Original

Department of Electrical and Electronics Engineering

KPR Institute of Engineering and Technology

KPRIET
Learn Beyond

Ninth Board of Studies Meeting

Venue: The Daffodil – Imperial Hall / Hybrid

Date: 24.11.2023

Meeting ID: 820 1352 2514

Time: 9.30 a.m.

Agenda:

To discuss and pass

1. Dissemination of Vision, Mission, PEOs and PSOs of the department
2. Discussion on the minutes of previous BoS meeting and action taken
3. Stakeholders inputs on curriculum design
4. Curriculum for I to VIII Semester of UG program under Regulations 2021(Revised)
5. Syllabi for V and VI Semester of UG program under Regulations 2021(Revised)
6. Syllabi of professional electives offered in different verticals under Regulations 2021 [Revised]
7. Syllabi of open electives offered under Regulations 2021 (Revised)
8. Discussion on Minor degree and B.E. (Hons) / B.E. (Hons) with specialization
9. Discussion on MOOC/Online courses, Industry offered courses and Value added courses
10. Courses to be offered for Ph.D. Scholars
11. Industrial training / Internship
12. Any other matter brought by the chair

Members Present:

S.No	Name of the member with Designation	Category	Signature
1.	Dr. K. Mohana Sundaram, Professor & HoD/EEE, KPRIET	Chairman	
2.	Dr. A. Ruby Meena Associate Professor, Department of Electrical and Electronics Engineering, Government College of Engineering Dharmapuri, Tamilnadu 636 704	University Nominee	
3.	Dr. N. Selvaganesan Professor, Department of.Avionics, Indian Institute of Space Science and	Academic Expert-1	

	Technology, Thiruvananthapuram - 695 547		
4.	Dr. R. Jayabarathi Associate Professor, Vice Chairperson Department of Electrical and Electronics Engineering, School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore - 641112	Academic Expert-2	R. Jayabarathi 24/11/23
5.	Mr. K. K. Jembu Kailas, Lead SME, Electrical Engineering, Electrical Engineering, College Connect, L&T Edutech, Chennai – 600040	Industry Expert	Attended online
6.	Er. P. Prasanna Kumar (Alumnus-Batch: 2014), Technology Analyst, Infosys Technologies Limited, Chennai - 600119	Alumnus	
7.	Dr. V. S. Chandrika, Professor/EEE	Faculty Member	24/11/23
8.	Dr. P. Pandiyan, AsP/EEE	Faculty Member	24/11/23
9.	Dr. A. Karthick, AsP/EEE	Faculty Member	24/11/23
10.	Dr. V. Parimala, AsP/EEE	Faculty Member	24/11/23
11.	Dr. C. Pazhanimuthu, AsP/EEE	Faculty Member	
12.	Mr. G. Saravanan, AP/EEE	Faculty Member	24/11/23
13.	Dr. R. Sampathkumar, AP/EEE	Faculty Member	24/11/23
14.	Dr. I. Baranilingesan, AP/EEE	Faculty Member	24/11/23
15.	Dr. S. Ravindran, AP/EEE	Faculty Member	24/11/23
16.	Dr. D. Sathish Kumar, AP/EEE	Faculty Member	24/11/23
17.	Dr. A. Rakesh Kumar, AP/EEE	Faculty Member	24/11/23
18.	Dr. P. Naveen, AP/EEE	Faculty Member	24/NOV/2023
19.	Dr. T. Ramesh Kumar, AP/EEE	Faculty Member	24/11/23
20.	Dr. P. Ravikumar, AP/EEE	Faculty Member	24/11/23

21.	Ms. B. Lalitha, AP/EEE	Faculty Member	
22.	Ms. R. Revathi, AP/EEE	Faculty Member	
23.	Mr. A. Mohamed Ibrahim, AP/EEE	Faculty Member	
24.	Mr. V. Kamalkumar, AP/EEE	Faculty Member	
25.	Mr. C. J. Vignesh, AP/EEE	Faculty Member	
26.	Mr. C. Dinesh, AP/EEE	Faculty Member	
27.	Dr. N. Prakash, AP/EEE	Faculty Member	
28.	Dr. Rangu Seshu Kumar, AP/EEE	Faculty Member	
29.	Mr. K. Balamurugan, AP/EEE	Faculty Member	
30.	Mr. M. Mohanasundaram, AP/EEE	Faculty Member	
31.	Mr. G. Xavier Richards, AP/EEE	Faculty Member	
32.	Mr. P. Jones Barnabas, IV EEE A	Student Member	
33.	Ms. M. Priyadharshini, IV EEE B	Student Member	
34.	Ms. B. M. Abinandhana, III EEE A	Student Member	
35.	Mr. S. Sukant, III EEE B	Student Member	

Minutes of the 9th Meeting of the Board of Studies

The meeting started with the Chairman's welcome note to all the members of the Board of Studies.

