‘solution of swing equation by Euler’s method’ in Unit -V</li> </ul> <p><b><u>Course-2: Control Systems</u></b></p> <ul style="list-style-type: none"> <li>➤ Dr. Sujatha Balaraman suggested to change the Unit-I name as ‘Systems’.</li> <li>➤ Mr.M.Jagathaguru suggested to remove the name ‘conversion’ in the Unit -V and mention it as ‘state space to T.F.’</li> </ul> <p><b><u>Course-3: Power Electronics</u></b></p> <ul style="list-style-type: none"> <li>➤ Dr. Sujatha Balaraman suggested to remove the topic resonant converter from the Unit-III.</li> <li>➤ Dr.S.Sampath kumar suggested to remove the topic Selective harmonic elimination from the Unit -IV and remove cycloconverter topic from Unit - V.</li> </ul>



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### **Course-4: Control and Instrumentation Laboratory**

- Dr.S.Sampath kumar asked to remove the name MATLAB which is mentioned in each experiments.
- Dr. Sujatha Balaraman suggested to combine the experiment first order and second order system as single experiment.
- Mr.M.Jagathaguru suggested to add additional experiment based on LABVIEW.

### **Course-4: Power Electronics Laboratory**

- Dr.S.Sampath kumar suggested to re-arrange the 10<sup>th</sup> experiment as Design of gate driver circuit for DC-DC converter.

### **Semester -6**

### **Course-1: Power System Protection and Switchgear – No Comments**

### **Course-2: Electric Drives and Control**

- Dr. Sujatha Balaraman suggested to rename the Unit-II as Introduction to Vector Control.

### **Course-3: Power System Simulation Laboratory**

- Dr.S.Sampath kumar suggested to remove 7<sup>th</sup> experiment and include 'Unsymmetrical fault analysis' in 8<sup>th</sup> experiment.

### **Vertical:1 (CONVERTERS AND DRIVES)**

#### **Course-1: Power Switching Converters**

- Dr. Sujatha Balaraman suggested
  - ✓ To mention the techniques of power factor improvement in Unit-I.
  - ✓ To remove the topics of Buck, Boost and Cuk operation in Unit -II.
- Mr.M.Jagathaguru suggested
  - ✓ To rename the Unit – V as 'Multilevel Inverters'.
  - ✓ To remove the topic 'single and three phase impedance source inverter from Unit – V.

#### **Course-2: Special Electrical Machines– No Comments**

#### **Course-3: Design of Electrical Machines– No Comments**

#### **Course-4: Analysis of Inverters– No Comments**

#### **Course-5: Power Electronics For Renewable Energy Systems**

- Dr. Sujatha Balaraman suggested to remove the topics 'Solar PV systems and Wind energy from the Unit -I.

#### **Course-6: Multilevel Power Converters– No Comments**

#### **Course-7: Modern Power Electronic Converters**

- All experts are suggested to remove this paper from the curriculum.

### **Vertical:2(POWER SYSTEM ENGINEERING)**

#### **Course-1: High Voltage Engineering**

- Dr. Sujatha Balaraman suggested change the Unit -I name as 'Surges Transients in Power Systems'.



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### Course-2: HVDC Transmission Systems

- Dr.S.Sampath kumar suggested to remove the name 'Basic Principles' from the Unit – III.

### Course-3: Flexible Ac Transmission Systems

- Dr. Sujatha Balaraman suggested
- ✓ To remove the topic 'Advantages of slope in dynamic characteristics' in Unit-II.
- ✓ To add DVR topic in Unit-IV.

### Course-4: Power Quality– No Comments

### Course-5: Power System Operation and Control– No Comments

### Course-6: Fundamentals of Electric Power Utilization

- Dr. Sujatha Balaraman suggested to remove the word advantages from Unit-I.

### Course-7: Energy Auditing Conservation and Management– No Comments

### Course-8: Restructured Power System– No Comments

### Vertical:3 (ELECTRIC VEHICLES)

#### Course-1: Fundamentals of Electric Vehicles– No Comments

#### Course-2: Battery Pack Modeling and Charging of Electric Vehicle– No Comments

#### Course-3: EV Design and Development

- Dr.S.Sampath kumar suggested to add Induction Motor topic in Unit - II.
- Dr. Sujatha Balaraman suggested to change first topic as Power Electronics Device in Unit -IV.

