BUGS Meeting No 11/2023 (Date: November 19, 2023)

Annexure 2

Revision of Part C of OBE Curriculum Through CQI (Revision 01)

<table>
<tr><th>Course No</th><th>Exiting Component
(As per AC Approved Curriculum)</th><th>Modified Component</th></tr>
<tr><td>EEE 105</td><td>
<table>
<tr><td>1</td><td>Derive the expressions of voltage, current and power/energy of RL, RC and RLC circuits based on the concepts of phasors</td><td>PO(a)</td></tr>
<tr><td>2</td><td>Employ circuit laws, analysis methods, theorems to solve various AC circuits.</td><td>PO(b)</td></tr>
<tr><td>3</td><td>Analyze the 3-phase circuits with different combination of sources and loads that are used in power systems.</td><td>PO(b)</td></tr>
<tr><td></td><td>Apply the concepts of mutual inductance in AC circuit analysis</td><td>PO(b)</td></tr>
<tr><td>4</td><td>Apply differential equations to solve first and second order transient circuits,.</td><td>PO(a)</td></tr>
<tr><td>5</td><td>Analyze the frequency response curve, nonsinusoidal waveforms</td><td>PO(b)</td></tr>
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<table>
<tr><td>CO1</td><td>Understand the variables and parameters and their relations in single-phase and polyphase AC systems</td><td>PO(a)</td></tr>
<tr><td>CO2</td><td>Employ circuit laws, analysis methods, theorems to solve various electric and magnetic AC circuits</td><td>PO(b)</td></tr>
<tr><td>CO3</td><td>Analyze transient behaviour of AC circuits</td><td>PO(b)</td></tr>
<tr><td>CO4</td><td>Analyze the frequency response of sinusoidal and nonsinusoidal signals</td><td>PO(b)</td></tr>
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<tr><td>EEE 171</td><td>
<table>
<tr><td>Solve electrical circuits based on the understanding of relevant laws and theorems</td><td>PO1</td></tr>
<tr><td>Analyze electrical circuits and elements to transfer and store energy</td><td>PO2</td></tr>
<tr><td>Design systems for electrical power transfer by magnetic fields</td><td>PO3</td></tr>
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<tr><td>Solve electrical circuits based on the understanding of relevant laws and theorems</td><td>PO(a)</td></tr>
<tr><td>Analyze electrical circuits and elements to transfer power and store energy</td><td>PO(b)</td></tr>
<tr><td>Design filter circuits as per frequency requirements</td><td>PO(c)</td></tr>
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<tr><td>EEE 203</td><td>
<table>
<tr><td>1</td><td>Explain the operations of transformers and 3-ϕ induction motor/generator by applying the knowledge of electrical circuits and electromagnetic induction</td><td>PO1</td></tr>
<tr><td>2</td><td>Analyse the techniques of parallel operations of transformers (single to single phase, poly to poly phase)</td><td>PO2</td></tr>
<tr><td>3</td><td>design/develop three-phase transformer using single-phase transformers</td><td>PO3</td></tr>
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<tr><td>1</td><td>Explain the operations of transformers and 3-ϕ induction motor/generator by applying the knowledge of electrical circuits and electromagnetic induction.</td><td>PO(a)</td></tr>
<tr><td>2</td><td>Analyse the performance of the transformer and 3-Φ induction motor using the equivalent circuit model.</td><td>PO(b)</td></tr>
<tr><td>3</td><td>Design/develop three-phase transformer using single-phase transformers.</td><td>PO(c)</td></tr>
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<tr><td>EEE 303</td><td>KPA Mapping: K1-K6, P1-P3 mapped
Week 13 Lecture Plan:
Dual Inline Packaged and Surface Mount Device (SMD) Integrated Circuits, Introduction to System Integration and Printed Circuit Board design, Memories: classification and architecture, RAM memory cells, Read only memory</td><td>KPA Mapping: K3-K6, P1-P2 mapped
Week 13 Lecture Plan:
Memories: classification and architecture, RAM memory cells, Read only memory</td></tr>
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<tr><th>Course No</th><th>Exiting Component
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<tr><td>EEE 411</td><td>
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<tr><td>CO1</td><td>Explain the transient stability, voltage stability and frequency stability by applying the knowledge of power system and rotor dynamics.</td><td>PO(a), PO(b)</td></tr>