The following points were discussed during the meeting.

1. **The Vision, Mission of the department, PEOs and PSOs were presented to the members.**

VISION

To be a premier centre for quality education, innovation and research in the field of Electrical and Electronics Engineering to meet the global challenges with professional ethics and social consciousness.

MISSION

- Provide a holistic environment to students through knowledge-centric and skill-based education
- Collaborate with industries for effective research and innovation in Electrical Engineering and allied areas
- Enable students to serve the society through prolific ideas with professionalism and ethical values

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

The Graduates of B.E. Electrical and Electronics Engineering, four years after graduation, will

PEO1: Apply the acquired knowledge and skills to meet the emerging needs of the society and also excel in their chosen profession

PEO2: Adapt to emerging technologies and continuously upskill through active research in Electrical Engineering and allied areas

PEO3: Demonstrate leadership skills and practice their profession conforming to ethical and human values

PROGRAM SPECIFIC OUTCOMES (PSOs)

The Graduates of B.E. Electrical and Electronics Engineering will be able to

PSO1: Analyse, design and test power electronic components integrated with computer-based systems to meet industrial and societal needs

PSO2: Deploy modern engineering tools to model, simulate, fabricate and integrate electrical systems with renewable energy to enhance sustainability

The BoS members reviewed and recommended the revised Vision, Mission, PEOs and PSOs to the Academic Council.

2. **Action taken on the minutes of the 8th BoS meeting**
    - The minutes of the 8th BoS meeting and the action taken thereon were presented, discussed and approved.

Sl.No.	SUGGESTIONS	ACTION TAKEN
1.	Dr. C. Thanga Raj suggested that Hydro and thermal speed governing system can be included in U21EEP01 – Power System Operation and Control, to give students a clear understanding of how generation is controlled in hydro and thermal power plants.	As per the suggestion, the content was included in the course.
2.	Dr. A. Ruby Meena suggested that Analysis of single and multi-area system can be included in U21EEP01 – Power System Operation and Control, to enable students to analyse load frequency control in interconnected power systems.	As per the suggestion, the contents were included in the course.
3.	Mr. K. K. Jembu Kailas suggested that ISE standard for testing and switching panel board can be added in U21EEP02 – High Voltage Engineering, to familiarise students with the standard practices followed in industry for testing.	As per the suggestion, the content was included in the course.
4.	Dr. R. Jayabarathi and Dr. C. Thanga Raj suggested that Cyber security topics and digital simulator for stability analysis can be added in U21EEP04 – Computer Aided Power System Analysis, to address the cyber threats to modern power system networks and to give students hands-on exposure to stability analysis.	As per the suggestions, the contents were included in the course.
5.	Dr. C. Thanga Raj suggested to add CBEMA standards in U21EEP05 – Power Quality course, to familiarise students with the power acceptability curves used to assess the effect of power quality disturbances on sensitive equipment.	As per the suggestion, the content was included in the course.
6.	Mr. K. K. Jembu Kailas and Dr. C. Thanga Raj suggested that SCADA monitoring and control and PMU related topics can be added in U21EEP06 – Power System Security, to cover the monitoring and wide-area measurement technologies used in present-day power systems.	As per the suggestions, the contents were included in the course.
7.	Dr. C. Thanga Raj and Dr. R. Jayabarathi suggested to add IEEE and IEC standards and EHVAC in India topics in U21EEP07 – EHV AC Transmission, to align the course with international standards and the Indian EHV transmission scenario.	As per the suggestions, the contents were included in the course.
8.	Mr. K. K. Jembu Kailas suggested to include the concepts of Consumer and prosumer in U21EEP08 – Smart Grid Technologies, to reflect the changing role of consumers who also generate energy in a smart grid.	As per the suggestion, the contents were included in the course.
9.	Dr. R. Jayabarathi suggested to add Transformer design in U21EEP11 – Electrical Machine Design, to complete the coverage of the design of major electrical machines.	As per the suggestion, the content was included in the course.

