



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

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Minutes of Board of Studies Meeting held on 23-11-2019

- 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.
- Dr.V.Sivachidambaranathan, Prof.& Head, Dept. of Electrical and Electronics Engineering requested Dr.Susitra, Faculty/EEE to put forth revision of the course DC Machines and Transformer . The new syllabus presented before the board and discussed the valid additions made in the syllabus.
- Dr.V.Sivachidambaranathan, Prof.& Head, Dept. of Electrical and Electronics Engineering requested Dr.Rameshbabu, Faculty/EEE to put forth the syllabus of the new courses, 'Computer Aided Electrical Drawing' for the approval of the board. Dr. A. Amalin Prince approved the Syllabus for this new course.

Unit	Content	Inclusion / Deletion	Reason
I	<p>ELECTRO-MECHANICAL CONVERSION 9 Hrs.</p> <p>Introduction - Principles of Energy Conversion - Field Energy and Co-energy in Linear Systems - Energy Flow - Losses and Efficiency - Singly and Multiply Excited Magnetic Field Systems - Torque Production in Rotating Machines - General Analysis of Electromechanical system.</p> <p>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 Circuits.</p>	<p>Deletion</p> <p>Inclusion (This content is shifted from Electricity and Magnetism)</p>	<p>Topics in this unit is covered in units 1-5</p> <p>It is the basic fundamental in any electromagnetic energy conversion system. This content is shifted from Electricity and Magnetism.</p>
II	<p>D.C. GENERATORS 9 Hrs.</p> <p>Constructional Details - Principle of Operation - E.M.F Equation - Methods of Excitation - Types - No load & Load characteristics of Series, Shunt & Compound generators - Armature Reaction, Effects, Methods of Compensation - Commutation : Methods of Improving Commutation - Applications.</p> <p>Losses and Efficiency</p>	<p>Inclusion</p>	<p>It is shifted from unit I to II</p>

III	<p>D.C. MOTORS AND TESTING OF D.C. MACHINES 9 Hrs.</p> <p>Principle of Operation - Back E.M.F & Torque Equation - Characteristics of Series, Shunt & Compound Motors - Starters - Speed Control of DC Series & Shunt Motors - Electrical Braking - Testing of DC Machines - Brake Test, Swinburne's Test & Hopkinson's Test .</p> <p>Electrical Braking</p>	Deletion	This topic dealt in detail in electrical drives and control.
IV	<p>TRANSFORMERS 9 Hrs.</p> <p>Principle of Operation - Constructional Details - E.M.F. Equation - Transformation Ratio - Transformer on No Load - Parameters Referred to HV / LV Windings - Equivalent Circuit - Transformer On Load - Phasor diagram - Regulation - Testing of Transformer - Open Circuit and Short Circuit Test - All day Efficiency - Sumpners Test.</p>	No Change	
V	<p>SPECIAL TRANSFORMERS AND THEIR APPLICATIONS</p> <p>9 Hrs.</p> <p>Auto Transformer - Saving of copper in comparison with Two winding Transformer - Parallel Operation of Single Phase Transformers - Construction of Three Phase Transformer - Transformer Connections - Scott connection - Three Phase to Single Phase Transformer conversion - Elementary Ideas on Instrument Transformers and Toroidal Transformer.</p>	No change	