<tr><td>CO2</td><td>Analyse the techniques for economic operation of power system with and without transmission loss.</td><td>PO(c), PO(d)</td></tr>
<tr><td>CO3</td><td>At the end of the course the students will be able to design a stability cogitated power system by satisfying necessary requirements.</td><td>PO(e)</td></tr>
<tr><td>CO4</td><td>At the end of the course the students will be able to investigate the techniques for voltage improvement, power system augmentation and power quality improvement.</td><td>PO(d)</td></tr>
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<tr><td>CO1</td><td>Apply engineering knowledge and mathematics to model power system components to maintain stability, economy, flexible control and quality.</td><td>PO(a)</td></tr>
<tr><td>CO2</td><td>Explain the importance of power system stability, classify its various forms, and design the strategies for its improvement.</td><td>PO(c)</td></tr>
<tr><td>CO3</td><td>Apply the power electronics based switches and converters for control of real and reactive power flow and voltage in a power system.</td><td>PO(e)</td></tr>
<tr><td>CO4</td><td>Identify the real time disturbances in a power system and apply techniques for their mitigation.</td><td>PO(d)</td></tr>
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<tr><td>EEE 439</td><td>
<table>
<tr><td>CO1</td><td>Explain the concept of pulse shaping for ISI mitigation</td><td>PO(a)</td></tr>
<tr><td>CO2</td><td>Derive the expressions for SER/BER for performance evaluations of various constellations for digital modulations</td><td>PO(a)</td></tr>
<tr><td>CO3</td><td>Explain the concept of optimum receivers (demodulator and detector) for digital communication systems and evaluate the output of such receivers</td><td>PO(a)</td></tr>
<tr><td>CO4</td><td>Explain the coding and decoding techniques of error correction coding for digital communications</td><td>PO(a)</td></tr>
<tr><td>CO5</td><td>Explain the core concepts of cellular communications, satellite communications, optical fiber communications and computer networks</td><td>PO(a)</td></tr>
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<tr><td>CO1</td><td>Explain the concept of pulse shaping for ISI mitigation and analyse the performance of various digital modulation schemes</td><td>PO(a)</td></tr>
<tr><td>CO2</td><td>Explain optimum receivers (demodulator and detector) and error correction coding for improved BER in digital communications</td><td>PO(a)</td></tr>
<tr><td>CO3</td><td>Explain the core concepts of cellular communications, satellite communications, optical fiber communications and computer networks</td><td>PO(a)</td></tr>
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<tr><td>EEE 470</td><td>
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<tr><th>CO No</th><th>CO statement</th><th>Corresponding POs</th></tr>
<tr><td>1</td><td>compare theoretical and experimental results of three phase voltage current relations for different loads.</td><td>PO4</td></tr>
<tr><td>2</td><td>use two-watt meter method to measure the power consumed by a balanced three phase load</td><td>PO5</td></tr>
<tr><td>3</td><td>characterize different electrical components by evaluating their equivalent circuits based on experiments.</td><td>PO2</td></tr>
<tr><td>4</td><td>demonstrate effective individual and team-working skills</td><td>PO9</td></tr>
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<tr><th>CO No</th><th>CO statement</th><th>Corresponding POs</th></tr>
<tr><td>1</td><td>compare theoretical and experimental results of different DC and AC circuits.</td><td>PO4</td></tr>
<tr><td>2</td><td>Use modules/ equipment to understand the practical operation of various electrical machines</td><td>PO5</td></tr>
<tr><td>3</td><td>Analyze the operation of electric machine and instrumentation component</td><td>PO2</td></tr>
<tr><td>4</td><td>Design a circuit to achieve desired operation from a machine or drive</td><td>PO3</td></tr>
<tr><td>5</td><td>Demonstrate effective individual and team working skills</td><td>PO9</td></tr>
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