#### Course-4: Hybrid Electric Vehicles– No Comments

#### Course-5: Testing and Electric Vehicles Policy– No Comments

#### Course-6: EV Intelligent System

- Dr.S.Sampath kumar suggested to add Fuzzy logic system books in text book.

#### Course-7: Electric Vehicles in Smart Grid– No Comments

#### Course-8: Design of Motor and Power Converters For Electric Vehicles– No Comments

### Vertical:4 (EMBEDDED SYSTEM ENGINEERING)

#### Course-1: Embedded Systems Design– No Comments

#### Course-2: Internet of Things and Its Applications– No Comments

#### Course-3: Signals and Systems– No Comments

#### Course-4: Embedded System for Automotive Applications– No Comments

#### Course-5: Embedded Control Systems– No Comments

#### Course-6: Signal Processing

- Dr.S.Sampath kumar suggested to add text books related to processor.

#### Course-7: Embedded IoT– No Comments

#### Course-8: Embedded Processors– No Comments

#### Course-9: VLSI Design Techniques– No Comments

#### Course-10: Embedded Networking– No Comments



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	<p><b><u>Vertical:4 (GRID TECHNOLOGY)</u></b></p> <p>➤ All experts suggested to merge vertical 4 and vertical 1 with relevant subjects.</p> <p><b><u>Course-1: Renewable Energy Technology– No Comments</u></b>  <b><u>Course-2 : Wind and Solar Energy Systems– No Comments</u></b>  <b><u>Course-3: Micogrid</u></b>          ➤ Dr.S.Sampath kumar suggested to remove the subject from the curriculum.  <b><u>Course-4: Electrical Power Grid Modernization– No Comments</u></b>  <b><u>Course-5: IoT for Smart Systems– No Comments</u></b>  <b><u>Course-6: Smart Grid Communications and Protocols– No Comments</u></b>  <b><u>Course-1: Fundamentals of Fibre Optics and Laser Instrumentation– No Comments</u></b>  <b><u>Course-2: Bio Medical Instrumentation and its Applications– No Comments</u></b></p>
Resolution	Resolved to approve the changes suggested by the members.
Item 12.08	Approval/ Ratification of the Internship / Industrial Training (R17)
Discussion	<b><u>Course-1 Internship/ Industrial Training– No Comments</u></b>
Resolution	Resolved to approve.
Item 12.09	Approval of One Credit Course (R22)
Discussion	<b><u>Course-1: 22EEI01- PLC Automation– No Comments</u></b> <b><u>Course-2: SCADA Automation – No Comments</u></b>
Resolution	Resolved to approve.
Item 12.10	Approval of Certification Courses (R22 – 5 <sup>th</sup> and 6 <sup>th</sup> Semester)
	<ul style="list-style-type: none"> <li>✓ Basic electronics for Arduino Makers.</li> <li>✓ Crash Course Electronics and PCB Design.</li> <li>✓ Energy Resources and Technology.</li> <li>✓ Embedding Sensors and Motors Specification.</li> <li>✓ No-Code AI For Electrical Engineers.</li> <li>✓ Catia V5 Electrical Harness Design- Automotive and Industrial.</li> <li>✓ Advanced Driver Systems (ADAS).</li> <li>✓ Electrical Loads Calculations and Design.</li> </ul> <p>➤ All experts approved the certification courses.</p>
Resolution	Resolved to record.
Item 12.11	Approval of Panel of Examiners (UG)



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Discussion	BoS members clarified about minimum eligibility fixed for becoming a panel of examiner. Dr. G.Ramani explained the process of preparing panel of examiner for question paper setting, valuation and laboratory examinations based on the examiner specialization. The minimum experience of 5 years is fixed for being an examiner.
Resolution	Resolved to approve the panel of Examiners for question paper setting, valuation and laboratory examinations
Item 12.12	Any other matter
Discussion	<ul style="list-style-type: none"><li>➤ Question paper type and pattern depends on the subject handling faculty and it may vary according to subjects.</li><li>➤ Industry person should teach any one core subject.</li><li>➤ Introduce foreign language.</li><li>➤ Project and skill-based learning.</li><li>➤ TA / km should be given atleast Rs.13/-.</li></ul>
Resolution	Resolved to approve

### **Summary of approvals**

- 11<sup>th</sup> BoS meeting minutes and ATR are approved.
- MoM of PAC meeting-1 held on 27.07.2023, PAC meeting-2 held on 21.09.2023, PAC meeting-3 held on 05.04.2024, DAB meeting-1 held on 30.11.2023 & DAB meeting-2 held on 22.04.2024 are approved.
- Semester: 5 to 8 syllabi of courses under R22 regulations and courses of vertical subjects are approved.
- Panel of Examiners for question paper setting, valuation and laboratory examinations are approved.

