

GOPAL KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY JEYPORE

GOURAHARI VIHAR RANIPUT JEYPORE

Discipline: ELECTRICAL ENGINEERING

Semester: 5TH

Name of the Teaching Faculty: DEBASHIS SAHU

Subject: POWER SYSTEM – II (EEPC3004)

No. of Classes per Week: 03

Semester From: July To: December

No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	Introduction to Load Flow Studies and Power System Components
	2nd	Complex Power, Real and Reactive Power, Per Unit System
	3rd	Single Line Diagram, Reactance Diagram and Y-Bus Formation
2nd	1st	Z-Bus Matrix and Network Model Formulation
	2nd	Introduction to Load Flow Problem
	3rd	Gauss Seidel Method for Load Flow Analysis
3rd	1st	Numerical Problems on Gauss Seidel Method
	2nd	Newton Raphson Method
	3rd	Fast Decoupled Load Flow and Regulating Transformer
4th	1st	Comparison of Load Flow Methods
	2nd	Introduction to Economic Operation of Power System
	3rd	Economic Dispatch and Input-Output Cost Characteristics
5th	1st	Incremental Cost Curve and Coordination Equations
	2nd	Economic Dispatch with Transmission Loss
	3rd	Direct Method and Lambda Iteration Method
6th	1st	Unit Commitment Problem and Priority List Method
	2nd	Introduction to Automatic Generation Control
	3rd	P-F and Q-V Control
7th	1st	Turbine Speed Governing System
	2nd	Modeling of Speed Governing System, Turbine and Generator
	3rd	Steady State Analysis and Dynamic Response
8th	1st	Control Area Concept
	2nd	Single Area Load Frequency Control

	3rd	Two Area Load Frequency Control
9th	1st	Economic Dispatch and AGC
	2nd	Numerical Problems on AGC
	3rd	Introduction to Fault Analysis
10th	1st	Symmetrical Faults on Three Phase Systems
	2nd	Transients on Transmission Lines
	3rd	Short Circuit Current and MVA Calculations
11th	1st	Symmetrical Components Transformation
	2nd	Positive, Negative and Zero Sequence Networks
	3rd	Representation of Generators, Lines and Transformers
12th	1st	Line to Ground Fault Analysis
	2nd	Line to Line and Double Line to Ground Fault Analysis
	3rd	Open Conductor Fault Analysis
13th	1st	Introduction to Power System Stability
	2nd	Power Angle Equation and Steady State Stability
	3rd	Transient Stability and Equal Area Criterion
14th	1st	Factors Affecting Transient Stability
	2nd	Numerical Problems on Stability
	3rd	Tutorial on Load Flow and Fault Analysis
15th	1st	Mock Test and Model Question Discussion
	2nd	Viva and Doubt Clearing Session
	3rd	Final Class Test and Course Closure