



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited with 'A' grade by NAAC
Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai - 600 119.



School of Electrical and Electronics

Minutes of Board of Studies Meeting held on 1st June, 2020

(Virtual Meeting conducted on Zoom Platform (Time: 10.30 a.m. to 12 noon))

- Dr.N.M.Nandhitha, Prof. & Dean School of Electrical and Electronics started the meeting by welcoming both the external and the internal numbers to the Board of Studies meeting (30.6.2020, 10.30 a.m. to 12.00 noon)
- Dr M D Selvaraj. Professor, IIITDM accepted the changes suggested by Dr S Lakshmi. However he added that “Specialized services – E-mail, Video conferencing and internet connectivity” from Unit-5 can be replaced with ‘Case studies on Weather Forecasting Satellites ‘ .
- Dr.Sivakumaran, Prof., NIT, Trichy accepted the changes proposed in ‘MEMS and its Applications’ and ‘Automatic Speech Recognition’.
- Mr M Sugadev, presented the changes made in ‘Advanced Electronic Test Engineering’. He also added that this course is conducted with the infrastructure sponsored by QMAX Technologies, Chennai. Mr J Visweswaran, NI Electronics, appreciated the effort taken by the Department and the syllabus revision was accepted.
- Dr P Chitra, putforth the revisions for ‘Pattern Recognition and Image Vision’. Dr M D Selvaraj accepted the revision and added that “Classification performance measures - Risk and error probabilities” can be replaced with “Non-metric methods for pattern classification on numeric data, Decision tress, Classification and Regression Trees (CART)”.
- Dr S Lakshmi, proposed syllabus revision in ‘Mobile Adhoc Networks and Spread Spectrum Communication’. Dr M D Selvaraj, accepted the syllabus revision.
- Dr T Ravi presented the syllabus revision on Nanoelectronics to the board. MrJVisweswaran accepted the changes and added that ‘Nanoelectronics in Random Access Memory, Mass Storage devices and related topics’ can be included.
- Dr M Sumathi presented syllabus revision in ‘Integrated Services Digital Network’ and “Radar and Navigational Aids”. Dr M D Selvaraj accepted the changes.

- Dr P Chitra proposed the revisions in ‘Signals and Systems’ to the board. Dr Sivakumaran accepted the changes and he suggested that “Speech Signal Processing” can also be included.
- Dr S Barani presented the syllabus revision in ‘Digital Signal Processing’ to the board. Dr N Sivakumaran suggested that “Audio Coding Techniques and Comparison Analysis and Related Topic” can be included.
- Dr T Ravi presented the syllabus revision in “Programming in HDL”. Dr M D Selvaraj suggested that “Case Study on related topics” can be included.
- Mr M Sugadev presented syllabus revision in ‘AI and Soft Computing’ and ‘SCADA Systems Applications’ to the board. Dr M D Selvaraj readily accepted the revisions.
- Dr.N.M.Nandhitha informed the board that Dr.Krishnamoorthi of School of EE has developed software for Digital Logic Circuits Laboratory (virtual laboratory).
- Dr.R.Pandian proposed few additions in the course “Electrical and Electronic Measurements and Instrumentation”. He pointed out the topics which include Display devices, waveform generators and analyzers. Dr. Sivakumaran agreed and hesuggested that it can be added in the syllabus. He also suggested to add polyphase metering.
- Dr.Lalithakumari presented the syllabus for an elective course ‘Automotive Instrumentation’. Dr.Sivakumaran suggested to include networks, Graphical User Interface in Automotive Instrumentation
- Dr.V.Sivachidambaranathan,Prof.&Head, Dept. of Electrical and Electronics Engineering requested Dr.Vanitha, Faculty/EEE to present he curriculum revisions before the board.
- She has presented the old and new syllabus for Electrical Technology (theory and practical)before the board and discussed the valid additions made in the syllabus. Dr.Sivakumaran, Prof.,NIT, Trichy gave suggestions to include the standards, tools and grounding procedures and casestudiesinthe syllabus.
- Dr.M D Selvaraj insisted on the feasibility of conducting laboratory through Virtual Labs.Mr.J.Visweeswaran, National Instruments also welcomed the idea of virtual laboratory.
- Dr.V.Sivachidambaranathanputforth the syllabus of the new courses, ‘Industrial Drives and automation’ , ‘Computer Control of Electric Drives’for the approval of the board. Dr N Sivakumaran approved the Syllabus for these new courses.