Finally, Dr. G.Ramani - BoS Chairman thanked all the members for their active participation.





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Date: 25.05.2024

*Handwritten signature of Dr. G. Ramani*

**Dr. G. Ramani**

**(Chairman, BoS – Electrical and Electronics Engineering)**

**Dr. G. RAMANI, M.E., Ph D.,  
Professor & Head  
Department of EEE**

**Nandha Engineering College (Autonomous)  
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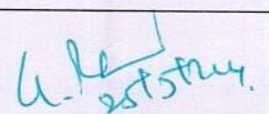
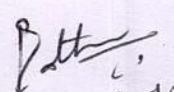
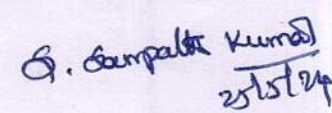
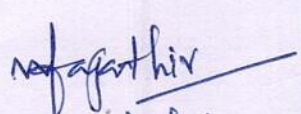

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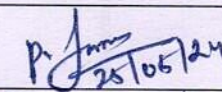
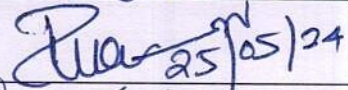
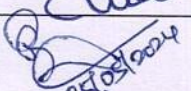
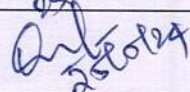
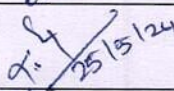


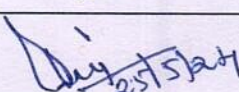
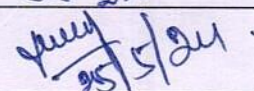
**ANNEXURE-II**

Name of the Board	Meeting No.	Academic year
Electrical and Electronics Engineering	12	2023-24

Meeting Attendance			
S.No	Members	Representation	Signature with date
1	Dr. G.Ramani Professor & Head Electrical and Electronics Engineering	Chairman	 25/5/2024
2	Dr.Sujatha Balaraman Professor, Department of Electrical & Electronics Engineering, Government College of Engineering, Bodinayakkanur-625582.	University Nominee	 25/5/2024
3	Dr.S.Sampath kumar Assistant Professor (S.G) Department of Electrical & Electronics Engineering, Amrita School of Engineering, Ettimadai, Coimbatore,641112.	Expert Nominee	 25/5/24
4	Dr.M.Siva Ramkumar Assistant Professor, Dept of Electrical & Electronics Engineering, Karpagam Academy of Higher Education Coimbatore-641021.	Expert Nominee	ABSENT
5	Mr.M.Jagathaguru Project Lead and Technical Expert , Illuminen Technologies, Coimbatore-641035	Industry Member	 25/05/24
6	Mr.D.Senthil kumar Senior Quality Engineer, Oracle, Oracle Tech Hub, Marathahalli-560037.	Alumni	



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Meeting Attendance- Internal members			
S.No	Members	Representation	Signature with date
1	Dr.P. Jamuna, Associate Professor/EEE	Member	 25/06/24
2	Mr.M.Prabu Assistant Professor/EEE	Member	 25/05/24
3	Mr. B.Ramraj Assistant Professor/EEE	Member	 25/05/24
4	Mrs.C.Pratheeba Assistant Professor/EEE	Member	 25/05/24
5	Mr.S.Elango Assistant Professor/EEE	Member	 25/5/24
6	Mrs.R.Vijayalakshmi Assistant Professor/EEE	Member	 25/5/24
7	Mr. P.Krishnagandhi Assistant Professor/EEE	Member	 25/5/24
8	Mr. V.Ravichandran Assistant Professor/EEE	Member	 25/5/24
9	Mrs.M.Manjula Assistant Professor/EEE	Member	 25/5/24



  
**Chairman BoS**

Dr.G.RAMANI, M.E, Ph.D.,  
Head of the Department  
Department of EEE  
Nandha Engineering College (Autonomous)  
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