10.	Mr. K. K. Jembu Kailas and Dr. R. Jayabarathi suggested that VSC concepts be included in U21EEP12 – HVDC Transmission, since voltage source converter technology is widely used in modern HVDC systems.	As per the suggestions, the contents were included in the course.
11.	Dr. R. Jayabarathi suggested to add sensorless control related topics in U21EEP13 – Advanced Electric Motors and Control, to expose students to current drive technology that reduces cost and improves reliability by eliminating speed sensors.	As per the suggestion, the contents were included in the course.
12.	Mr. K. K. Jembu Kailas suggested to include the book titled "Understanding FACTS: Concepts and Technology of Flexible AC Transmission Systems" by N. G. Hingorani and L. Gyugyi in U21EEP14 – Flexible AC Transmission Systems, as it is a standard reference for FACTS controllers.	As per the suggestion, the book was added as a textbook.
13.	Dr. Dulal Chandra Das suggested to add flow battery topics in U21EEP17 – Battery Management Systems, to cover this emerging technology used for grid-scale storage.	As per the suggestion, the content was included in Unit I.
14.	Dr. Dulal Chandra Das suggested to add flywheel and fuel cell topics in U21EEP23 – Energy Storage Systems, to broaden the coverage of available energy storage technologies.	As per the suggestion, the contents were included in Unit II.
15.	Dr. C. Thanga Raj suggested to add the ADALINE networks in U21EEP25 – Artificial Intelligence Applications to Power Systems, to introduce an adaptive neural network technique used in power system applications.	As per the suggestion, the content was included in the course.
16.	Dr. C. Thanga Raj suggested to replace Plant wide control with Power plant automation in U21EEP40 – Advanced Industrial Automation, as the latter is more specific to the power sector and closer to industry practice.	As per the suggestion, the content was included in the course.
17.	Mr. K. K. Jembu Kailas suggested to include the textbook "Solar Photovoltaics: Fundamentals, Technologies and Applications" by Prof. Chetan Singh Solanki in U21EEP43 – Solar Energy Technology, as it covers the subject comprehensively.	As per the suggestion, the book was added as a textbook.

3. **Stakeholders' inputs on curriculum design**
    - Stakeholders' inputs were obtained during the Internal BoS Meeting.
    - The inputs received from the stakeholders through QIC, PAC and the Internal BoS were presented to the members of BoS for further necessary action.
4. **Curriculum for I to VIII Semesters of UG program under Regulations 2021 (Revised)**
    - Members of BoS reviewed the curriculum for I to VIII semesters of UG program under Regulations 2021 (Revised) and approved.

5. Syllabi for V and VI Semesters of UG program under Regulations 2021 (Revised)

V Semester

Sl. No.	Course code	Course title	Suggestions	Suggested by
THEORY COURSES				
1	U21EE501	Power System Analysis	Approved	--
2	U21EE502	Power Electronics and Drives	Approved	--
3	-	Professional Elective – I	Approved	--
4	-	Professional Elective – II	Approved	--
5	-	Open Elective – II	Approved	--
THEORY COURSE WITH LABORATORY COMPONENT				
6	U21EE503	Microprocessors and Microcontrollers	After discussion among members, the 8085 processor was retained in the syllabus for better understanding of basic processors	All Members
LABORATORY COURSES / LABORATORY COURSE WITH PROJECT COMPONENT				
7	U21EE504	Power Electronics and Drives Laboratory	Approved	--
8	U21EE505	Power Engineering Laboratory	Approved	--
9	U21SSG02	Soft Skills – II	The credit of Soft Skills – II shall be transferred to U21EE505 – Power Engineering Laboratory, to avoid a separate credit for a course that is covered in the laboratory.	Dr. A. Ruby Meena Associate Professor/EEE, GCE, Dharmapuri
10	U21EE506	Proto Studio – I	Approved	--
11	-	[Live in Labs-I]	Approved	--
MANDATORY NON CREDIT COURSES				
12	U21MYC05	Introduction to UN SDGs: An Integrative Approach	Approved	--

VI Semester

Sl. No.	Course code	Course title	Suggestions	Suggested by
THEORY COURSES				
1	U21EE601	Protection and Switchgear	Approved	--
2	U21EE602	Embedded Systems	Approved	--
3	U21AMG02	Machine Learning	Approved	--
4	-	Professional Elective – III	Approved	--
5	-	Professional Elective – IV	Approved	--
6	-	Open Elective – III	Approved	--
LABORATORY COURSES / LABORATORY COURSE WITH PROJECT COMPONENT				
7	U21EE603	Embedded Systems Laboratory	Approved	--
8	U21AMG03	Machine Learning Laboratory	Approved	--
9	U21CG601	Proto Studio– II	Approved	--
10	U21SSG03	Soft Skills – III	Approved	--
11	-	[Live in Labs-II]	Approved	--

- Members of BoS reviewed the syllabi for V and VI Semesters of UG program under Regulations 2021 (Revised) and approved them with the above suggestions.

