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Mauli Group of Institutions,
College of Engineering and Technology, Shegaon
AICTE Approved, Affiliated to Sant Gadge Baba Amravati University, Amravati, ISO 9001 2015 Certified

Department of Electrical (Electronics and Power) Engineering

A.Y 2023-24

Course outcomes

ME. 1st Sem (Electrical Power System)

Course: Generation Scheduling and Load Dispatch

Course Code: (1EPS01)

At the end of **Generation Scheduling and Load Dispatch** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Describe the working of various power plants	L2
2	Understand coordination of hydro thermal power plants	L2
3	Compare various load forecasting methods	L4
4	Analyze coasting of various generation systems	L4
5	Examine the analysis of generation system reliability	L4
6	Understand the working of Load dispatch Centre	L2

Course: Power System Modeling and Control

Course Code: (1EPS02)

At the end of **Power System Modeling and Control** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Understand the concept of stability in Electrical Power System	L2
2	Apply Mathematical model to speed governing system	L3
3	Analyze power system by block diagram	L4
4	Understand the Matrix representation of a passive network in the transient state	L2
5	Investigate different type of Time - error and inadvertent interchange correction techniques	L6
6	Understand the different controlling methods in power system	L2

Course: Professional Elective-I (Advanced Electric Drives)

Course Code: (1EPS03)

At the end Advanced Electric Drives PE-I course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Differentiate the Electric drive, types of load	L4
2	Analyze the various method of DC motor control	L4
3	Analyze the Induction motor control systems	L4
4	Understand Current source inverter fed Induction motor drive	L2
5	Analyze the stability of synchronous and asynchronous drives	L4
6	Understand Inverter fed AC Drives	L2

Course: Professional Elective II (High Voltage Transmission System)

Course Code: (1EPS04)

At the end of High Voltage Transmission System (PE-II) course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Compare HVAC and HVDC transmission system	L4
2	Analyze the various Line commutated converter	L4
3	Understand the Converter control characteristics	L2
4	Describe the EHV-AC transmission line System.	L2
5	Understand different Power loss due to corona	L2
6	Understand Lightning Phenomena and its effects on Transmission Line	L2

Course: Research Methodology and IPR

Course Code: (1EPS05)

At the end of **Research Methodology and IPR** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Compare various Sources of research problem	L4
2	Understand Different Effective literature studies	L2
3	Understand the Effective technical writing of research paper	L2
4	Differentiate the Patents, Designs, Trade and Copyright	L4
5	Understand Scope of Patent Rights, Licensing and transfer of technology	L2
6	Understand Administration of Patent System	L2

Course: Audit I- Constitution of India

Course Code: (1EPS06)

At the end of **Audit I- Constitution of India** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Understand the Indian Constitution of History Drafting Committee	L2
2	Describe the Philosophy of the Indian Constitution	L2
3	Analyze Fundamental Constitutional Rights	L4
4	Differentiate the Organs of Governance	L4
5	Understand the Local Administration	L2
6	Analyze the various role of Election Commission of India	L4

Lab outcomes

Course: Power System Lab – I

Course Code: (1EPS07)

At the end of Power System Lab – I course the student will be able to:

LO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Design hydrothermal coordination	L6
2	Design lead lag compensator	L6
3	Understand working of facts devices	L2



ME. IInd Sem (Electrical Power System)

Course: Advanced Protection of Power Systems

Course Code: (2EPS01)

At the end of **Advanced Protection of Power Systems** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Discuss the General philosophy of different type of protection	L2
2	Compare the Static & Numerical relays	L4
3	Understand the Relay setting and co-ordination	L2
4	Compare the different types of Protection Schemes of transmission Line	L4
5	Compare the different types of Protection Schemes of Synchronous Generator	L4
6	Compare the different types of Protection Schemes transformer	L4

Course: Power System Dynamics

Course Code: (2EPS02)

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

CO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Discuss the Reliable electrical power service	L2
2	Analyze of Various Electrical external system	L4
3	Evaluate the Equation for steady State Stability limit	L5
4	Compare the different effect in Power System Dynamics	L4
5	Understand the Effect of Excitation on Stability	L2
6	Examine of dynamic stability by Routh's criterion, Root locus analysis	L4

Course: Professional Elective-III (Power Quality Problems & Mitigations) Course Code: (3EPS03)

At the end Power Quality Problems & Mitigations (PE-III) course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Understand the Classification of Power Quality Problems	L2
2	Analyze Voltage Sags and Interruptions Power Quality Problems	L4
3	Analyze different Types of Transients in Electrical power System.	L4
4	Analyze different Types of Fundamentals of Harmonic in Electrical power System.	L4
5	Design the active and passive filter	L6
6	Understand the working of Dynamic voltage restorer	L2

Course: Professional Elective IV (Artificial Neural Network)

Course Code: (2EPS04)

At the end of Artificial Neural Network (PE-IV) course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom`s Taxonomy)
1	Understand biological neurons and their artificial models	L2
2	Understand the architecture of feed forward network	L2
3	Design Hebbian learning rule	L6
4	Design the architectures and training algorithms.	L6
5	Compare various types of classifier	L4
6	Understand applications of ANN in power system areas such as forecasting, classification, planning, operation, control and protection.	L2

Course: Audit II- Pedagogy Studies

Course Code: (2EPS05)

At the end of **Audit II- Pedagogy Studies** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Understand Overview of methodology and searching.	L2
2	Compare various Pedagogical practices of world	L4
3	Analyze evidence for effective pedagogical practices,	L4
4	Understand the and assessment of Curriculum	L2
5	Understand classroom practices and follow-up support,	L2
6	Identify research gaps and future directions	L2

Lab outcomes

Course: Power System Lab – II

Course Code: (1EPS07)

At the end of **Power System Lab – II** course the student will be able to:

LO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Design artificial neural network	L6
2	Formulate Load Flow Problem	L6
3	Understand concept of power quality	L2



ME. IIIrd Sem (Electrical Power System)

Course: Professional Elective-V (Renewable Energy Systems)

Course Code: (3EPS01)

At the end **Renewable Energy Systems (PE-V)** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Understand the renewable energy sources	L2
2	Understand solar energy storage systems, thermal storage,	L2
3	Identify selection site for biogas plant,	L2
4	Understand geothermal Energy conversion.	L2
5	Compare various types of fuel cells	L4
6	Select distributed generation plants	L5

Course Open Elective Waste to Energy

Course Code: (3EPS02)

At the end of **Open Elective Waste to Energy** course the student will be able to:

CO No.	Course Outcome	Level of Learning (as per Bloom's Taxonomy)
1	Understand the concept of energy from waste	L2
2	Understand manufacturing of coal	L2
3	Design gasifier burner	L6
4	Design biomass combustors	L6
5	Classify biogas sources	L4
6	Understand types of biogas plants	L2

