Department of Electrical (Electronics and Power) Engineering

B.E. 5th Sem

Course: Power System-I   **Course Code: (5EP01)**

At the end of **Power System-I** course the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Analyze the parameters of transmission lines.	L4
2	Evaluate the performance of transmission line	L5
3	Describe transmission lines voltage control and power factor improvement methods.	L2
4	Explain representation of power system, Ferranti effect and corona phenomenon	L2
5	Demonstrate various Insulators, its string efficiency.	L3
6	Demonstrate various underground cables & parameter	L3

Course: Microprocessor and Microcontroller   **Course Code: (5EP02)**

At the end of **Microprocessor and Microcontroller** course the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Explain Fundamentals and Architecture of Microprocessor 8085, Microcontroller8051	L2
2	Interpret Assembly Language Programming of Microprocessor 8085,Microcontroller 8051	L3
3	Explain interfacing with Microprocessor 8085, Microcontroller 8051	L2
4	Apply knowledge of Microprocessor 8085 for measurement of Electrical quantities	L3
5	Discuss Fundamentals and Architecture of Microprocessor 8086	L2
6	Explain Fundamentals and Architecture of Microprocessor 8051	L2

Course: Electrical Machines-II   **Course Code: (5EP03)**

At the end of **Electrical Machines-II** course the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Describe the construction, working operation & performance characteristics ofthree phase Induction Motor.	L2
2	Analyze the starting, braking and speed control of three phase induction motors byvarious methods.	L4
3	Describe the construction, working operation & performance characteristics of single-phase Induction Motor.	L2
4	Describe the construction, working operation & performance characteristics ofalternator.	L2
5	Demonstrate the construction, working operation & performance characteristics ofsynchronous machine	L3
6	Explain the construction & working of special motors like Universal, Reluctance,PMSM & BLDC Motor	L2

Course: Signal and System (PE-I)   **Course Code: (5EP04)**

At the end of **Signal and System (PE-I)** course the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Demonstrate knowledge of Continuous-Time Signals and Systems and analyze theLTI Continuous-Time Systems.	L3
2	Analyze the continuous-time systems using continuous Time Fourier transform.	L4
3	Demonstrate knowledge of Discrete-Time Signals and analyze the LTI Discrete-Time Systems. .	L3
4	Explain the concept of sampling, Sampling Theorem, aliasing and the Nyquist rate.	L2
5	Analyze DT systems & their realization using Z-transforms.	L4
6	Analyze the discrete time systems using DTFT and DFT.	L4

Course: Power Supply Systems (OE-I)   **Course Code: (5EP05)**

At the end of **Power Supply Systems (OE-I) c**ourse the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Describe the Structure of Power system.	L2
2	Explain construction and working of Gas turbine power station.	L2
3	Describe construction and working of Hydro power station.	L2
4	Describe layout and working of Substations.	L2
5	Compare various power distribution system.	L4
6	Explain Electrical wiring required for various Installations.	L2

LAB OUTCOME

Course: Power System-I-LAB   **Course Code: (5EP06)**

At the end of **Power System-I LAB** course the student will be **able to:**

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Analyze transmission line parameters	L4
2	Understand Mechanical structure of overhead transmission line.	L2
3	Create MATLAB simulation for transmission line model.	L6

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Course: Microprocessor and Microcontroller- LAB   **Course Code: (5EP07)**

At the end of **Microprocessor and Microcontroller-LAB** course the student will be **able to:**

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Program various arithmetic's operation	L6
2	Program speed control of motor	L6
3	Interface ADC/DAC with 8085 using PPI	L2

Course: Electrical Machines-II-LAB **Course Code: (5EP08)**

At the end of **Electrical Machines-II-LAB** course the student will be **able to:**

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Determine efficiency by performing load test on 3 phase Induction Motor	L5
2	Plot different characteristics of 1 phase Induction Motor	L3
3	Plot V curves and Inverted V curves of Synchronous Motor	L3

Course: Information and Communication Technology-LAB **Course Code: (5EP09)**

At the end of Information and Communication Technology-LAB course the student will be able to:

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Create documents in MS-word	L6
2	Develop Power point Presentation	L6
3	Calculate Various functions in MS-Excel.	L3

Course: Power Electronics   **Course Code: (6EP01)**

At the end of **Power Electronics c**ourse the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Explain the concepts and techniques used in power electronics.	L2
2	Apply the knowledge of series and parallel connection of SCRs in power controlapplications	L3
3	Analyze various single phase and three phase power converter circuits.	L4
4	Analyze the single phase and three phase Inverter circuits.	L4
5	Explain the operation of DC/DC and AC/AC converter circuits.	L2
6	Demonstrate the applications of power electronic circuits.	L3

Course: Electrical Energy Distribution & Utilization   **Course Code: (6EP02)**

At the end of **Electrical Energy Distribution & Utilization c**ourse the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Demonstrate the knowledge of distribution substation	L3
2	Compare different power distribution systems	L4
3	Describe elements of distribution Automation system	L2
4	Identify proper electrical drive for industrial	L2
5	Explain the working of electric traction system	L2
6	Describe an illumination system & electric heating**.**	L2

Course: Computer Aided Electrical Machine Design   **Course Code: (6EP03)**

At the end of **Computer Aided Electrical Machine Design c**ourse the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Explain the Basics of Computer aided machine design & material selection.	L2
2	Design the parameters of single & three phase transformer core.	L6
3	Analyze the winding & cooling system parameters of the transformer.	L4
4	Develop the armature winding diagram for threephase Induction Motor	L6
5	Design the stator core dimensions of three Phase Induction motor.	L6
6	Design the squirrel cage & wound type rotor for three phase Induction motor.	L6

Course: Advanced Control Systems (PE-II)   **Course Code: (6EP04)**

At the end of **Advanced Control Systems (PE-II) c**ourse the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Design compensator using time domain and frequency domain specifications.	L6
2	Test the system using state space model.	L4
3	Analyze controllability and observability for systems and design full statefeedback controller.	L4
4	Analyze digital systems using Z Transform**.**	L4
5	Develop the describing function for the nonlinearity to assess the stabilityof the system.	L6
6	Analyze the Nonlinear system using Phase plane Analysis.	L4

Course: Energy Audit and Management (OE-II)   **Course Code: (6EP05)**

At the end of **Energy Audit and Management (OE-II) c**ourse the student will be **able to:**

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Discuss energy scenario and its management.	L2
2	Explain the energy audit of different types	L2
3	Describe the economics of energy conservation.	L2
4	Classify energy Conservation methods & their case studies	L4
5	Analyze energy audit studies.	L4
6	Summarize fundamentals of Harmonics.	L5

LAB OUTCOME

Course: Power Electronics-LAB   **Course Code: (6EP06)**

At the end of **Power Electronics-LAB c**ourse the student will be **able to**:

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Verify V-I Characteristics of SCR	L5
2	Understand Half and Full Control Converter	L2
3	Construct and test DC chopper control circuit using Thyristor	L6

Course: Electrical Energy Distribution & Utilization-LAB   **Course Code: (6EP07)**

At the end of **Electrical Energy Distribution & Utilization-LAB c**ourse the student will be **able to:**

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Determine efficiency by performing load test on DC motor	L5
2	Create electrical braking of DC shunt motor	L6
3	Determine efficiency by performing load test on 3 phase Induction Motor	L5

Course: Computer Aided Electrical Machine Design-LAB   **Course Code: (6EP08)**

At the end of **Computer Aided Electrical Machine Design-LAB** course the student will be **able to:**

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Develop computer program for design of Different transformer.	L6
2	Develop computer program for design of 3 phase Induction Motor.	L6
3	Estimate iron Losses in Transformer using Computer Programming.	L5

Course: Computer Technology-Lab   **Course Code: (6EP09)**

At the end of **Computer Technology-Lab** course the student will be **able to:**

LO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Understand Computer network basic hardware and terminology	L2
2	Classify Internet, Intranet and Extranet.	L4
3	Understand operating system and its application	L2