6. Syllabi of professional electives offered in different verticals under Regulations 2021 (Revised)

- Members of BoS approved all the syllabi of professional electives under various verticals in R2021 (Revised)

7. Syllabi of open electives offered under Regulations 2021 (Revised)

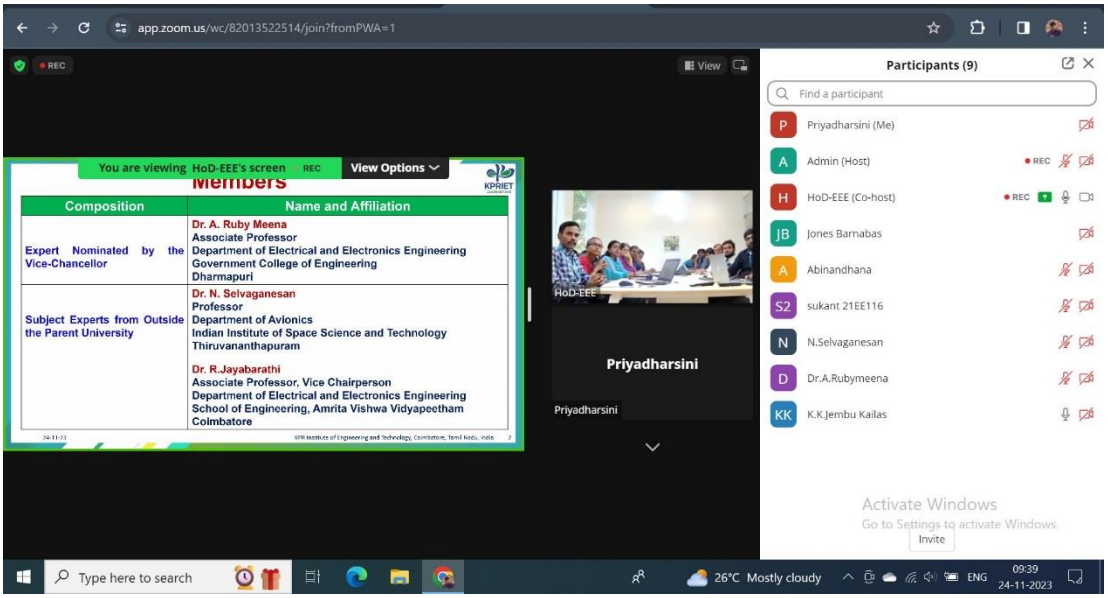
- The courses planned to be offered as open electives for other programmes were reviewed, and the Members of BoS approved all the syllabi of open electives under various verticals in R2021 (Revised).

8. Discussion on Minor degree and B.E. (Hons) / B.E. (Hons) with specialization

- Dr. N. Selvaganesan suggested that the eligibility for Minor/Honours degree with specialization be raised to a CGPA of 8.5 instead of 7.5, so that only academically strong students, who can manage the additional credit load along with the regular curriculum, are admitted to these programmes.

9. **Discussion on MOOC/Online courses, Industry-offered courses and Value-added courses**
    - Members of BoS approved all the MOOC/Online Courses, One Credit Courses and Value-Added Courses under R2021 (Revised).
10. **Courses to be offered for Ph.D. Scholars**
    - Mr. K. K. Jembu Kailas suggested that a real-time case study can be included in Solar Energy and Utilization, to give Ph.D. Scholars practical exposure to the application of the subject.
    - Dr. R. Jayabarathi suggested that the course title “Charging Infrastructure” be replaced by “EV Charging Infrastructure”, to make the title specific to electric vehicles.
    - Dr. N. Selvaganesan suggested to increase the number of coursework courses offered for Ph.D. Scholars, to strengthen their research foundation.
11. **Industrial training / Internship**
    - BoS Members approved the list of industries across PAN India recommended for in-plant training / internship.
12. **Any other matter brought by the Chair**
    - No other matter was brought up by the Chair for discussion.

The meeting came to an end with a vote of thanks by the Chairman.



Chairman – BoS/EEE