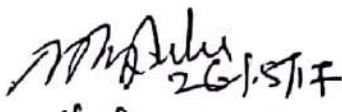
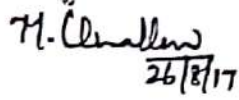





LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING

Minutes of the BOS meeting held on 26th August 2017.
for M.Tech (PED) Program

Members Present:

External BoS Members	Signature	Internal BoS Members	Signature
Dr. M.Sydulu		Dr. M.Uma Vani	
Dr.Y.Kishore Babu		Mr.J.Sivavara Prasad	
		Mr. P. Deepak Reddy	

1. Approved Program Educational Objectives (PEOs) and Program Outcome (POs) statements.
2. Approved Course structure and regulations of M.Tech (PE&D) R-17 as per CBCS.
3. Approved M.Tech Course Outcomes, course contents etc for core, program and open elective courses as per OBE system.
4. Methodologies for innovative teaching and evaluation process.
5. Improvement in research component in the areas of current interest.
6. Change of M.Tech program (Specialization title) is suggested in view of advancements taking place in the areas of Power and Energy sectors.
7. Suggested value added courses for enhancement of employability.

Note: Details of discussions and deliberations are enclosed as Annexure.

Annexure (Detailed minutes of BOS meeting)

EEE Department (DAB and DAC) proposed course structure for R17 M.Tech (PED) program & detailed course contents are discussed at length in the BOS committee (with External and Internal members) meeting held on **26-08-2017 from 9:30 a.m** onwards in the EEE Seminar Hall. Following modifications are suggested:

1. Course title changes:

- i. "Microprocessors-and microcontrollers & their applications to Power Electronics" changed as "Advanced Micro Processors and Micro Controllers"
- ii. "Power Electronics for Renewable Energy Systems" Changed as "Integration of Renewable Sources"
- iii. "Power Electronics in Smart Grid" Changed as "Micro and Smart Grids"
- iv. "Artificial Intelligent Techniques to Power Converter Drives" Changed as "Applications of Artificial Intelligence Techniques".

2. Course content changes:

- i. **Analysis of Power Converters** – Combine units 1 & 2 as a single unit with title as "Controlled Rectifiers" (with less emphasis on 1-phase and more on 3-phase
Unit – 2: DC Choppers-heading suggested & contents accordingly
Unit – 3 : Add 3-phase cyclo – converter contents.
- ii. **Optimization Techniques in Electrical Engineering**– Units 3 & 4 are to be combined as a single unit – 3
Unit – 4 : Dynamic Optimization
Unit – 5 : Meta Heuristic / Evolutionary Optimization Techniques (content to be placed accordingly)

Note: At the end of each unit, quote specific electrical applications

- iii. **HVDC and FACTS** : Unit – 1: Add advancements in HVDC systems
Unit – 5: Add IPFC concepts

- iv. **Energy Auditing and Management** : a) Units – 1 & 2 : Add PE Components which help in reduction of energy consumption.
b) Remaining three units to be re-organised with the existing contents (five units) with more emphasis to Power Electronics.

- v. **Power Converters & Drives-I Lab** – Experiments with S.No. 3 & 6 to be moved to Power Converters & Drives II Lab

- vii) **Control of Motor Drives-II**– In Unit-1: Title is changed as “DTC & Sensor less Vector Control of Induction Motor” (and add content according to the modified title)
- viii) **Power Quality Engineering** – Change Unit – 4 title as “PQ Monitoring and Mitigation”.
 - Add PQ mitigation techniques with PE orientation in Unit – 4
- ix) **Reactive Power Management** – Reframe the contents of Units – 1 to 5 with PE orientation (eg: wind station application, reactive power support).
- x) **DSP and FPGA Processors**– Unit -4: DSP based implementation to Power Converters contents to be modified.
- xi) **Hybrid Electrical Vehicles** – Unit – 3: Modify contents referring to latest text book (S.No. 1,2) with PE orientation.
- xii) **Advanced Microprocessors and Microcontrollers** – Units 1 & 2 combine: Review of 8086 processors followed by advanced processors like 8088, 80386, 80486, Pentium (block diagrams, instructions, addressing modes etc.)
 - Old Unit - 3, 4, 5 to be reorganized as Units 2,3,4.
 - Unit – 5 : Applications of Processors and Controllers.
- xiii) **Power Converters & Drives-II Lab**– Re arrange the experiments of PCD – I & II Labs with suggested modifications (Swapping of PCD – I to II – 2 expts and from PCD – II to I – 1 expt.)
- xiv) **Advanced Power Semiconductor Devices and their protection:**
 - Unit – 2: Add IGCT and send GTO from unit-2 to Unit – 3.
 - Unit – 5: Add commercially available power semi-conductor devices and their ratings.
- xv) **Integration of Renewable Energy Sources** – Units 1 & 2 to be elaborated into 4 units (by removing fuel cells & micro grids)
 - Unit – 5 : To be retained
- xvi) **Micro and Smart Grids** – Units 1 & 2 : Micro grids
 - Units 3,4,5 : Smart Grid (include AMI in one of the units smart meter etc.)
 - In Units 1 to 5, include available integration technologies.
- xvii) **Drive Systems in Electric Traction:** Unite – 4: Add bullet train topic and hyper loop control
- xviii) **Applications of Artificial Intelligence Techniques:** Unit – 1 : ANN & its specific applications (1 or 2)
 - Unit – 2 : Fuzzy Logic Controller & its specific applications (1 or 2)

Unit - 3 : GA & its specific applications (1 or 2)

Unit - 4 : PSO & its specific applications (1 or 2)

Unit - 5 : Meta - Heuristic Techniques & its specific applications

Note: Refer / quote IEEE journals for applications in the list of references.

- xix) **Instrumentation in Electric Drives:** Update the text books and add new topics from them to the proposed syllabus.

General (Overall Suggestions)

- i) PEs for a semester must be given as pool rather than two headings with 3 titles under each
- ii) Latest editions for text books & references must be updated
- iii) Wherever applicable, add journal papers as references.
- iv) Following methodologies are suggested for innovative teaching process:
 - Course delivery using PPT
 - Demonstration of equipment
 - Field visits
- v) Improvement in research component
 - By making students to work on recent areas on cutting edge technologies.
- vi) Suggestions for continuous internal assessment
 - Project - based lab experimentation to be followed with due weightage in evaluation.
 - Weightage to attendance may be given to improve regularity to class work / lab work
- vii) Suggestions for enhancement of employability
 - Practical exposure
 - additional project works
 - Training on communication skills improvement
- viii) In view of the recent advancements taking place in the areas of power and energy sectors, title change for M.Tech program is suggested as "Power Electronics & Power Systems" with PE component as 60% and power systems component as 40%.