Name of the Course : **Electrical Technology**
 Course Code : **SEEA1102**

UNIT	Content	Remarks
1	<p>MAGNETIC CIRCUITS Definition of MMF, Flux and Reluctance - Leakage Factor - Reluctances in Series and Parallel (Series and Parallel Magnetic Circuits) - Electromagnetic Induction - Fleming's Rule - Lenz's Law - Faraday's laws - statically and dynamically induced EMF- Self and mutual inductance - Analogy of Electric and Magnetic circuit. INTRODUCTION OF ELECTRICAL STANDARDS Indian Standard Electricity Rules - Domestic Wiring - Wiring Materials and Accessories - Staircase Wiring - Fluorescent Tubes- Earthing -Types of Earthing - Benefits of Earthing.</p>	<p>Shifted Magnetic circuit to Unit 2</p> <p>Inclusion</p>
2	<p>DC MACHINES Construction, Principles of operation of DC Machines - Types - EMF Equation - Performance Characteristics, of Series and Shunt Generators-DC Motor-Torque-Speed-Torque Characteristics of Series and Shunt Motors - Speed Control and Applications DC GENERATORS Construction, Principles and Working operation of DC Generators - EMF Equation - Types of Generators - Performance Characteristics of Series and Shunt Generators - Applications. DC MOTORS Construction, Principles and Working of operation of DC Motors - Torque Equation - Back EMF - Types of DC Motors - Torque - Speed Characteristics of Series and Shunt Motors - Speed Control of DC Motors - Applications.</p>	<p>To give more exposure on DC Machines, this can be split in to DC Generators in Unit 3 and DC Motors in Unit 4.</p>
3	<p>TRANSFORMERS Constructional Details and Principle of operation of Single -Phase Transformer - EMF Equation - Phasor Diagram on No Load and Loaded Transformer - Equivalent Circuit - Open Circuit and Short Circuit Test on Transformer - Regulation and Efficiency- Auto Transformer</p>	<p>Content included in Unit 5</p>
4	<p>INDUCTION MOTORS (QUALITATIVE TREATMENT ONLY) Constructional Details of Three Phase Induction Motor - Slip Ring and Squirrel Cage Rotor- Principle of operation- Torque Equation - Torque / Slip Characteristics - Starters - Applications Introduction to Single Phase Induction Motors - Capacitor Start Capacitor Run Motor - Shaded Pole Motor.</p>	<p>Deletion</p> <p>DC Motor from Unit 2 has shifted to Unit 4 instead of Induction motors.</p>
5	<p>SYNCHRONOUS MACHINES AND SPECIAL MACHINES (QUALITATIVE TREATMENT ONLY) Principles of Alternator - Construction Details - Types Special Machines: Stepper motor- Permanent magnet Stepper motor-Variable reluctance stepper motor- AC and DC Servomotor - Stepper Motor Selection and Control : An Industrial Case Study. Universal Motor - Hysteresis Motor -Permanent Magnet Synchronous Motor - Switched Reluctance Motor - Brushless D.C Motor - Construction, Working and Applications.</p>	<p>Deletion</p> <p>Inclusion</p> <p>Transformers from Unit 3 has shifted in addition to special electrical machines</p>

Name of the Course : ELECTRICAL ENGINEERINGLAB		
Course Code : SEEA2102		
	List of Experiments	Remarks
	<ol style="list-style-type: none"> 1. Wiringcircuits for <ol style="list-style-type: none"> a. Calling bell. b. Staircase. c. Fluorescent lamp d. Basic house hold wiring using switches, fuses, Indicator–lamps etc. 2. Open circuit characteristics of separately excited dc 3. Load characteristics of self excited dc shunt generator. 4. Load characteristics of dc Compound generator. 5. Load characteristics of dc shunt motor. 6. Speed control of dc shunt motor. 7. Load characteristics of dc series motor 8. Load test on single phase transformer 	<p>Theory related Experiments are executed</p>
	<p>Name of the Course : ELECTRICAL ENGINEERINGLAB Course Code : SEEA2101</p> <ol style="list-style-type: none"> 1. Open circuit characteristics of separately excited dc shunt generator. 2. Load characteristics of self excited dc shunt generator. 3. Load characteristics of dc Compound generator. 4. Load characteristics of dc shunt motor. 5. Speed control of dc shunt motor. 6. Load characteristics of dc series motor. 7. Open circuit and short circuit test on single phase transformer. 8. Load test on single phase transformer. 9. Brake load test on three phase squirrel cage induction motor. 10. Load test on single phase Induction motor. 11. Wiring circuits for <ol style="list-style-type: none"> A. Calling bell. B.Stair case. C. Fluorescent lamp. D Basic household wiring using switches, fuses, Indicator – 	<p>Experiments not related to theory are not</p>

